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(71) Applicant: **METAL IDEAS Rete di Imprese
64011 Alba Adriatica (TE) (IT)**

(72) Inventor: **Ciaffoni, Concettina
64011 Alba Adriatica (TE) (IT)**

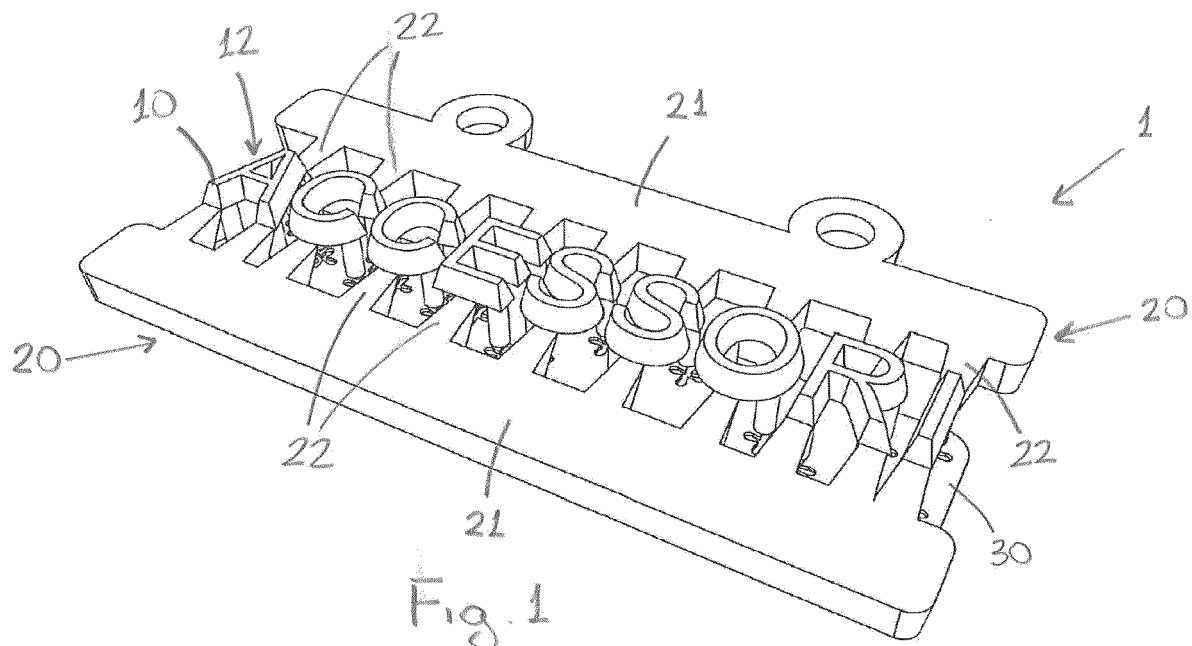
(74) Representative: **Fisauli, Beatrice A. M.
Con Lor S.p.A
Via Bronzino, 8
20133 Milano (IT)**

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(54) **A DECORATION FOR A SHEET MATERIAL, METHOD AND DEVICE FOR ITS APPLICATION ON SAID SHEET MATERIAL**

(57) The invention concerns a decoration (1) for a sheet of material (M) comprising decorative elements (10) in the form of letters, numbers, symbols, logos or the like, fastening pins (13) to fasten said decorative elements (10) to the sheet of material (M) in a predetermined position with respect to one another and temporary connection means (20) of the decorative elements (10),

comprising at least one bar (21) fastened to the various decorative elements (10) by means of tabs (22), characterized in that the tabs (22) are fastened to the rear surface (11) of the decorative elements (10) and are sized to have a section that facilitates breaking at said rear surface (11).



EP 3 659 454 A1

Description

[0001] The present invention relates to a decoration to be attached to a sheet of material such as leather, artificial leather, fabric or the like. In particular, the invention concerns a decoration comprising a plurality of elements that, once the decoration has been attached to said material, are separated from one another and arranged according to a given predetermined configuration.

[0002] The invention also concerns a method and a device for attaching said decoration.

[0003] Decorations made of metal or plastic to be attached to articles made of fabric, leather or the like, consisting of a plurality of alphanumerical characters, symbols, logos or the like, arranged according to a given spatial configuration are widely used, especially in the clothing and accessory sector.

[0004] In a known type of a decoration of this kind, said alphanumerical characters or symbols are joined to one another in a single rigid body. This union is generally obtained by means of connection elements, such as tabs or bars, or by a frame, integral with the elements of the decoration. Although this type of decoration ensures that the original arrangement of the various elements is correctly maintained, said connection elements are exposed on the outer side of the article to which the decoration is attached. Moreover, this type of decoration greatly limits the flexibility of the article in the area in which it is attached, as it is generally made of a material that is stiff or in any case much more inflexible with respect to the sheet of material.

[0005] To overcome the aforesaid problems, decorations provided with temporary connection elements, which are removed after the decoration is attached to the article, have been produced.

[0006] EP 2151169 A1 describes, specifically for fabrics, a decoration of this kind comprising a first string of alphanumerical characters, or symbols, joined in a rigid body by first connection means and a second string of support elements joined in a rigid body by second connection means. Said connection means have the shape of a bar, which is joined to the outer surface of the alphanumerical characters or of the respective supporting elements by means of thin tabs.

[0007] In the attachment method of EP 2151169 A1 the connection means of the first string and of the second string are removed after the decoration has been attached to the fabric, or after the two strings are mutually coupled with interposing of said fabric. In the removal step the tabs are snapped to release the various alphanumerical characters and the supporting elements from the bars.

[0008] However, this decoration and its method of application have some problems.

[0009] In fact, the joining area between the tabs of the first connection means and the alphanumerical characters is located on the outer surface, i.e., which remains exposed, of the latter. Therefore, once the tabs have

been snapped, the break section remains exposed and, although of limited size, it is still an unwanted imperfection in the decoration. Moreover, as the breaking operation is typically performed by hand, it does not ensure that the break will always occur perfectly against the surface of the characters, at times leaving a small portion of tab attached to the finished decoration.

[0010] In addition to this, if the decoration is made of coated metal, for example plated metal, the absence of coating in the break area can lead to more rapid deterioration as a result of the aggressive action of washing or treatment products, or even of atmospheric agents alone.

[0011] Finally, the operation to manually remove the connection elements causes an increase in the production times of the article and consequently an increase in costs.

[0012] EP 3162954 A1 describes a decoration and a method and a related machine for attaching it to an element in sheet form that partially overcome the problems of EP 2151169 A1. In fact, the machine described in EP 3162954 A1 is configured to separate the connection means, bars or frames, from the decorative elements directly during their coupling with the sheet of material. However, also in this case the connection elements are fastened by means of peduncles to the outer or lateral surfaces of the decorative elements, with the negative effects described above.

[0013] WO 2014/013997 A1 also describes a decoration similar to those cited above, in which fastening of the connection elements to the decorative elements is obtained by means of tabs whose break point is located on the outer or lateral, in any case exposed, surface of said decorative elements.

[0014] To partially overcome the aforesaid problems, EP 2276015 B2 proposes a decoration composed of a plate comprising a plurality of elements of the type with alphanumerical characters, symbols or the like, and a fastening counter-plate. The connection means that rigidly join the elements of the plate consist of bars arranged, in this case, at the end of the fastening pins with which the elements of the string are fastened to the counter-plate.

[0015] In the method of attaching this decoration the plate is clamped between two suitably shaped jaws, so as to engage the fastening pins and block the elements in their original position, and subsequently to remove, again by breaking, the connecting bars of said pins before coupling the plate and the counter-plate with the material interposed.

[0016] Although the solution proposed by EP 2276015 B2 allows a decoration that is more aesthetically pleasing to be obtained, as there are no break areas on the exposed outer surface of the decoration, it nonetheless requires the use of a more complex and costly application device. In fact, the die in which the plate is arranged must necessarily be equipped with moving clamping jaws to temporarily block the various elements of the decoration in the predetermined position. Moreover, said jaws must

have a dedicated shape to be able to adapt to the position of the various fastening pins of the elements of the plate; therefore, they cannot be reutilized to attach other decorations with a different shape or configuration.

[0017] Finally, also in this case, the operation of removing the connection bars carried out manually implies an increase in the costs and production times of the article.

[0018] In this context, an object of the present invention is to propose a decoration for a sheet of material such as leather, fabrics or the like, a method for attaching it to said material and a related device, which overcome the problems of the aforesaid known solutions.

[0019] In particular, an object of the present invention is to provide a decoration that is quicker and simpler to attach.

[0020] An object of the present invention is therefore to implement a method that allows said decoration to be attached rapidly, without changing its aesthetic appearance, and a related device with a simpler, and therefore more inexpensive, structure.

[0021] The aforesaid objects are achieved by a decoration in which the various exposed decorative elements, i.e., letters, numbers, symbols, logos, etc., are joined by temporary connection means fastened on their rear surface. Within the scope of the present invention, rear surface means the surface of the decorative element that remains facing and/or in contact with the surface of the sheet of material once the decoration is attached or which in any case is no longer visible once it has been attached to the sheet of material.

[0022] In this way, the breaking area that is created following separation of the connection elements remains on a concealed part of the attached decoration.

[0023] Moreover, according to the invention, in the method of attaching the aforesaid decoration, separation of the connection means from the decorative elements occurs automatically during the step of coupling the latter with a fastening counter-plate.

[0024] In particular, breaking of the joining points of the connection means is carried out directly by means of the pressing device used to couple the decorative elements with the counter-plate.

[0025] Unlike some of the known methods described above, a single pressing action is thus sufficient to attach the decoration permanently.

[0026] According to a preferred variant, in the method this separation takes place simultaneously or subsequently to the start of mutual penetration of the fastening pins in the sheet of material, but before they have been completely clamped between the decorative elements and the counter-plate.

[0027] Due to this configuration, the connection means ensure that the correct original arrangement of the decorative elements remains until at least a first portion of the pins has penetrated the material. Subsequently, as with this coupling of the pins with the sheet of material the arrangement of the decorative elements is permanent

and stable, the latter can be released from the connection means to free the rear surface and allow complete adhesion against said sheet of material.

[0028] Therefore, the present invention relates to a decoration for a sheet of material such as leather, artificial leather, fabrics or the like, of the type applicable with a pressing device, comprising:

- decorative elements in the form of letters, numbers, symbols, logos or the like, said decorative elements having a rear surface, destined to rest against the sheet of material, and a front surface, which remains exposed when the decoration is attached to the sheet of material;
- fastening pins, protruding from the rear surface of the decorative elements, to fasten said decorative elements to the sheet of material in a predetermined position with respect to the others; and
- temporary connection means, adapted to maintain the decorative elements in the aforesaid predetermined position, comprising at least one bar fastened to the various decorative elements by means of tabs;

[0029] Advantageously, as mentioned, said tabs are fastened to the rear surface of the decorative elements and are sized to have a section that facilitates breaking at their rear surface.

[0030] In the description below, the term bar means a rigid element typically, but not necessarily, rectilinear in shape. The bar can in fact have different shapes, such as curved, semi-circular, broken line or mixed.

[0031] The connection means can also comprise more than one bar, preferably at least two or more.

[0032] For example, when the decoration comprises a series of alphanumeric characters aligned to form an inscription, it comprises two bars arranged respectively on opposite sides with respect to a main direction of development of the decoration. Said bars can optionally be connected to one another to form a sort of frame.

[0033] According to an aspect of the invention, said bar has an abutment surface adapted to coact with an element of the pressing device to cause breaking of the tabs in the section that facilitates breaking. In particular, the connection means are structured so as to allow breaking of the tabs by exerting a thrust on the bar in a substantially vertical direction, i.e., substantially perpendicular to the rear face.

[0034] With the decoration of the invention it is thus possible to exploit the mutual movement of the pressing elements, which normally couple the decorative elements with the sheet of material and with a fastening counter-plate, also to separate the connection elements from the decorative elements.

[0035] According to a preferred variant, said abutment face is located at a height, or at a level, between the rear surface of the decorative elements and free end of the fastening pins.

[0036] In this way, the pressing element that carries

the fastening counter-plate, as it moves toward the one with the decoration, first presses the sheet of material against the end of the fastening pins causing them to penetrate partially and, subsequently or simultaneously, exerts on the abutment face of the bar a pressure that causes the tabs to yield in the area of the rear face of the decorative elements.

[0037] According to another aspect of the invention, the tabs have a section that narrows from the bar toward the decorative element. In this way, breaking occurs at the weakest section, i.e., the section of smallest size, and at which the greatest bending moment occurs, which is at the level of the rear surface of the decorative elements.

[0038] According to another aspect of the invention, the decoration, as a whole, is completed by a fastening counter-plate provided with openings adapted to accommodate, and to block through friction, the fastening pins of the decorative elements.

[0039] The present invention also concerns the method for attaching an aforesaid decoration to the sheet of material. The method comprises at least the steps of:

- preparing a decoration according to one of the variants described above;
- arranging said decoration in a first pressing element;
- arranging a fastening counter-plate in a second pressing element so that it is facing and aligned with the decoration;
- arranging the sheet of material between the first and the second pressing element;
- moving the first and the second pressing element toward each other until the fastening pins of the decorative elements contact or partially penetrate the sheet of material;
- snapping the tabs of the temporary connection means at the rear surface of the decorative elements;
- completing the movement of the first pressing element and of the second pressing element toward each other to couple the decorative elements and the counter-plate with the sheet of material interposed.

[0040] As mentioned above, separation of the connection elements takes place during pressing and coupling of the decorative elements and of the fastening counter-plate.

[0041] Partial penetration of the pins in the material simultaneously or prior to breaking of the connection means ensures that the various decorative elements maintain their predetermined position until complete clamping of decorative elements and fastening counter-plate.

[0042] Preferably, according to an aspect of the invention, to snap the tabs of the temporary connection means a substantially vertical thrust is applied to the bar, i.e., substantially perpendicular to the rear surface of the decorative elements.

[0043] In more detail, said breaking is preferably implemented by the second element of the pressing device that bears the fastening counter-plate.

[0044] In this way, unlike known methods, separation and removal of the connection elements occurs automatically during the pressing operation.

[0045] According to another aspect of the invention, the sheet of material is arranged with the top side facing the decoration. In the context of the invention, top side means the "good" side of the material, i.e. the side with the higher or aesthetically more pleasing finish that generally remains exposed in the article made with said material. To prevent damage to said top side during pressing, in a preferred variant of the method, a protective plate is arranged between it and the decoration.

[0046] Said protective plate can, for example, comprise an outer frame that delimits an opening arranged superimposed on and aligned with the decorative elements of the decoration. Instead, said frame is at least partially superimposed on the bar, or bars, of the temporary connection means.

[0047] The present invention also relates to a pressing device configured to apply the aforesaid decoration. Said device comprises:

- a first pressing element provided with a seat adapted to receive and retain the decoration;
- a second pressing element provided with a seat adapted to receive and retain a fastening counter-plate, which can be coupled to the decorative elements of the decoration; and
- actuator means to move the first element and the second pressing element toward each other to couple the decorative elements and the counter-plate with the sheet of material interposed.

[0048] According to the invention, the second pressing element comprises at least one contact surface adapted to coact with the temporary connection means to snap the tabs at the rear surface of the decorative elements.

[0049] In particular, said abutment surface is shaped so as to exert a thrust on the bar of the temporary connection means.

[0050] Once the shape of the decoration, and in particular of the temporary connection means, is known, it is possible to determine the shape of the abutment surface that ensures contact with the bar simultaneously or in any case subsequently to penetration of the pins in the material.

[0051] According to a preferred variant, said contact surface is withdrawn with respect to the bottom of the seat of the counter-plate. The term withdrawn means that said surface is at greater distance from the first pressing element with respect to the bottom of the seat. In this way, the contact surface starts to exert the thrust on the bar simultaneously to or after the fastening pins of the decoration have partially penetrated the sheet of material.

[0052] Further features and details of the invention will be better understood from the description below, provided by way of non-limiting example, and from the accompanying drawings, wherein:

- Fig. 1 is a representation of a perspective view, from the front side, of a decoration according to the present invention;
- Fig. 2 is a representation of a plan view, from the rear side, of the decoration of Fig. 1;
- Fig. 3 is a representation of a side view of the decoration of Fig. 1;
- Figs. 4a and 4b are representations of perspective views of the elements of the pressing device;
- Figs. 5a to 5d are representations of cross-sectional views of the pressing device during some steps of attaching the decoration to the sheet of material;
- Figs. 6a and 6b are representations of perspective views respectively of the top and reverse side of the sheet of material with the decoration attached.

[0053] With reference to the accompanying figures, the number 1 indicates as a whole a decoration composed of a plurality of decorative elements 10 arranged one with respect to the other according to a predetermined spatial configuration. In the example illustrated, the decoration comprises a string of letters side by side and aligned on a single line.

[0054] The decorative elements have a substantially flat rear surface 11 and a top, or exposed, surface 12 having a profile that varies as a function of the shape and of the type of decorative element. Said upper surface 12 is generally in turn formed by a plurality of contiguous and optionally continuous surfaces.

[0055] The thickness of the decorative elements 10 can vary; typically, it is comprised between 0.5 mm and 10 mm and preferably between 1 mm and 4 mm.

[0056] The fastening pins 13 which, as will be better illustrated below, allow the decoration to be attached to the sheet of material, protrude from the rear surface 11 of the decorative elements.

[0057] The decorative elements 10 are maintained in the predetermined position by temporary connection means, indicated as a whole with 20.

[0058] Said connection means 20 comprise a substantially rectilinear bar 21 from which a plurality of tabs 22, which join the various decorative elements 10, protrude. Typically, each decorative element 10 is connected to the bar 21 by at least one tab 22.

[0059] In the example illustrated, the decoration comprises a pair of bars 21, and respective set of tabs 22, arranged on opposite sides to the main direction of development of the decoration. In this way, at least are two tabs 22 are connected to each decorative element 10.

[0060] According to the invention, the end of the tabs 22 is fastened at the lower surface 11 of the decorative elements so that a breaking surface is created on said surface.

[0061] In order to obtain a section that facilitates breaking of the tabs 22 located at the aforesaid rear surface 11 of the decorative elements 10, said tabs have a section that decreases from the bar 21 toward the decorative elements 10.

[0062] The bar 21 can have substantially any shape, for example a polygonal, circular, curved or mixed profile.

[0063] According to the invention, the shape and the position of the bar 21 with respect to the decorative elements 10 are such that the bar has at least one abutment surface 21a located at an intermediate height between the rear surface 12 and free end of the fastening pins 13 of the decorative elements 10.

[0064] Said abutment surface 21a can have any shape or extension; if said surface is not flat, in order to establish its position, the closest point at the ends of the fastening pins 13 is considered as height.

[0065] The decoration 10 and the connection means 20 are generally obtained in a single monolithic piece by means of casting, die-casting or moulding processes. Materials typically used to produce the decoration of the invention are zamak or thermoplastic materials.

[0066] The decorative elements 10 are retained on the sheet of material by a fastening counter-plate 30 provided with openings 31 adapted to accommodate the fastening pins 13 of the decorative elements.

[0067] According to a preferred variant, said openings 31 have a cross shape or the like and are configured to become slightly deformed when the fastening pin 13 passes through them. Blocking between the aforesaid elements is prevalently obtained through friction.

[0068] According to a preferred variant, the fastening counter-plate 30 is made of steel and has a constant thickness preferably between 0.2 mm and 0.5 mm and more preferably between 0.3 mm and 0.4 mm. The counter-plate thus structured ensures both sufficient mechanical strength at the openings 31 and, at the same time, excellent flexibility.

[0069] With reference to Figs. 4a, 4b and 5a to 5d, there is schematically illustrated a pressing device 100, which can be used to apply the decoration 1 of the present invention to a sheet of material M.

[0070] The pressing device 100 comprises a first pressing element 110 and a second pressing element 120, facing and movable toward and away from each other. In general, the first element 110 is fixed, while the second element 120 can be moved under the action of manual or automatic actuator means, of known type, not illustrated in the figures.

[0071] The first pressing element 110 comprises a seat 111 adapted to accommodate the decoration 1 and to hold it still. For this purpose, said seat 111 generally has a shape at least partially complementary to the shape of the decorative elements 10.

[0072] The second pressing element 120 comprises a respective seat 121 adapted to accommodate the fastening counter-plate 30 and maintain it in position.

[0073] Moreover, said second pressing element 120

comprises a contact surface 122, positioned against the seat 121, adapted to press on the connection means 20 of the decoration, as described in detail below.

[0074] Figs. 5a to 5d represent some steps of the operation to attach the decoration 1 to the sheet of material M.

[0075] With reference to Fig. 5a, starting from a condition in which the pressing elements 110, 120 are at a distance from each other, the decoration 1 is arranged in the seat 111 of the first element 110 and the fastening counter-plate 30 is arranged in the seat 121 of the second element 110. Preferably, the seat 121 is provided with magnets or the like to block the counter-plate 30 in position and prevent it from disengaging from the seat or falling. The decoration 1 is arranged with the front surface 12 facing downward and the fastening pins 13 facing upward, i.e., toward the second pressing element 120.

[0076] The sheet of material M is interposed between the two pressing elements 110, 120 with its top side M' facing the decoration 1 against the fastening pins 13.

[0077] According to a preferred variant, a protective plate 40 with a central opening 41 aligned with and superimposed on the decorative elements 10 and the frame 42 resting on the bars 21 of the temporary connection means 20 is interposed between the decoration 1 and the sheet of material M.

[0078] From the position of Fig. 4a it is the second pressing element 120 that has moved toward the first pressing element 110. In this step, the counter-plate 30 comes into contact with the reverse side M" of the sheet of material and starts to press it against the fastening pins 13 of the decorative elements 10. The latter first penetrate the sheet of material and subsequently are inserted into the openings 31 of the counter-plate, as illustrated in Fig. 5b.

[0079] In the condition illustrated in Fig. 5b, the contact surface 122 of the second pressing element 120 is still slightly detached from the reverse side M" of the material M or has just come into contact therewith substantially at the same time as the fastening pins 13 engage the material M.

[0080] From this position, the two pressing elements continuing to move toward each other, the aforesaid contact surface 122 presses on the reverse side M" of the material M, which in turn presses on the frame 42 of the protective plate 40, which in turn presses on the abutment surfaces 21a of the bars 21 until, due to the bending moment generated on the tabs 22, the latter yield, breaking at the rear surface 11 of decorative elements 10. These elements are thus separated from the temporary connection means 20, as illustrated in Fig. 5c.

[0081] As the fastening pins 13 have already partially penetrated the sheet of material M, the relative position of the decorative elements 10 is now permanent and stable.

[0082] From this condition, pressing continues until the sheet of material M is clamped between the decorative elements 10 and the fastening counter-plate 30, as vis-

ible in Fig. 5d.

[0083] At this point, the pressing elements move away from each other again and the material M is released with the decoration applied to the top side M' and the counter-plate on the reverse side M", as visible in Figs. 6a and 6b.

[0084] The invention has been described purely for illustrative and non-limiting purposes, according to some preferred embodiments. Therefore, a person skilled in the art can make modifications or variations, all of which are considered as falling within the scope of protection of the present invention.

Claims

1. A decoration (1) for a sheet of material (M) such as leather, artificial leather, fabrics or the like, of the type applicable with a pressing device, comprising:

- decorative elements (10) in the form of letters, numbers, symbols, logos or the like, said decorative elements (10) having a rear surface (11), destined to rest against the sheet of material (M), and a front surface (12), which remains exposed when the decoration is attached to the sheet of material;
- fastening pins (13), protruding from the rear surface (11) of the decorative elements (10), to fasten them to the sheet of material (M) in a predetermined position with respect to one another;
- temporary connection means (20), adapted to maintain the decorative elements (10) in the aforesaid predetermined position, comprising at least one bar (21) fastened to the various decorative elements (10) by means of tabs (22);

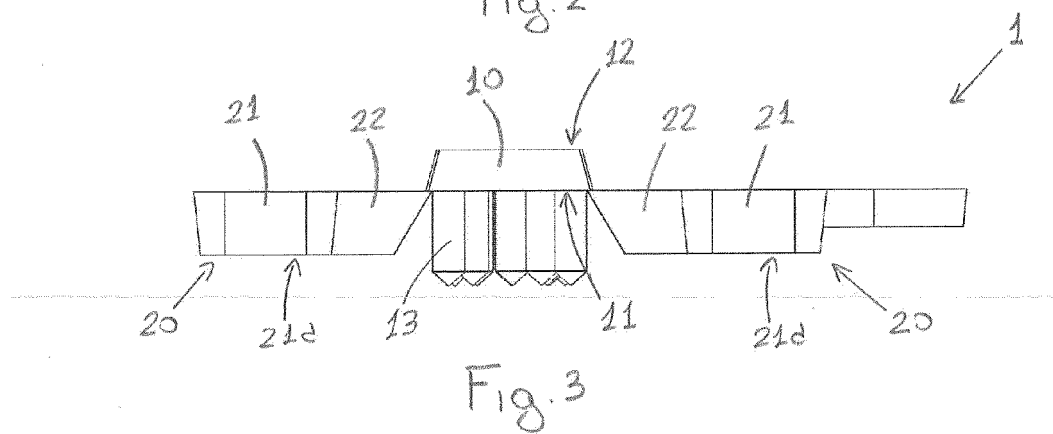
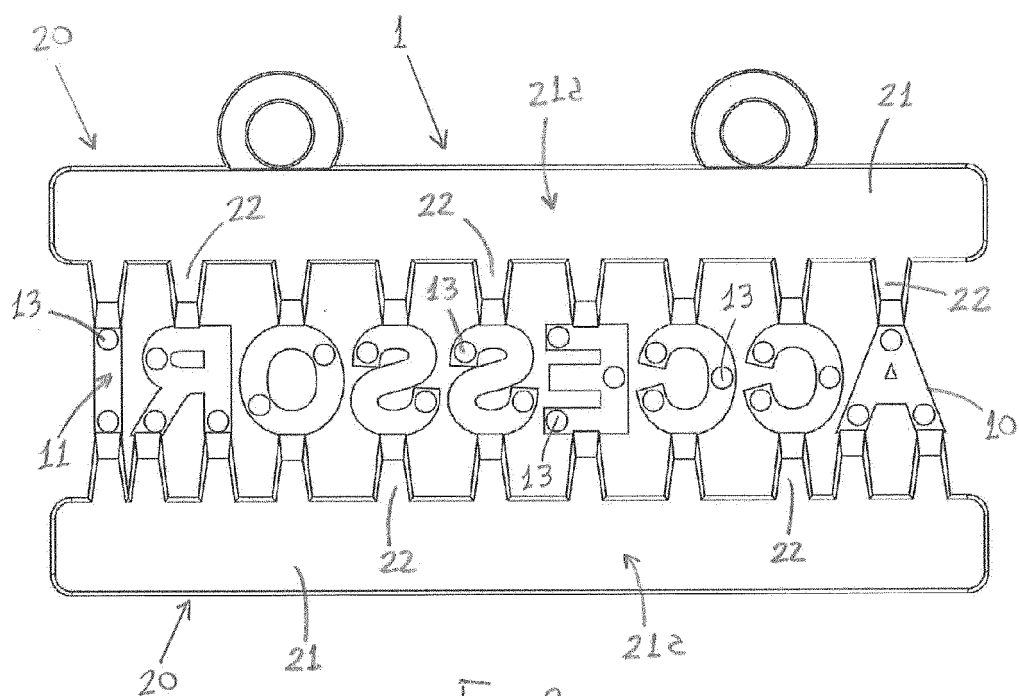
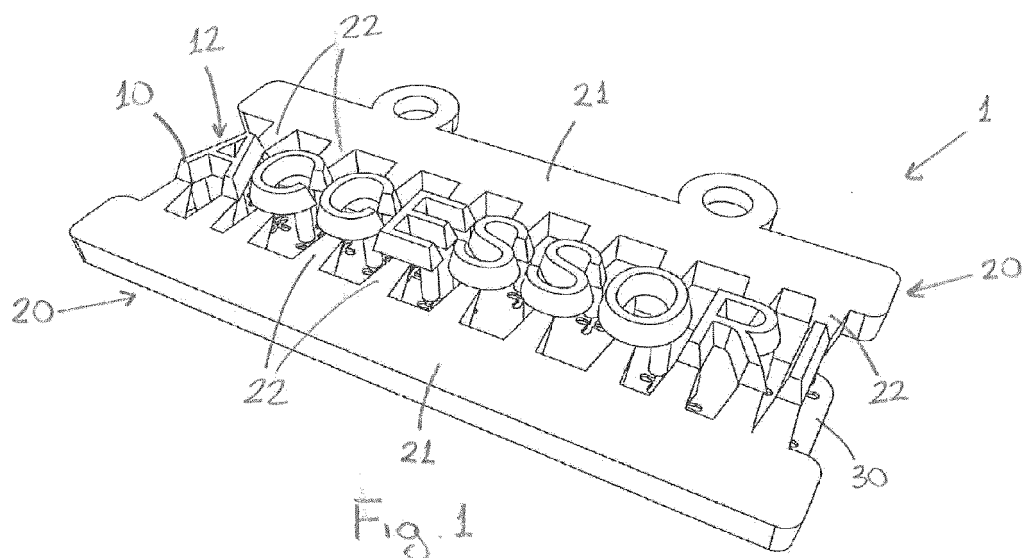
characterized in that the tabs (22) are fastened to the rear surface (11) of the decorative elements (10) and are sized to have a section that facilitates breaking at said rear surface (11).

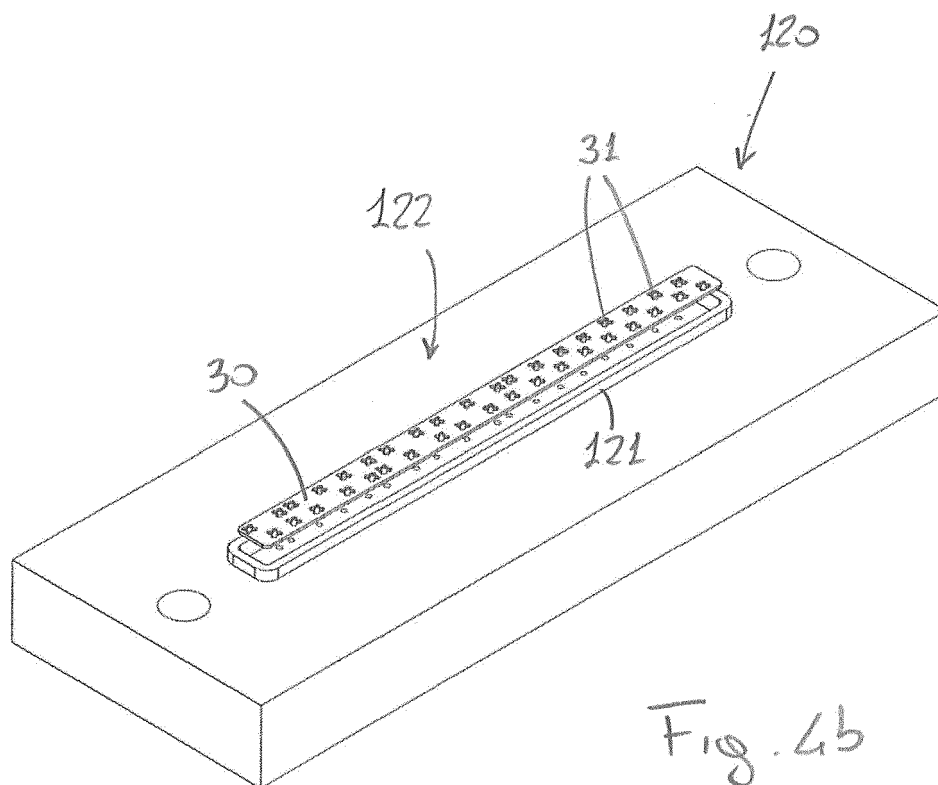
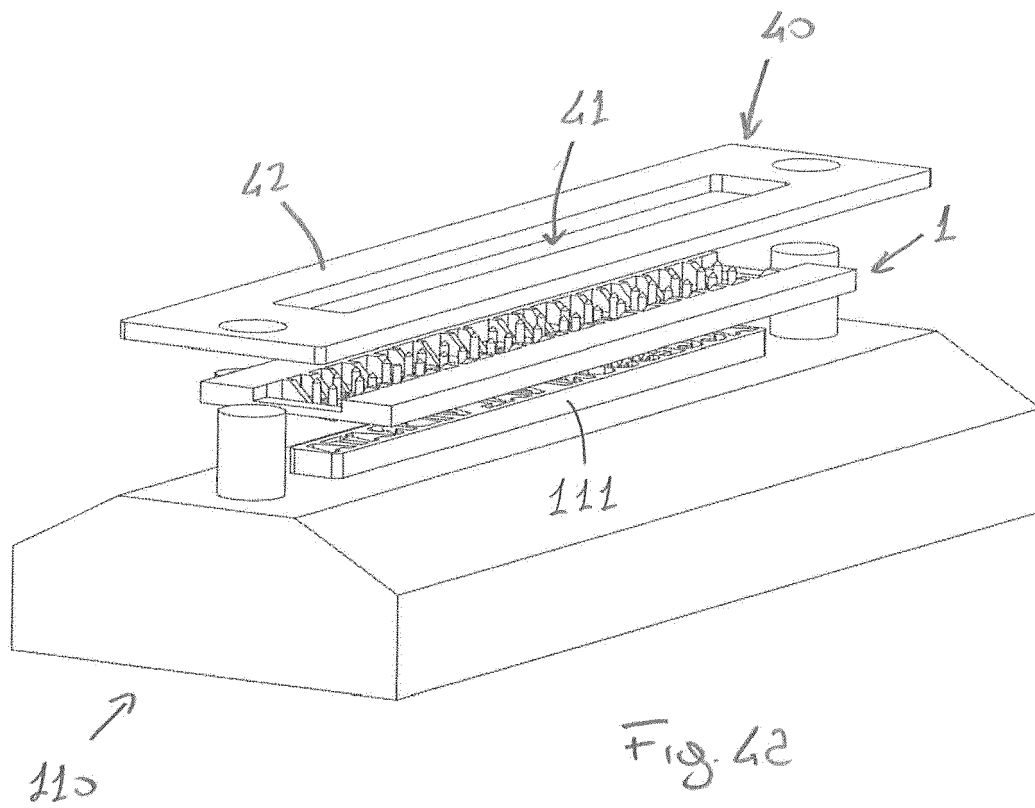
2. The decoration according to claim 1, **characterized in that** said bar (21) has an abutment surface (21a), adapted to coact with an element of the pressing device to cause breaking of the tabs (22) in the section that facilitates breaking.

3. The decoration according to claim 2, **characterized in that** said abutment surface (21a) is located at a height comprised between the rear surface (11) and free end of the fastening pins (13) of the decorative elements.

4. The decoration according to any one of the preceding claims, **characterized in that** the tabs (22) have a section that narrows from the bar toward the decorative element (10).

5. The decoration according to any one of the preceding claims, comprising a fastening counter-plate (30) provided with openings (31) adapted to accommodate and to block through friction the fastening pins (13) of the decorative elements (10). 5
6. A method for attaching a decoration (1) to a sheet of material (M) such as leather, fabric or the like, with a pressing device (100), the method comprising at least the steps of: 10
- providing a decoration (1) according to any one of the preceding claims;
 - arranging said decoration (1) in a first pressing element (110); 15
 - arranging a fastening counter-plate (30) in a second pressing element (120) so that it is facing and aligned with the decoration (1);
 - arranging the sheet of material (M) between the first and the second pressing element; 20
 - moving the first and the second pressing element toward each other until the fastening pins (13) of the decorative elements (10) contact or penetrate at least a segment of the sheet of material (M); 25
 - snapping the tabs (22) of the temporary connection means (20) at the rear surface (11) of the decorative elements (10);
 - completing the movement of the first pressing element (110) and of the second pressing element (120) toward each other to clamp the sheet of material (M) between the decorative elements (10) and the counter-plate (30). 30
7. The method according to the preceding claim, wherein to snap the tabs (22) of the temporary connection means (20) a substantially vertical thrust is applied to the bar (21). 35
8. The method according to claim 6 or 7, **characterized in that** breaking of the tabs (22) of the temporary connection means (20) is performed by the second pressing element (120) of the pressing device (100). 40
9. The method according to any one of the preceding claims, **characterized by** arranging the sheet of material (M) with the top side (M') facing the decoration (1), the method further comprising providing a protective plate (40) between the decoration (1) and said top side (M') of the sheet of material. 45 50
10. The method according to the preceding claim, wherein said protective plate (40) comprises an outer frame (42) that delimits an opening (41) arranged superimposed on and aligned with the decorative elements (10) of the decoration (1), said frame (42) being at least partially superimposed on the bar (21) of the temporary connection means (20). 55
11. A pressing device for applying a decoration (1) according to any one of claims 1 to 5 to a sheet of material (M) such as leather, fabric or the like, the device comprising:
- a first pressing element (110) provided with a seat (111) adapted to receive and retain the decoration (1);
 - a second pressing element (120) provided with a seat (121) adapted to receive and retain a fastening counter-plate (30) that can be coupled with the decorative elements (10) of the decoration (1);
 - actuator means to move the first element and the second pressing element toward each other to couple the decorative elements (10) and the counter-plate (30) with the sheet of material (M) interposed;
- characterized in that** said second pressing element (120) comprises at least a contact surface (122) adapted to coact with the temporary connection means (20) to snap the tabs (22) at the rear surface (11) of the decorative elements (10).
12. The device according to the preceding claim, **characterized in that** said contact surface (122) is withdrawn with respect to the bottom of the seat (121), so as to come into contact with the bar (21) after the fastening pins (13) of the decoration (1) have penetrated the sheet of material (M).





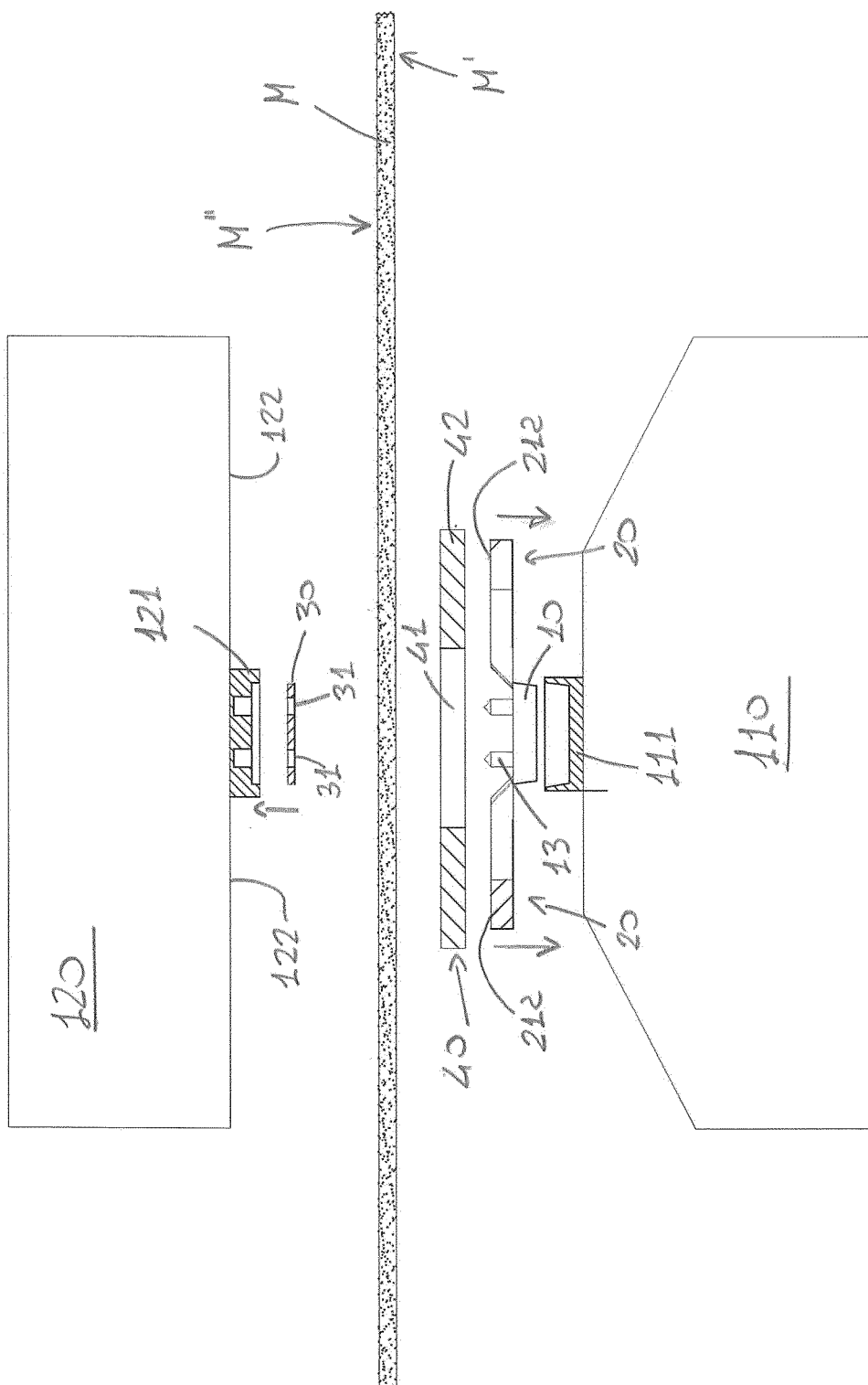
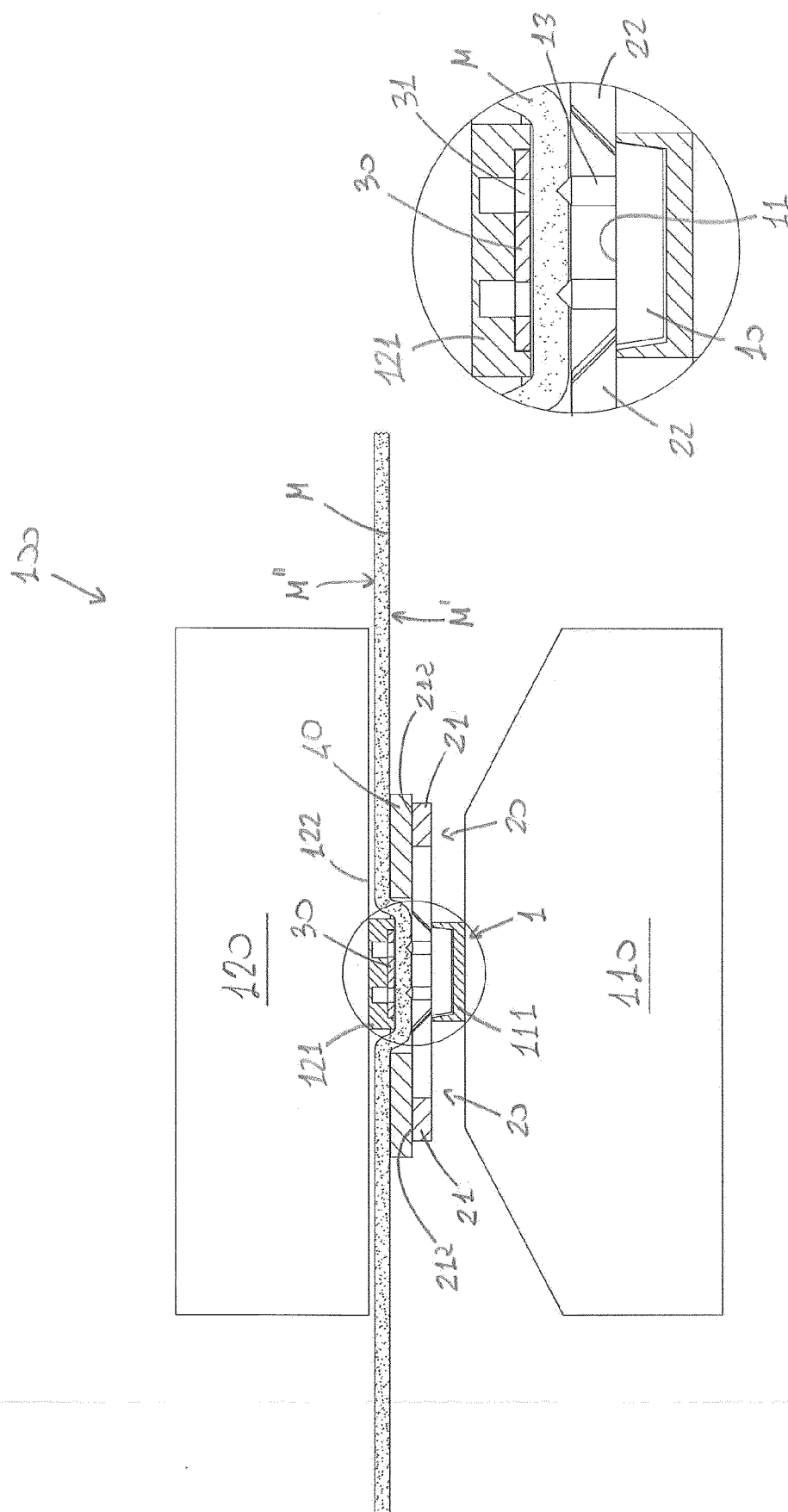


Fig. 5a



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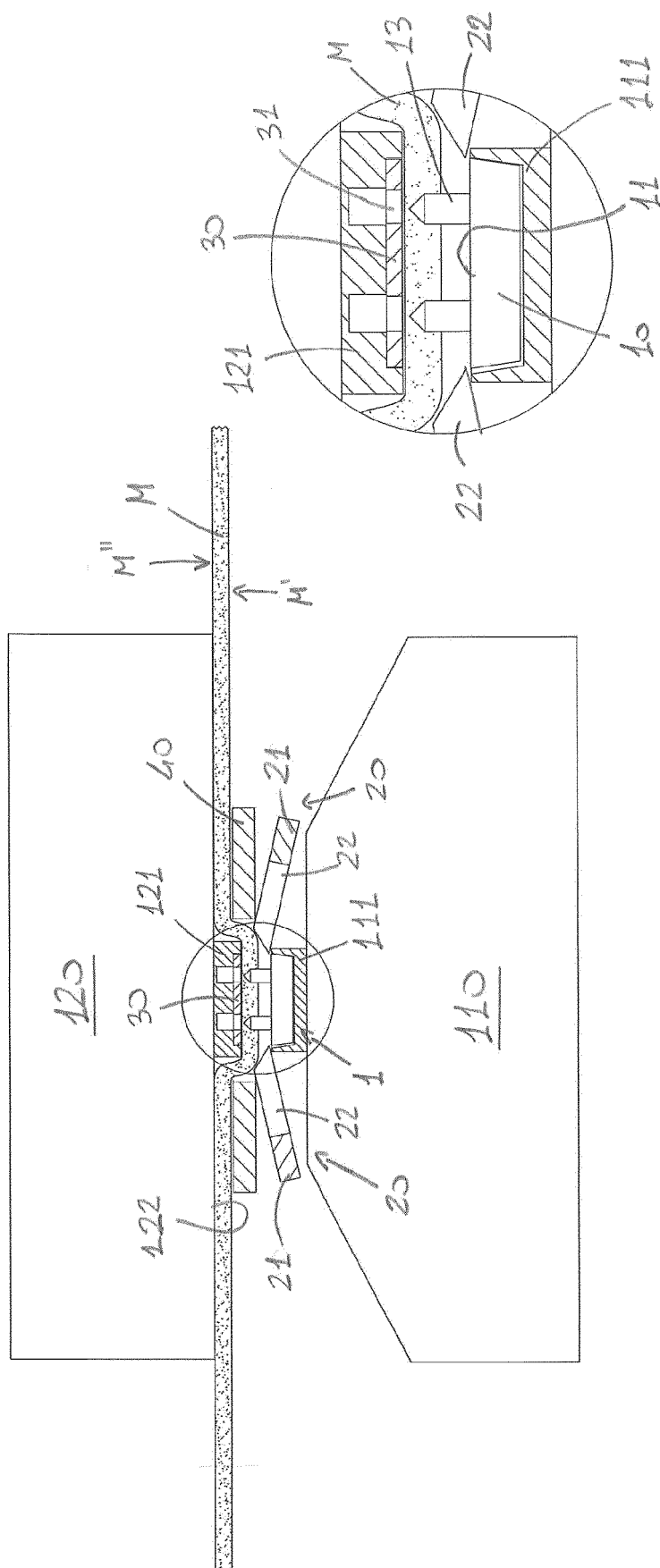
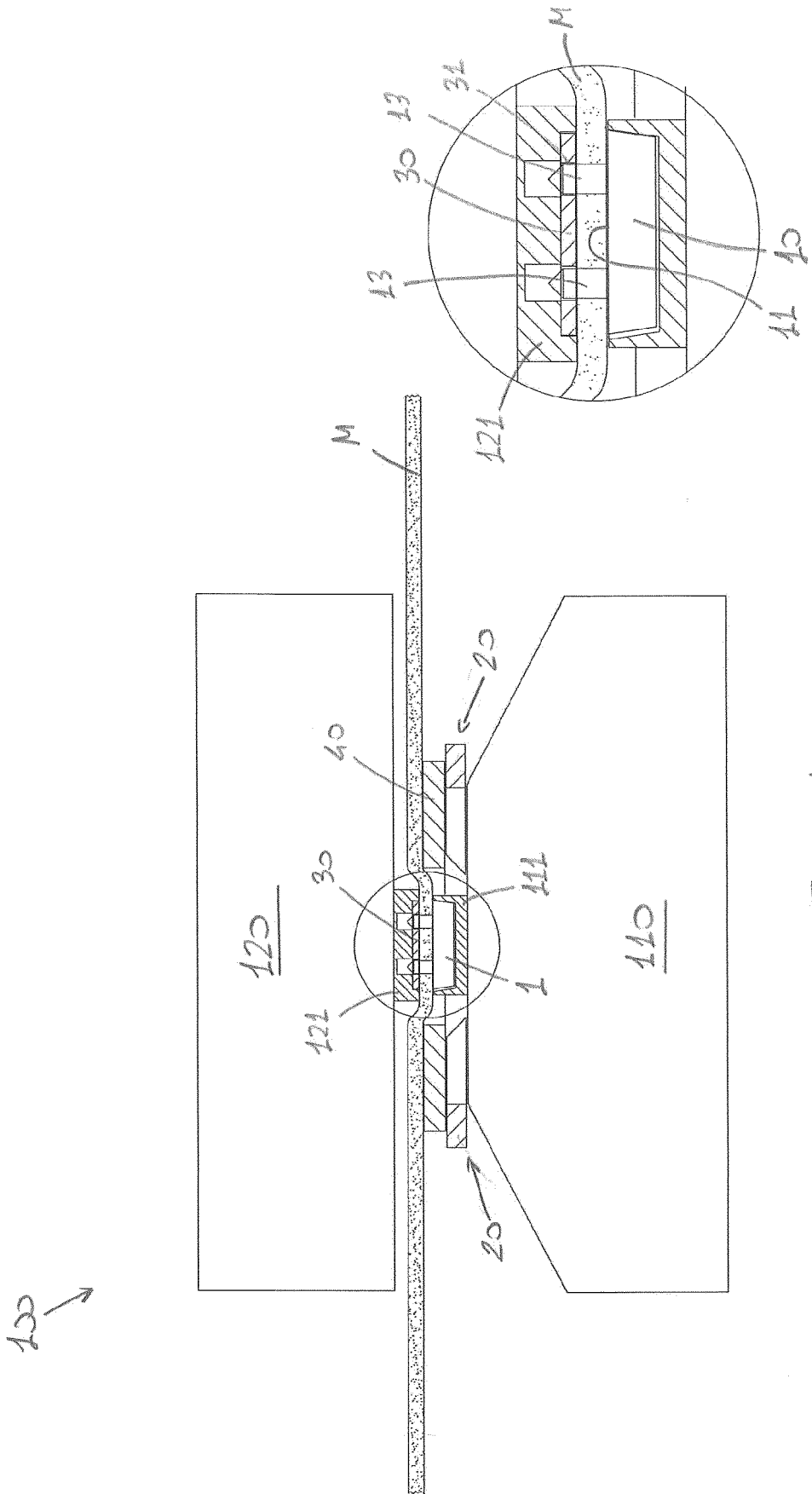


Fig. 5c



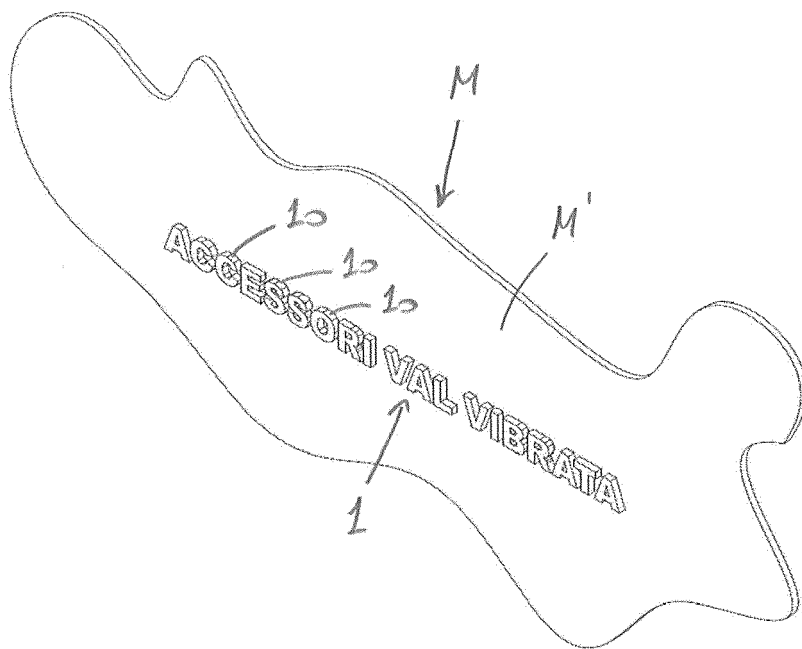


Fig. 6a

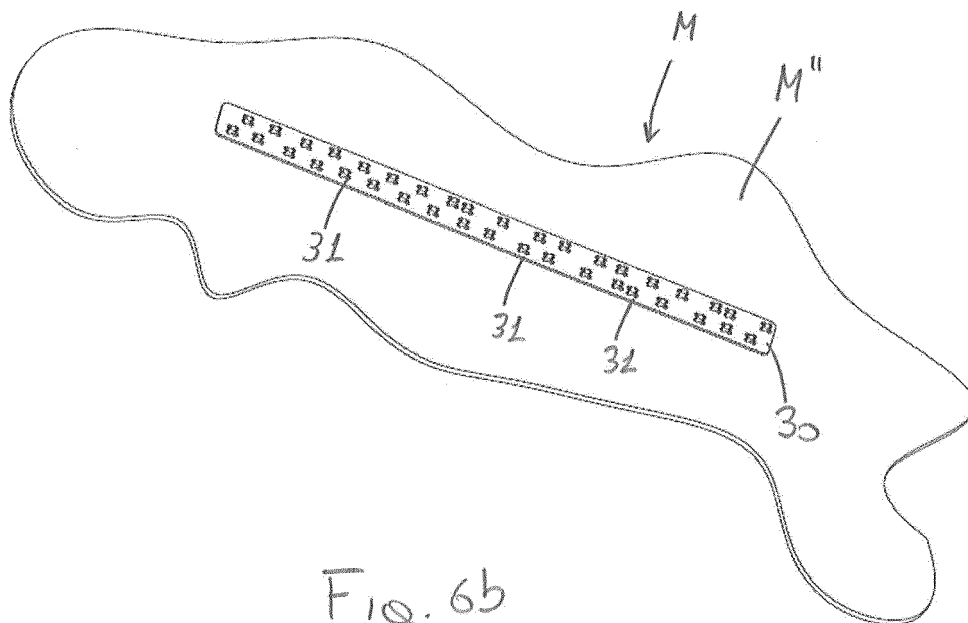


Fig. 6b



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Place of search The Hague		Date of completion of the search 6 April 2020	Examiner Debard, Michel
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