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(54) **Method for producing a label, particularly for items of clothing.**

(57) A method of producing a label (1), particularly for items of clothing, comprising the steps of:

- providing a plate-like support (2) which is composed of a soft material and at least one decorative element (10) which is composed of a rigid material and which is provided with at least one pin (13) which extends from a surface (12) thereof which is intended to be hidden,
- applying the decorative element to a first surface (3) of

the support in such a manner that the pin projects from the opposite second surface (4) thereof,

- positioning the support and the decorative element in a mould (20) and moving a heated counter-mould (21) against the mould at the side of the second surface (4) in such a manner as to soften or melt partially a free end (15a) of the pin (13) projecting from the support so as to form an enlarged head (16) of the pin and to press it against the support.

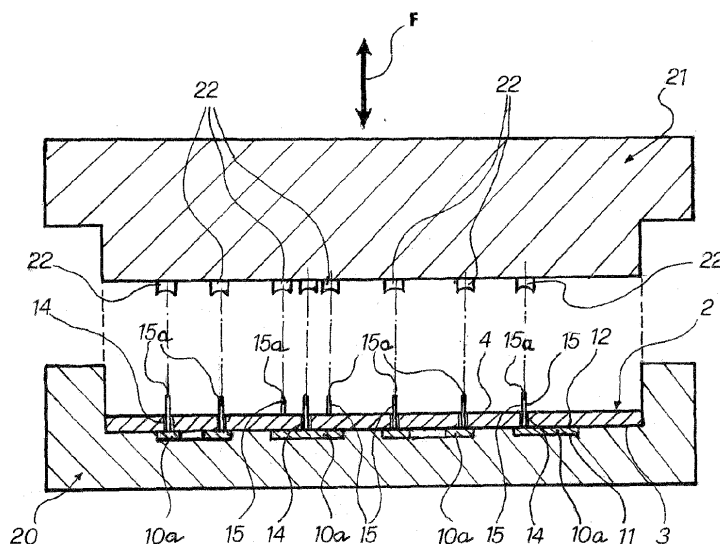


FIG. 4

Description

Technical field

[0001] The present invention relates to a method of producing a label, particularly for items of clothing, having the features set out in the preamble of the main claim.

Technological background

[0002] In the technical field relating to the production of items of clothing, it is known to apply labels, for example, reproducing the mark of the model or the manufacturing company, in clearly visible positions in order to increase the value and also to better characterize the item itself in aesthetic terms.

[0003] The use of labels of this type is widespread in the sector of jeans where those labels which are constructed from hides or woven fabric are typically positioned in the rear upper portion of the jeans, in the region of the belt loops. However, there are also known examples of use of labels of this type on jackets and clothing articles and accessories, such as bags and handbags.

[0004] In this sector, in order to increase the above-mentioned aesthetic characterization of the item, there are particularly known labels comprising a support of hide, woven fabric or the like, to which decorative elements constructed from metal material are applied.

[0005] In that case, however, the labels can be excessively heavy and rigid, impairing the softness and the freedom of movement of the item of clothing in the region of the label itself.

[0006] Furthermore, the production steps of this type of labels are particularly complicated and difficult both in terms of time and in terms of use of human resources.

[0007] For example, according to a first known method, the decorative metal element is fixed to a visible surface of the support by means of pins which extend through the support and which are fixed to a suitable counter-plate, which is also of metal and which is provided on the surface of the support which is not visible. In that manner, the solidity between the connection involving the decorative element and the support is ensured, but the weight of the label is increased substantially. Furthermore, in the case of relatively long decorative elements, for example, formed by strings with a number of alphanumeric characters, the label becomes very rigid and this may constitute a considerable limitation in the case of labels which are intended for application in positions which instead require characteristics of flexibility.

[0008] In order to partially overcome this disadvantage, when the decorative element is formed by a succession of sub-elements, for example, alphanumeric characters, it is known to apply those sub-elements to the support one by one, also providing for each sub-element a respective counter-plate.

[0009] The consequence of this variant is that the production times are further increased.

[0010] Furthermore, this type of method requires that there be provided suitable specific moulds and counter-moulds in which to position the decorative elements at one side and the corresponding counter-plates at the other side. Another disadvantage relating to the fixing method described above is constituted by the fact that the final thickness of the label is substantially increased.

[0011] Another disadvantage is constituted by the fact that the presence of one or more counter-plates positioned in the surface of the support which cannot be seen, if they are not adequately processed, could cause damage to the item of clothing to which the label is fixed or damage to the accessories thereof. With regard to the latter case, consideration may be given, for example, to the instance in which the label is used as a loop in a pair of trousers so that the belt has to be slidingly guided between the pair of trousers and the label: the visible surface of the belt (generally the more finished surface which may optionally be of valuable material) is rubbed on the counter-plates.

[0012] Examples of methods for producing labels according to the prior art are described in EP 2151169 and in US 6058573.

[0013] It should be noted that, in the present description and in the appended claims, the term "soft" or "flexible", when referring to a material which constitutes a label, is intended to refer to a material having characteristics of rigidity which are greatly reduced, less than or substantially similar to those of the item of clothing to which the label itself has to be applied.

[0014] Examples of flexible or soft materials are synthetic hide or natural hide, woven fabrics of synthetic, natural or artificial fibres, some flexible thermoplastic polymers based on EVA, TPU or polyolefins.

[0015] It should further be set out that, in the present description and in the appended claims, the term "rigid" when referring to a material constituting a label, is intended to refer to a material having characteristics of rigidity at least 10 times greater than those of the item of clothing to which the label has to be applied.

[0016] Examples of rigid materials are metals and alloys thereof, bone, stone and some polymer resins.

Disclosure of the invention

[0017] The problem addressed by the present invention is to provide a method of producing a label, particularly for items of clothing, which is functionally configured to overcome the limitations set out above with reference to the cited prior art.

[0018] In the context of this problem, an object of the invention is to develop a method which allows the production of labels which, for the same decorative elements, are more flexible, lighter and thinner.

[0019] Another object of the invention is to provide a method of producing labels which is simple to carry out and which reduces the production costs.

[0020] This problem is solved and those objects are

achieved by the present invention by means of a method of producing a label, particularly for items of clothing, in accordance with the appended claims.

Brief description of the drawings

[0021] The characteristics and advantages of the present invention will be better appreciated from the detailed description of a preferred embodiment thereof, which is illustrated by way of non-limiting example, with reference to the appended drawings, in which:

- Figure 1 is a top view of a label obtained with a production method according to the present invention,
- Figure 2 is a bottom view of the label of Figure 1,
- Figure 3 is a sectional view along the line III-III of Figure 1,
- Figure 4 is a schematic view of a step of the method for producing the label of Figure 1.

Preferred embodiment of the invention

[0022] With reference to the appended Figures, there is generally designated 1 a label which is obtained with a production method according to the present invention.

[0023] The label 1 comprises a support 2, of plate-like form, on which there are defined a first surface 3 and a second surface 4 which are opposite each other. In some applications, once the label 1 has been applied to an item of clothing (not illustrated in the appended Figures), the first and second surfaces 3 and 4 are intended to remain visible and to remain hidden, respectively, whereas, in other applications, for example, when the label is used as an engagement element for a hinge, the distinction between the first and the second surfaces 3, 4 may be only formal.

[0024] The support 2 may have any advantageous form, but it is preferably rectangular with a long side A having a value between 5 and 15 cm, a short side B having a value between 3 and 10 cm and a thickness S between 1 and 4 mm.

[0025] The support 2 is made of soft material, preferably of synthetic or natural hides, or of woven fabric, or an elastomer or thermoplastic resin, in such a manner that, once it is applied to the item of clothing, it can be bent readily and without appreciable effort. Furthermore, the support 2 can be formed as a single layer of material or can be formed by a plurality of layers of different materials which are connected to each other in a superimposed manner.

[0026] There is fixed to the first surface 3 of the support 2 a decorative element 10, on which there are defined an external surface 11 which is at the opposite side to the support 2 so as to remain visible, and an internal surface 12 which is opposite the external surface 11, facing the first surface 3 of the support 2. The decorative element 10 may be formed by a single component or may be formed by a plurality of components which are sepa-

rate from each other and each of which may be independently considered to be a decorative element.

[0027] In the preferred embodiment described here, the decorative element 10 is formed by a plurality of components 10a which are successively arranged in order to form a string of alphanumeric characters, but in an alternative embodiment the components 10a can represent logos, designs or portions thereof, respectively. The present description which relates generally to the decorative element 10 is intended to be considered valid for each component 10a.

[0028] The decorative element 10 comprises one or more pins 13 which extend from the internal surface 12 at the opposite side with respect to the external surface 11 so as to extend through the support 2 from side to side in correspondence of respective holes 14. Each pin 13 comprises a shank 15 and, at the free end thereof, there is defined an enlarged head 16 which projects from the second surface 4 of the support 2 and which adjoins that surface in order to hold the decorative element 10 in firm connection with respect to the support 2.

[0029] The head 16 has a rounded profile with a large radius of curvature joining the head 16 to the second surface 4 of the support 2 and has a diameter of at least 140%, more preferably at least 200% and even more preferably 300% with respect to the diameter of the shank 15. For example, the diameter of the shank 15 may be between 0.8 mm and 4 mm and the diameter of the head may be between 1 mm and 6 mm.

[0030] The decorative element 10 is made of rigid material, preferably of metal or even more preferably from an alloy based on zinc and aluminium which is commercially known as zamak alloy.

[0031] Alternatively, there is provision for the decorative element to be able, in the region of the external surface 11 thereof, to be coated in other valuable materials or to be able to provide for inserts of precious stones or bone, in accordance with the desired aesthetic effect.

[0032] The label 1 is obtained in the manner described in detail below.

[0033] First of all, there are provided the support 2, in the definitive form thereof, and the decorative element 10, which in this step has the pins 13 formed by the shank 15, whose free end 15a has a diameter substantially equal to the remaining portion of the shank, thereby not being provided with an enlarged head 16 (see Figure 4).

[0034] The support 2 may advantageously be pre-perforated, forming the holes 14 in order to facilitate the insertion of the pins 13 therein or, alternatively, the pins themselves may be provided with sharpened free ends 15a. The length of the pins 13 is selected so as to be greater than the thickness of the support 2 by a suitable value, for example, between 1 and 4 mm.

[0035] The decorative element 10 is then applied to the first surface 3 of the support 2 in such a manner that the pins 13 are introduced into the holes 14 and project from the second surface 4 with the free end 15a thereof.

[0036] At this point, the support 2 and the decorative

element 10 are positioned in a mould 20, resting thereon with the first surface 3 and the external surface 11, respectively.

[0037] Seats for receiving the decorative elements 10 are preferably formed on the surface of the mould 20 in contact with the label 1, respectively, in such a manner that the entire external surface 11 of the decorative element 10 and the free portion of the first surface 3 of the support 2 are in contact with the mould 20.

[0038] The assembly of the decorative element 10 may be carried out in any advantageous manner. For example, if it is formed by a plurality of separate components (typically a string of alphanumeric characters 10a), they can be mounted on the support 2 one by one or, alternatively, there may be provision for them to be temporarily connected to each other by connection bars which allow the manipulation of the decorative element 10 and allow it to be mounted on the support 2 in a single operation. In this last case, naturally, the connection bars must be removed afterwards.

[0039] The mould 20 is then closed by a counter-mould 21 which, by moving in a direction F which is substantially perpendicular to the support 2, abuts the label 1 at the side of the second surface 4 and the internal surface 12. Preferably, the counter-mould 21 advantageously comprises a plurality of heads 22 which are positioned in the region of the pins 13 and which are formed so as to abut the free ends 15a thereof and to press them against the second surface 4 of the support.

[0040] Alternatively, for some specific applications, the counter-mould 21 may be formed by a substantially planar plate.

[0041] According to a relevant aspect of the method, the counter-mould 21 (and in particular the heads 22) is heated to a temperature so as to soften or melt partially the end 15a of the pins 13 so as to determine the formation of the enlarged head 16 which is pressed against the second surface 4 of the support 2.

[0042] The counter-mould 21 is heated to a suitable temperature in accordance with the material from which the pins 13 are constructed 13 and preferably, if they are made of zamak, it is heated to a temperature between 200°C and 350°C. The counter-mould 21 is compressed against the mould 20 at a pressure and for a time which are advantageously determined, as a function of the quantity, diameter and number of the pins 13. By way of example, the counter-mould 21 may apply a pressure between 20 and 65 kg/mm² for a time between 1 and 5 seconds.

[0043] Advantageously, the profile of the heads 22, where present, is concave and rounded so as to confer the correct form on the enlarged head 16.

[0044] The counter-mould 21 is then raised away from the mould 20 and the label 1, which is finished, can be removed from the mould 20 and applied to the item of clothing, for example, by means of stitching along the peripheral edges. The present invention therefore solves the problem set out above, at the same time achieving a

number of other advantages, including the fact that it allows the production of labels with light and flexible decorative elements from metal material, without any need for a securing counter-plate provided on the reverse of the support. Furthermore, the form of the enlarged heads of the pins prevents any problem of friction with the item of clothing (or accessories thereof) underneath.

10 Claims

1. A method of producing a label (1), particularly for items of clothing, comprising:

15 - providing a plate-like support (2) which is composed of a soft material and on which there are defined a first surface (3) and a second surface (4) opposite each other,
 20 - providing at least one decorative element (10) which is composed of a rigid material and on which there are defined an external surface (11) which is intended to remain in view, and an internal surface (12) which is opposite the external surface, the decorative element comprising at least one pin (13) which extends from the internal surface at the opposite side to the external surface,
 25 - applying the decorative element (10) to the first surface (3) of the support in such a manner that the pin (13) extends through the support (2), projecting from the second surface (4),
 30 - positioning the support and the decorative element at the side of the first surface (3) and the external surface (11) in a mould (20), and **characterized in that** it comprises:
 35 - moving a heated counter-mould (21) against the mould at the side of the second surface (4) and the internal surface (12) in such a manner as to soften or melt partially a free end (15a) of the pin projecting from the second surface of the support so as to form an enlarged head (16) of the pin (13) and to press it against the second surface (4).

45 2. A method according to claim 1, wherein the pin (13) is of a metal material.

3. A method according to claim 1 or claim 2, wherein the decorative element (10) is of a metal material.

4. A method according to claim 2 or claim 3, wherein the metal material is a zamak alloy.

50 5. A method according to any one of the preceding claims, wherein the support (2) is composed of a material selected from natural or synthetic hides, woven fabric, elastomer resin or thermoplastic resin.

6. A method according to any one of the preceding claims, wherein the counter-mould (21) is heated to a temperature of between 200°C and 350°C.
7. A method according to any one of the preceding claims, wherein the counter-mould (21) is pressed against the mould at a pressure of between 20 and 65 kg/mm². 5
8. A method according to any one of the preceding claims, wherein the counter-mould (21) is pressed against the mould for a time of between 1 and 5 seconds. 10
9. A method according to any one of the preceding claims, wherein the enlarged head (16) is formed from the end (15a) of the pin (13) and has a diameter of at least 140% of the diameter of a portion of the shank (15) of the pin extending through the support. 15
20
10. A method according to any one of the preceding claims, wherein the enlarged head (16) has a rounded profile which is connected to the second surface (4) of the support (2). 25
11. A method according to any one of the preceding claims, wherein the decorative element (10) comprises a plurality of components (10a) which are separated from and independent of each other, forming alphanumeric characters, logos and designs or portions thereof, respectively. 30
12. A method according to claim 11, wherein each component (10a) is provided with at least one pin. 35
13. A method according to any one of the preceding claims, wherein the support (2) is pre-perforated in the region of the pin (13). 40
14. A label obtainable according to the method of any one of the preceding claims. 45
15. An item of clothing comprising a label obtainable according to the method of any one of claims 1 to 13. 50
55

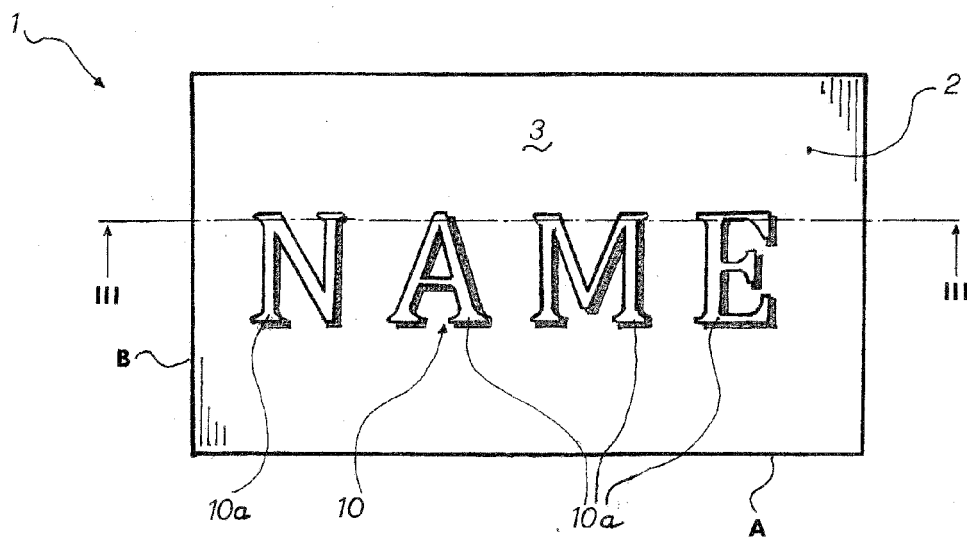


FIG. 1

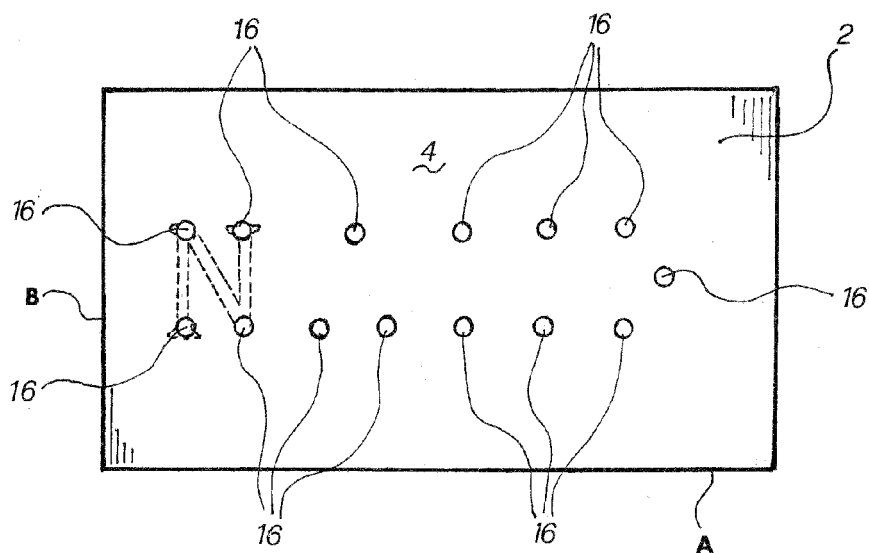


FIG. 2

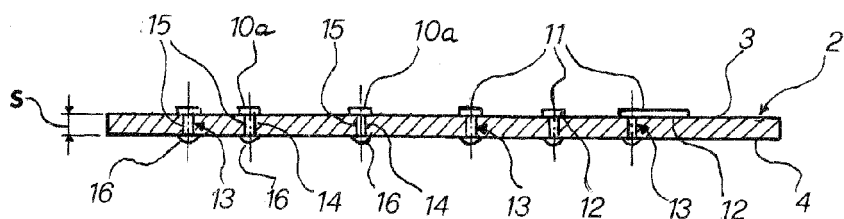


FIG. 3

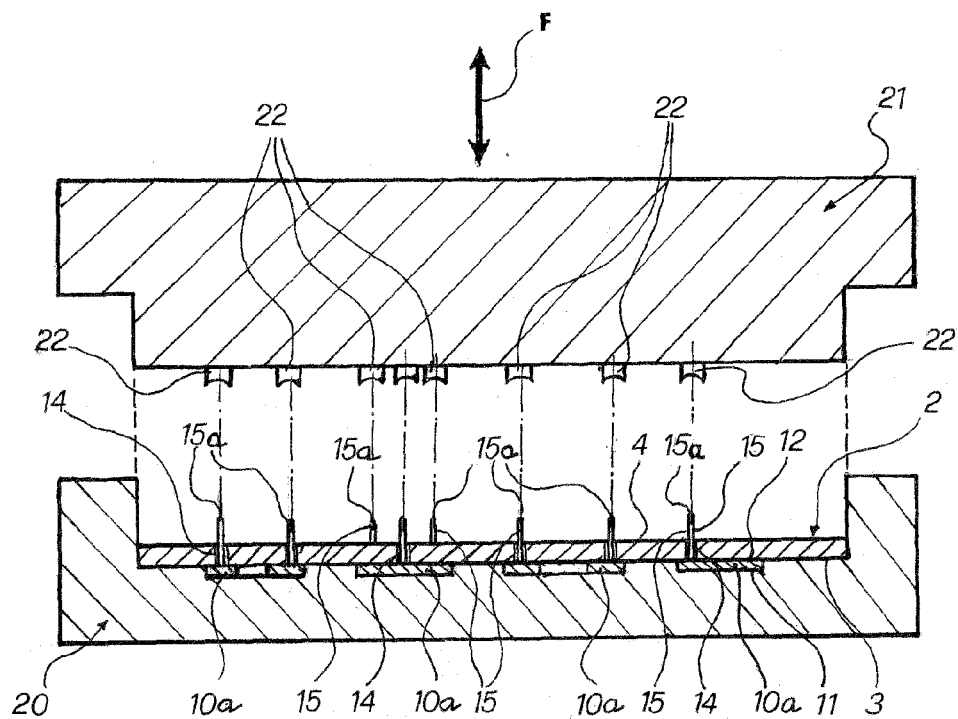


FIG. 4



EUROPEAN SEARCH REPORT

Application Number
EP 13 15 7537

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)
			G09F B44C D04D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 10 April 2013	Examiner Pantoja Conde, Ana
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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 13 15 7537

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10-04-2013

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

REFERENCES CITED IN THE DESCRIPTION

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