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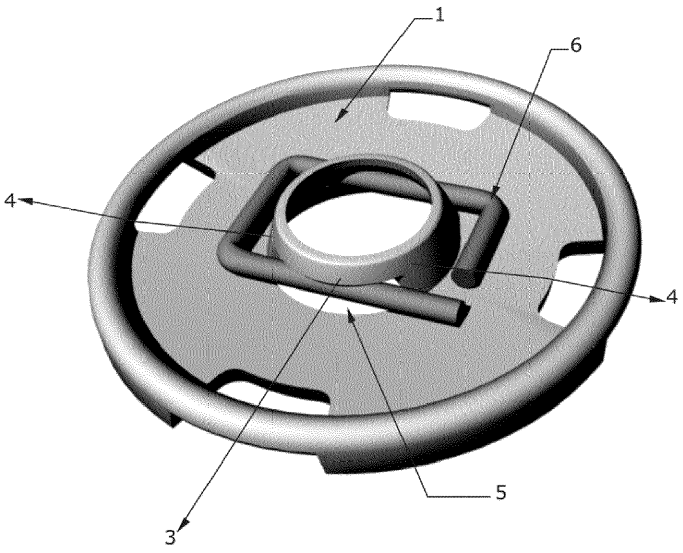
(54) DIE-CAST SNAP BUTTON

(57) A die-cast snap button or die-cast press stud, particularly for items of clothing or leather goods, including handbags, other leather accessories or the like, including a female section designed to anchor a male section in a fastening. The female section comprises a circular flat body (1) with a central hole (2) which is connected, at two sections opposite each other, at the lower part of a conical ring (3), coaxial to said hole, so creating an empty bilateral space. In said empty space an elastic rectangular body (6) is placed by the long side. To allow said placement, the elastic rectangular body presents a slot in the short side. The upper diameter (8) of the conical ring is smaller than the diameter of the hole in the circular flat body and the lower diameter (9) of the conical ring is larger than the short side of elastic body, just ensuring strong fastening and an excellent snap-action. The elastic body surrounds the conical ring and it's blocked into the lateral slots.

Fig 1



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Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a system of construction of die-cast snap button or press-stud, particularly for item for clothing, leather goods, including handbags, other leather accessories or the like, characterized by an innovative conception of the female section of the snap button or press-stud comprising a peculiar attachment of the elastic body.

[0002] The present invention allows the creation of snap button or press-stud in various aesthetic shapes and in various thicknesses, while maintaining the simplicity in construction, strength, an excellent snap-action and low cost.

[0003] The field of the invention is that of the snap button or press-stud, particularly for item for clothing, leather goods, including handbags, other leather accessories or the like, comprising a male section, fixed to a flap of tissue or leather or other materials and assembled to its head in other side of said flap, which is placed, using a slight pressure, into a female section, attached to another flap of tissue or leather or other materials and assembled to its head in other side of said flap. Thus the male section remains anchored to female section to ensure the fastening of clothing, leather goods, including handbags, leather accessories and the like.

[0004] With particular reference to the construction of the female section, patent US352271A is regarded as being the prior art closest to the subject-matter of the present invention and discloses a snap button or press-stud including a female section which comprising a plate or circular flat body, a ring and an elastic body.

[0005] Generally, the male and female sections are realized by a molding process by cutting and shaping of a ductile thin sheet of brass with the disadvantage that the quality of the metal surface of the sections is not perfectly smooth and shiny. The female section comprises a circumferential groove in the edge, designed to trap and clamp therein an elastic body which, expanding, by elastic reaction, retains the male section in the coupling seat.

[0006] The circumferential groove in the edge of the female section increases the thickness of the border and thus it increases the overall thickness of the snap button or press-stud.

[0007] The circumferential groove in the edge of the female section reduces variability in shapes of said female section. The elastic body, stuck in the edge, clutters up the most part of the circular flat body surface, reducing the variability of attachment of the female section to the tissue or leather or other materials.

[0008] Generally, in case of galvanic processing, the assembled elastic body reduces the variability of galvanized finishes because some galvanic finishes may cause the hardening and sticking of the said elastic body to the female section, causing the loss of its ability to flex and stretch.

[0009] The prior art provides also the possibility to assemble the metal head of female section (that is the component in the opposite exterior side of the tissue fixing inside the said female section) to a die-cast metal support with the disadvantage of limiting the size of the snap button or press-stud.

[0010] In all cases, the construction of the final product needs a lot of molds and various production phases. The inclusion of the elastic body into the female section needs a very complex machinery. For that reason, the variability of the shapes of the female section and of the elastic body is limited and the producers are asking for very high minimum orders to customize the brass snap buttons or press- studs with customers' logos.

SUMMARY OF THE INVENTION

[0011] The main object of the present invention is solving the above problems by creating a die-cast snap button or press-stud in various metallic and plastic materials characterized by a female section including an elastic body with a rectangular shape and a round cross-section which is trapped directly in the conical ring.

[0012] Within this aim, an advantage of the invention is to provide a die-cast snap button or press-stud, having the reduced thickness of the edge of the female section because of the lack of the circumferential groove and, in turn, the overall reduced thickness of said snap button or press-stud so that, once the male and female sections attached, the respective flaps of tissue or leather become more adjacent each other and the fastening is improved.

[0013] Within this aim, another advantage of the invention is to provide a die-cast female section lacking in the circumferential groove which can be produced in various shapes and thicknesses, even a small thickness.

[0014] Within this aim, another advantage of the invention is to provide a die-cast female section with all its surface available to be fixed directly to tissue, without any support, in various ways as, for example, sewing, riveting and with stitched pins with punched pressure plates, maintaining the strength of the snap button or press-stud, the glossy finish and smooth of the die-cast metal and excellent snap-action.

[0015] Within this aim, another advantage of the invention is to provide a die-cast female section, using only one mold, to which a rectangular elastic body can be easily and handly included. The invention allows to obtain the final product in only one production phase, maintaining the simplicity of construction, speedy in production and low cost.

[0016] Within the scope of the above mentioned aim, an advantage of the invention is to provide a die-cast snap button or press-stud to which, in case of galvanic processing, the elastic body is inserted in after said processing, preserving completely the elastic properties of the elastic body and an excellent snap-action.

[0017] Another advantage of the invention is the possibility of customization of the die-cast snap button or

press-stud with the customer logos, also for a minimum quantity of orders.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The above objects, advantages and features of the invention will become more apparent from the following detailed description of some embodiments of the female section, the object of the present invention, as illustrated, by way of indicative but non-limiting examples, in the attached drawings in which:

- Figure 1) is a perspective view of the details of the female section and, in particular, a view of the circular flat body (1), of the conical ring (3), of the conjunction bands (4), of the elastic body (6) and the seat (5) of the elastic body;
- Figure 2) is a plan view of the only female section, configured according to the present invention;
- Figure 3) it is a cross-sectional view of the only female section of the snap button or press-stud, configured according to the present invention;
- Figure 4) it is a cross-sectional view of the snap button or press-stud with the male section anchored to the female section, configured according to the present invention;
- Figure 5) is a view in perspective of the snap button or press-stud with the anchored male section to the female section, configured according to the present invention;
- Figure 6) it is a plan view of the snap button or press-stud with the male section anchored to the female section, configured according to the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0019] The female section comprises a circular flat body (1) with a central hole (2) and a conical ring (3), coaxial to said circular flat body, connected to the same on opposite side bands (4), as shown by the detail in Figure 1).

[0020] As shown in the figures, the surface of the circular flat body (1) is a plane surface.

[0021] The conjunction of the circular flat body with the conical ring by lateral bands, opposite each other, creates two empty spaces (5) where the rectangular elastic body (6) is inserted, as shown by the detail in figure 1) and 3).

[0022] As clearly shown by the detail in Figure 2) and 6), an easy insertion of the elastic rectangular body (6) in the lateral empty spaces (5) is allowed by the creation of a slot (7) in the short side of said elastic body (6) which facilitates the positioning by extension.

[0023] As shown by 2) figures, 4), 5) and 6), the fact that the upper diameter (8) of the conical ring (3) is less than the diameter of the central hole (2) of the circular flat body (1), but that the lower diameter (9) of the said conical ring is larger than the length of the short side of the rectangular elastic body (10) allows an excellent coupler for the projection with groove (11) of the male section (12) to the female section.

[0024] Figure 2 also shows that the elastic body (6) is not inserted in an annular peripheral groove, but surrounds the conical ring (3) connected to the circular flat body (1). This fact allows the possibility to fix the circular flat body to the tissue with various modes such as, for example, by creating the holes for the stitching (13), avoiding to pierce the tissue, or by using a punched pressure plate.

[0025] For the construction of said die-cast snap button or press-stud, in particular for the realization of the female section and/or of the male section and/or of the elastic body is not required to used only metallic materials, but also plastic materials or other materials, alone or in combination with metallic materials.

[0026] Without prejudice to the principle of the present invention, the form of embodiment and details of construction may vary what described and illustrated, without thereby departing from the scope of the present invention.

Claims

1. A die-cast snap button or die-cast press stud, particularly for items of clothing or the like, including a female section comprising a circular flat body (1), a ring (3) and an elastic body (6) **characterized in that** said circular flat body (1) has a central hole (2), the said ring (3) is conical and coaxial to the hole (2) in the circular flat body (1), said circular flat body (1) and said conical ring (3) being connected at two sections (4) opposite each other at the lower part of the conical ring (3) and at the hole (2) perimeter of the circular flat body (1), being the upper diameter (8) of the conical ring (3) smaller than the diameter of the hole (2) and the lower diameter (9) of the conical ring (3) being larger than the short side of elastic body (6), being the elastic body (6) rectangular with a slot in the short side and being the long side of said rectangular elastic body (6) inserted in the spaces of the conical ring (3) where it is not connected to the circular flat body (1).

2. A die-cast snap button or die-cast press stud, according to claim 1, wherein the elastic rectangular body (6) is inserted in two slots (7) of the conical ring (3).

3. A die-cast snap button or die-cast press stud, ac-

cording to claim 1 e 2, wherein the surface of circular flat body (1) is a plane surface.

4. A die-cast snap button or die-cast press stud, according to claims 1 and 2, wherein the height of the two sections (4) connecting the lower part of the conical ring (3) and the hole (2) perimeter of the plate (1) is more than the thickness of the elastic rectangular body (6).

5. A die-cast snap button or die-cast press stud, according to claims 1 and 2, **characterized in that** the elastic rectangular body (6) is an elastic body with a round cross-section.

6. A die-cast snap button or die-cast press stud, according to one or more of the preceding claims, **characterized in that** the elastic rectangular body (6) is made of metallic material.

7. A die-cast snap button or die-cast press stud, according to one or more of the preceding claims, **characterized in that** a male section is provided cooperating with said female section, being the male and/or female section, made of metallic materials.

8. A die-cast snap button or die-cast press stud, according to one or more of the preceding claims, **characterized in that** a male section is provided cooperating with said female section, being the male and/or female section made of plastic materials.

Fig 1

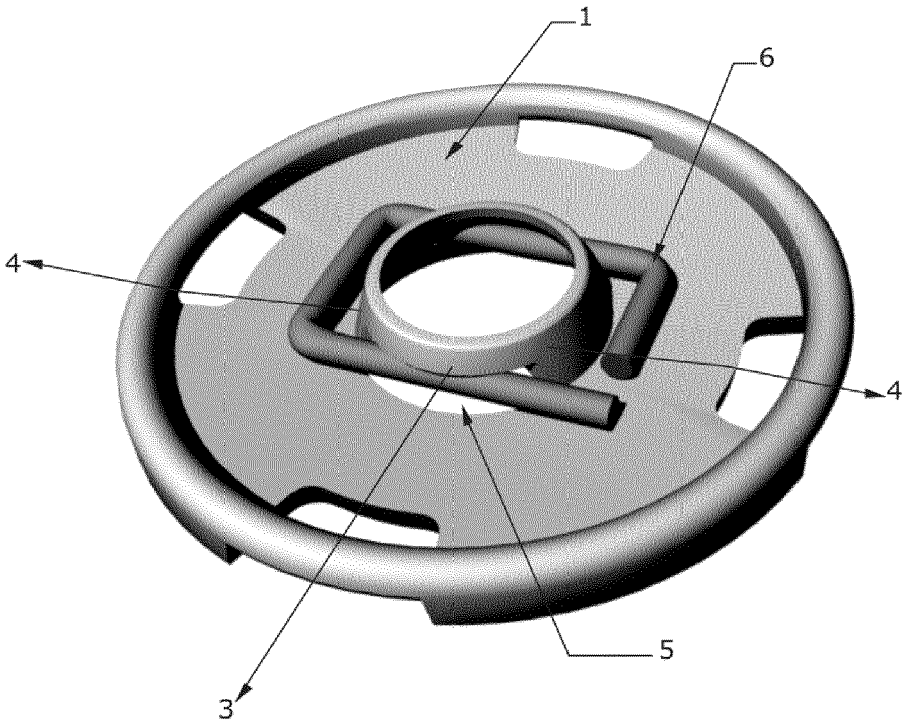


Fig 2

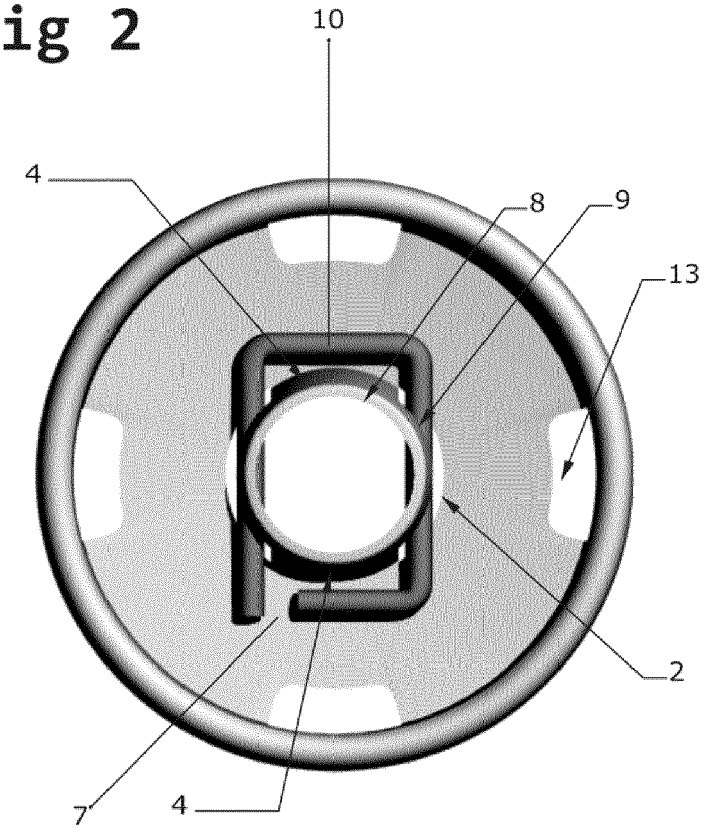


Fig 3

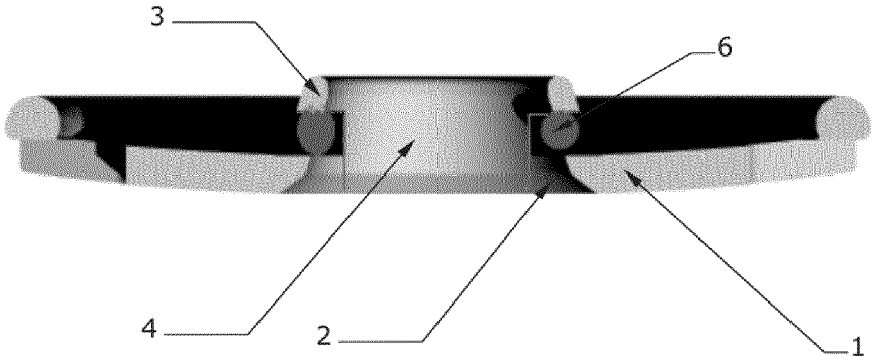


Fig 4

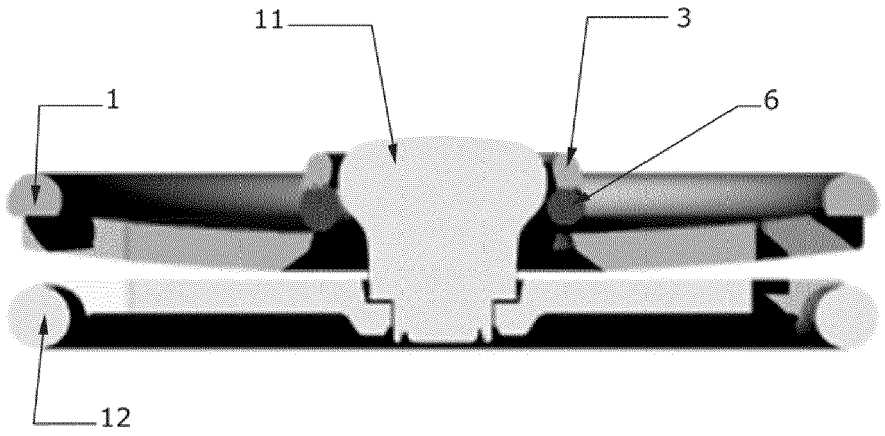


Fig 5

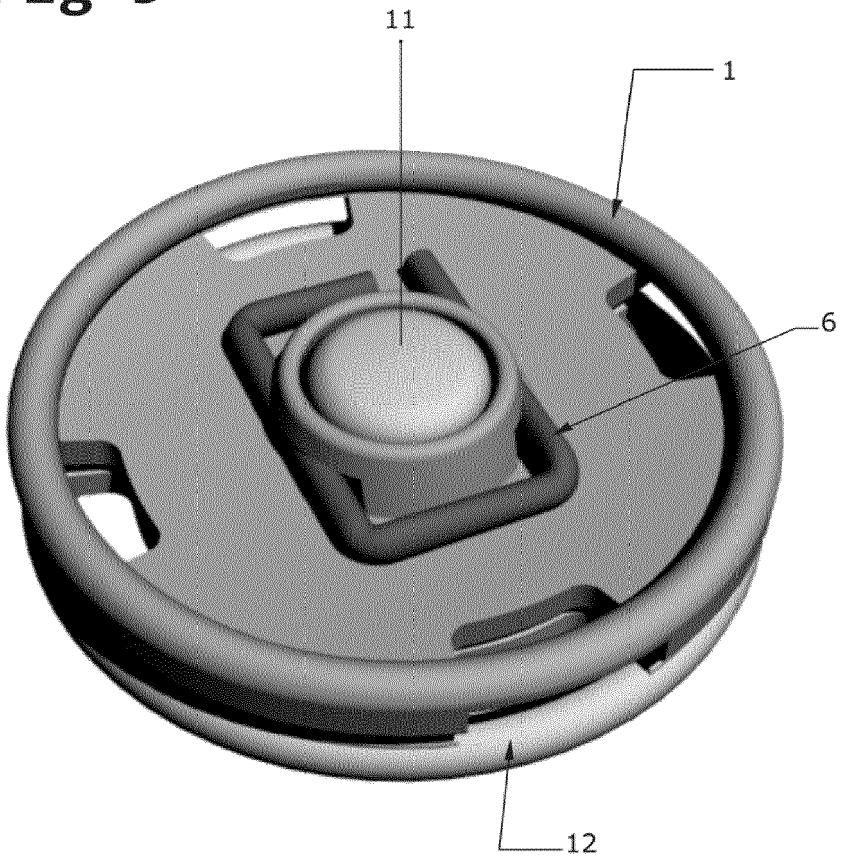
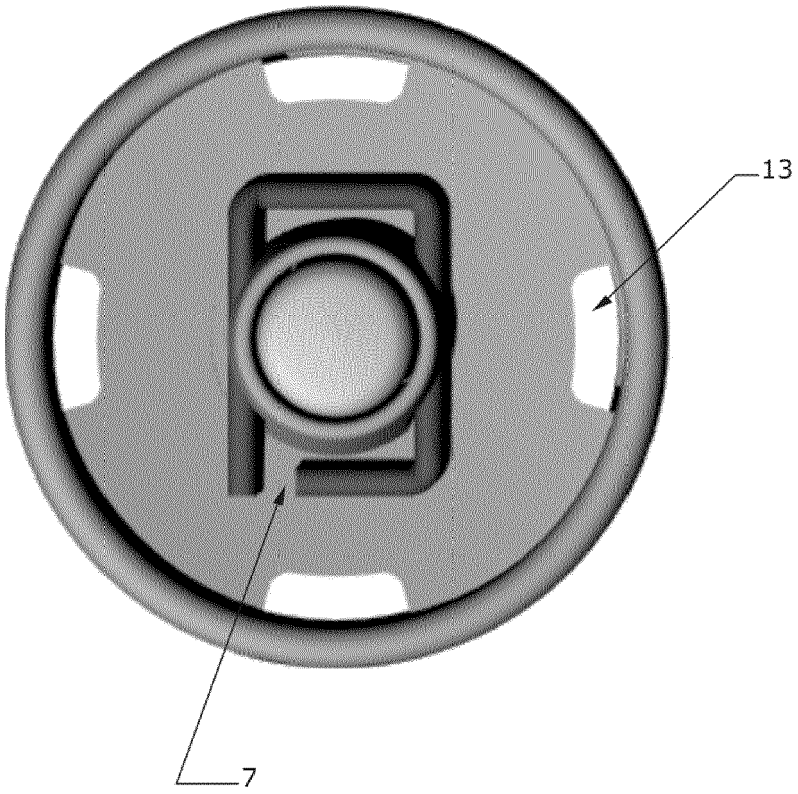


Fig 6



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EUROPEAN SEARCH REPORT

Application Number
EP 17 16 0295

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 352 271 A (SAMUEL W, SHOREY) 9 November 1886 (1886-11-09) * figure 1 *	1	INV. A44B17/00
A	DE 326 238 C (AUGUST EWALD; BRUNO HECKER) 25 September 1920 (1920-09-25) * figure 1 *	1	
A	DE 29 02 181 A1 (HECKEL REINHOLD) 24 July 1980 (1980-07-24) * figure 10 *	1	
A	FR 377 457 A (WALDES & K [DE]) 7 September 1907 (1907-09-07) * figures 3-5 *	1	

TECHNICAL FIELDS SEARCHED (IPC)

A44B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	13 April 2017	da Silva, José

CATEGORY OF CITED DOCUMENTS

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13-04-2017

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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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