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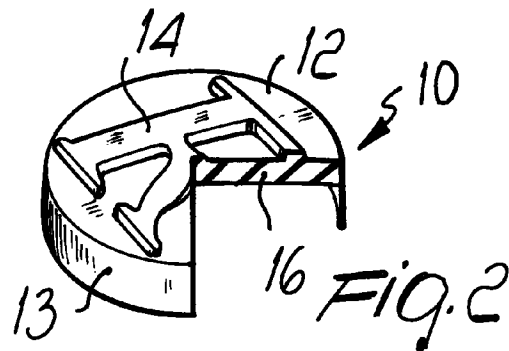
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(54) **Component of a metal press-stud**

(57) A metal press-stud component (10), which comprises a plate-like base (11) provided with a member for fixing to an element with which it cooperates for the anchoring of the press-stud (10) to the fabric. The component also comprises a dome (12) which is associated, upon assembly, with the base (11) by folding its edge (13) over the edge of the base (11) and is adapted to be machined in relief and/or in bas-relief to form lettering, symbols, designs, or the like. The component comprises, in an interspace formed between the base (11) and the dome (12), a filler element (16) made of non-flexible material which is deposited in the fluid phase and hardened, and shaped complementarily to the surface of the dome (12).



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Description

The present invention relates to a component of a metal press-stud.

It is known that metal press-studs are increasingly appreciated and used in the field of clothing, especially in items meant for young and sports-oriented customers.

In particular, said metal press-studs are widely used in sports clothing, where they are often required to have inscriptions, symbols, designs or the like formed thereon in relief or in bas-relief.

Currently commercially available metal press-studs are substantially constituted by a plate-like base provided with means for fixing to an element with which it cooperates to anchor the press-stud as a whole to the fabric.

A dome made of rolled metal is also associated with the plate-like base, usually by folding its edge over the edge of said base, and is adapted to be embossed in relief or bas-relief to form inscriptions, symbols, designs, or other.

During manufacture of the metal press-studs, the base and the dome are associated to each other by resting said dome on a contrast punch and by placing said plate-like base thereon, and applying pressure.

The association of the plate-like base and the dome made of rolled metal must be performed after said dome has been embossed in relief or bas-relief.

However, since the operation for applying the head of the press-stud on the fabric occurs by applying pressure, the riveting punch where the head rests tends to flatten the level differences formed on the dome when it is riveted.

In order to eliminate this severe drawback, the manufacture of punches shaped substantially complementarily to the dome has been devised.

Although this solution in principle solves the problem of the flattening of the level differences provided on the dome, in practice it is uneconomical since, in addition to the problem of providing a machined punch, thus entailing an expenditure in time and labor, it is necessary to provide for the mutual centering of the dome and the punch head during production.

This centering operation prevents the automatic loading of the dome, with an unacceptable increase in production times, and consequently in production costs, in case of manual application and riveting.

A solution which has been attempted in order to at least partially solve the problem is to interpose, between the dome and the base, a metal or cardboard plate which are cut to size by blanking, in order to partly protect the material from the blow of the punch; nonetheless, an empty space still remains between the dome and the plate.

Metal buttons with a solid body, made of a zinc-aluminum-magnesium alloy and obtained by pressure die-casting, are also currently commercially available.

Although these buttons do not have the problem of

the flattening of any raised portions or recessed portions formed thereon, and despite being aesthetically pleasant, they are heavy and are used almost exclusively for items which do not need to be washed or treated industrially with chemical products, since they are highly subject to oxidation, causing stains on the fabrics and abrasions due to the inertia caused by the excessive weight during spin-drying.

A principal aim of the present invention is to provide a metal press-stud component which solves the above-mentioned drawbacks of those known, particularly eliminating the problem of the flattening of the raised portions, etched portions, or recessed portions formed in the dome by the punch head, nonetheless allowing the automatic loading of said dome.

Accordingly, an object of the present invention is to provide a metal press-stud component having a competitive cost with respect to conventional ones.

Another important object is to provide a press-stud component which is light but has a solid appearance.

Another object of the present invention is to provide a press-stud component in the most disparate types of rolled metal, the structure and appearance whereof allow various styling and aesthetic applications, including high-quality ones, thanks to the different natural colorings of commercially available metals and alloys.

Another object of the present invention is to provide a metal press-stud component which can be produced with conventional technologies and with machining times which are competitive with respect to conventional ones.

A further object of the present invention is to provide a metal press-stud component which can be optionally associated with conventional press-stud structures.

This aim, these objects, and others which will become apparent hereinafter are achieved by a press-stud component, comprising a plate-like body made of rolled metal and provided with means for fixing to an element, with which it cooperates for the anchoring of said press-stud to the fabric, and a dome, also made of rolled metal, which is associated upon assembly with said base by folding its edge over the edge of said base and is adapted to be machined in relief, by etching, and/or in bas-relief to form lettering, symbols, designs, or the like, said component being characterized in that it comprises, in an interspace formed between said base and said dome, a filler element made of material which is deposited in the fluid phase and hardened, is non-flexible, and shaped complementarily to the surface of said dome.

Further characteristics and advantages of the present invention will become apparent from the following detailed description of an embodiment thereof, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a perspective view of a metal press-stud component according to the invention;

figure 2 is an exploded view of the component of figure 1;

figure 3 is a sectional view of the component of figure 1;

figures 4 and 5 are two other sectional views of part of the metal press-stud component according to the invention, shown in a step of its production;

figures 6 and 7 are perspective views of different embodiments of the component.

With particular reference to figures 1 to 5, a metal press-stud component, according to the invention, is generally designated by the reference numeral 10.

The component 10 comprises a plate-like base 11 made of rolled metal, provided with means, described hereinafter, for fixing to an element, not shown in the figures, with which it cooperates to anchor the press-stud as a whole to the fabric.

The component 10 also comprises a dome 12, also made of rolled metal, which is associated, upon assembly, with the base 11 by folding its edge 13 over the edge of said base and is adapted to be machined in relief, by etching, and/or in bas-relief to form lettering, symbols, designs, or the like.

In this case, a relief portion, designated by the reference numeral 14, is formed on the dome 12.

The component 10 comprises, in an interspace 15 formed between the base 11 and the dome 12, a filler element, designated by the reference numeral 16, which is made, in this case, of binary epoxy resin of a type which is known per se and commercially available.

Said filler element 16 is shaped complementarily with respect to the inside surface of the dome 12 and prevents the punch, not shown, from flattening the relief portion 14 when the base 11 is applied.

In particular, the binary resin is poured into the cavity of the dome 12 in a step which follows the relief and/or bas-relief machining of said dome and precedes the association of said dome to the base 11, after the hardening of the resin.

In this embodiment, said anchoring means are constituted by two points 17 which protrude at right angles from the base 11, in opposition to the dome 12, and are obtained by cutting and plastic deformation directly from said base.

With particular reference to figures 6 and 7, corresponding tubular stems 17a and 17b, obtained by drawing, protrude from the base, now designated by the reference numerals 11a and 11b respectively, and provide anchoring means which are an alternative with respect to the points 17.

The end of the stem 17b has a hole 18 for inserting a nail for fixing to the fabric, which is not shown.

In practice it has been observed that the present invention has achieved the intended aim and objects.

In particular, it should be noted that the component according to the invention, owing to the fact that it has the filler element in the interspace formed between the dome and the base, is not subject to the flattening of

any relief portions formed in said dome, without thereby requiring a punch head which is shaped particularly or the mutual centering of the dome and of said punch head, and therefore it is noted that the production of the present invention is extremely simple and quick, since said component can be easily loaded automatically, with considerably low working costs and times.

It should also be noted that the fact of placing the filler element inside the dome by simple pouring permits the complementary shaping to occur simply and quickly, without requiring any further adjustment operation.

It should also be noted that the structure of the component 10 according to the invention leaves the manufacturer with ample freedom as regards embodiments according to the most disparate aesthetic and styling requirements, maintaining the inside face substantially flat, without empty parts between the top of the dome and the base whereon it is assembled.

It should also be noted that the component according to the invention can optionally be provided by simply adapting components which are already commercially available.

The present invention is susceptible of numerous modifications and variations, all of which are within the scope of the inventive concept; the details may furthermore be replaced with other technically equivalent elements.

The materials and the dimensions may be any according to the requirements.

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. Metal press-stud component, comprising a plate-like base (11) made of rolled metal and provided with means (17, 17a, 17b) for fixing to an element, with which it cooperates for the anchoring of said press-stud to the fabric, and a dome (12), also made of rolled metal, which is associated upon assembly with said base (11) by folding its edge (13) over the edge of said base (11) and is adapted to be machined in relief, by etching, and/or in bas-relief to form lettering, symbols, designs, or the like, said component (10) being characterized in that it comprises, in an interspace (15) formed between said base (11) and said dome (12), a filler element (16) made of non-flexible material which is deposited in the fluid phase and hardened, and shaped complementarily to the surface of said dome (12).
2. Component according to claim 1, characterized in that said filler element (16) is made of plastics, which is poured into said dome (12) following its

relief and/or bas-relief machining, before its association with said base, and after the hardening of said plastics.

- 3. Component according to claim 1, characterized in that said filler element (16) is made of binary epoxy resin of a per se known type, which is poured into said dome (12) after its relief and/or bas-relief machining and before its association with said base (11), which is done after the hardening of said resin. 5 10
- 4. Component according to claim 1, characterized in that said fixing means comprise at least one point (17) which is obtained by cutting and plastic deformation of said base (11) and protrudes at right angles from said base (11) in opposition to said dome (12). 15
- 5. Component according to claim 1, characterized in that said fixing means comprise a tubular stem (17a, 17b) which protrudes from said base (11a, 11b) and is obtained by drawing. 20

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