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(54) **A METHOD FOR REALISING A SHOE AND A SHOE OBTAINED WITH THE METHOD**

(57) A method for realising a shoe comprising: an upper (1); an insole (2); a bottom (3) that comprises a base (30) an edge of which extends vertically upwards to define a perimeter abutment (31) which delimits, in said bottom 3, a housing seat (S), the method being such as to comprise following steps:

- obtaining an upper (1) of an open type of a corresponding model;
- bringing into contact the internal perimeter edge of the upper (1) with the corresponding insole in order to carry out a first seam (9) between the upper (1) and the insole (2) and obtain an insole-upper unit (C);
- positioning the insole-upper unit (C) in the seat (S) of the bottom (3) in such a way that the lower portion of the insole-upper unit (C) abuts the internal face of the base

- (30) of the bottom (3) and the perimeter portion of the insole-upper unit (C), with the first seam (9), abuts the internal face of the perimeter abutment (31) in order to obtain an insole-upper unit and bottom assembly (M);
- d) marking references (R) on the external side of the upper (1) of the insole-upper unit and bottom assembly (M) adjacent to the edge (B) of the perimeter abutment (31) of the bottom (3);
- e) maintaining the positioning of the insole-upper unit and bottom assembly (M) so that the references (R) on the external side of the upper (1) are maintained adjacent to the edge of the perimeter abutment (31) of the bottom (3) and at the same time carrying out a second seam (8) to join the bottom (3) to the upper (1) of the insole-upper unit (C) and obtain the shoe (100).

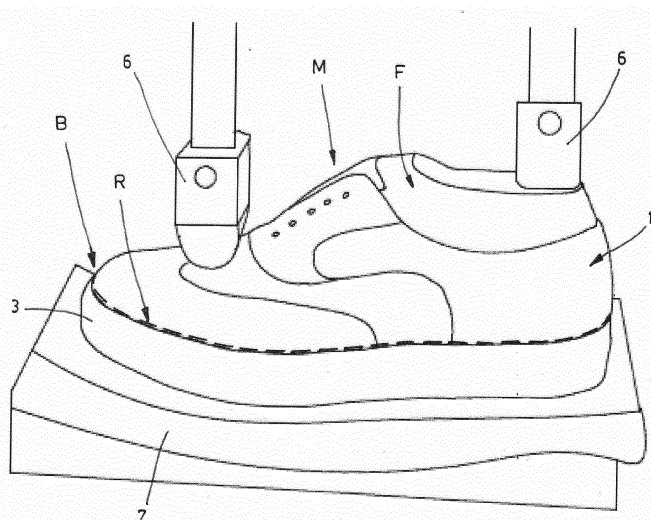


FIG. 5

Description

DESCRIPTION OF THE INVENTION

[0001] The present invention relates to the technical sector of manufacturing of shoes. In more detail, the invention relates to a method for realising a shoe without use of glues.

Various methods are known for obtaining a shoe, among which a first method, in the jargon known as the fitted shoe, and a second method known as the "Strobel".

The first method comprises:

- realising an upper of the open type, for example by means of the sewing and gluing of the parts defining the model of the upper and the corresponding liner;
- the positioning and fixing, by nails, of an insole on and to the bottom of a corresponding die so that the upper face of the insole is in abutment against the bottom of the die;
- the positioning of the upper on the die and the fixing thereof to the insole to obtain an insole-upper unit: the flap of the upper is pulled towards the insole and is progressively joined to the edge of the insole by glue and metal staples ("clips" in sector terminology);
- the polishing ("carding") of the lower face of the insole-upper unit;
- stretching the insole-upper unit (C) so as to make the upper adhere perfectly to the die and copy the profile thereof;
- application on the flat internal surface of a bottom, of the box type, of a layer of glue;
- pre-fixing of the insole-upper unit to the bottom: the lower part of the insole assembly is brought into contact with the flat internal surface of the bottom to define a pre-gluing of the parts and, with the aid of known presser machines, the parts are pressed for a predefined time to obtain an insole-upper unit and bottom assembly;
- extraction of the assembly obtained and a subsequent joining between the flank of the bottom and the insole-upper unit by means of a looped seam carried out using sewing machines of known type.

The above-described process is in practice subdivided into two groups of operating steps, with a first group destined to obtain the insole-upper unit, while the second group is destined to obtain, by use of glue and subsequent sewing, the join between the bottom and the assembly and consequently the desired shoe.

[0002] In the second method, known as "Strobel", to obtain the insole-upper unit, following the realising of an upper of an open type, the upper is sewn to a flexible insole, for example made of leather or the like, having a thickness such as to enable sewing with the aid of known sewing machines.

[0003] Positioning the insole-upper unit (C) on a corresponding die for shoes (F), stretched, pre-fixed and

fixed to a corresponding box bottom as previously described in the second group of operating steps of the first method.

Both the methods include, therefore, a series of operating steps wherein the stabilising of the insole-upper unit to the bottom requires the pre-fixing thereof to the insole-upper unit by the use of glues, the pressing of the pre-fixing and, thereafter, the sewing of the insole-upper unit to the bottom.

In both the above-described methods it is necessary to accept both the presence of glue and the inevitable waiting times corresponding to the application of the glue on the flat internal surface of the bottom, and the pressing times for the coupling and the "gluing time" necessary for stabilising the coupling prior to the following sewing step.

The glue makes the shoe poorly flexible and non-breathing.

US 2004/205,980 describes a shoe comprising a sole, an upper and a liner* to which a sock lining** is inferiorly solidly constrained by a seam; the liner and sock lining define an assembly.

The front part of the assembly, having a tubular shape, is freely inserted in the front part of the upper; the edge of the upper adheres to the external part of the edge of the sole to which it is solidly constrained by means of a seam.

The rear part of the unit, superiorly open, is made solid to the edge of the sole by sewing; it follows that the rear edge of the upper is blocked to the edge of the sole as it is interposed between the edge and the liner* of the unit. The sock lining** is in no way solidly constrained to the upper; further, the front part of the assembly is not solidly constrained to the upper.

[0004] Definitively the shoe described in US 2004/205,980 uses four seams, and precisely:

- a first seam for joining the sock lining** and the liner* at the front part of the upper;
- a second seam for joining the sock lining** and the liner* at the rear part of the upper;
- a third seam for joining an upper to the edge of the sole at the front part of the sole;
- a fourth seam for joining the liner* and the upper to the edge of the sole at the rear part of the sole.

The invention has the aim of describing a method for obtaining a shoe which obviates the above-described drawbacks, and in particular a method realised with a smaller number of simple operating steps which enable obtaining a shoe made exclusively by means of sewing the parts that make it up.

[0005] Another aim of the invention is to obtain a method for obtaining a shoe exclusively from an insole, an upper and a box sole bottom or the like.

A still further aim of the invention is to describe a method which includes use of a rigid insole to obtain an insole-upper unit supported by the insole itself.

A further aim of the invention is to describe a method with which it is possible to reduce the manufacturing costs of the shoe.

A further aim of the invention is to provide a method for the actuation of which no particularly expert personnel is required.

A still further aim of the invention is to describe a shoe obtained with the method realised by a joining between an upper, an insole and a box bottom or the like, by joining the parts obtained by means of two seams and therefore without the use of glues, flexible and having an internal finish of high quality. The above-indicated aims are obtained by the present invention, as can be deduced from the contents of the claims.

The characteristics of the invention are specified in the following with particular reference to the accompanying tables of drawings, wherein:

- figure 1 illustrates, an upper of the open type, used in the method for realising a shoe of the invention;
- figure 2 is a view from above of the lower face of an insole used in the method of the invention;
- figure 3 is a view from above of a bottom of an insole, for example of the box type, used in the method of the invention;
- figure 4 is a perspective view from below of an insole-upper unit obtained during the actuating of the method of the invention;
- figure 5 is a perspective view of two operating steps of the method of the invention;
- figure 6 is a perspective view of a following operating step of sewing the insole-upper unit to the bottom;
- figure 7 is a perspective view of the shoe obtained with the method of the invention;
- figure 8 is a larger-scale view of section A-A of figure 3;
- figure 9 is a larger-scale view of section B-B of figure 4;
- figure 10 is a larger-scale view of section G-G of figure 7.

With reference to figure 7, reference numeral (100) denotes a shoe comprising: an upper (1) of an open type; an insole (2), for example of a type comprising, as illustrated in figure 9, a body (20) in turn comprising a lower surface (21) destined to be facing downwards when the insole (2) is associated to the upper (1), an upper surface (22) destined to be facing upwards to abut, when the shoe has been completed, a user's foot, and a perimeter edge (23) having a determined profile and thickness, the insole (2), in a first embodiment, further comprising an incision (I) (figures 2, 9), which originates on the relative lower surface (21) and which obliquely penetrates the thickness of the insole so as to extend towards the perimeter edge (23), the incision (I) (known in the sector as a channel) being such as to extend in a closed loop to flank the perimeter edge; a bottom (3), for example a box sole or the like, i.e. a bottom that comprises a base (30)

an edge of which extends vertically upwards to define a perimeter abutment (31) which delimits, in said bottom, a housing seat (S) (figure 8).

The method of the invention includes the following operating steps:

- a) obtaining an upper (1) by means of sewing the parts that make up the upper (1) and of the corresponding liner if included;
- b) bringing into contact the internal perimeter edge of the upper (1) with the corresponding insole in order to carry out a first seam (9) between the upper (1) and the insole (2) and obtain an insole-upper unit (C) (fig. 4);
- b*) positioning the insole-upper unit (C) on a corresponding die for shoes (F);
- b**) stretching the insole-upper unit (C), using known machines, so as to make the upper adhere perfectly to the die (F) and copy the profile thereof;
- c) positioning the insole-upper unit (C), fitted on the die (F) in the seat (S) of the bottom (3) in such a way that the lower portion of the insole-upper unit (C) abuts the internal face of the base (30) of the bottom (3) and the external perimeter portion of the insole-upper unit (C), with the first seam (9), abuts the internal face of the perimeter abutment (31) in order to obtain an insole-upper unit and bottom assembly (M);
- d) marking references (R) on the external side of the perimeter portion upper (1) of the insole-upper unit and bottom assembly (M) adjacent to the edge (B) of the perimeter abutment (31) of the bottom (3);
- d*) extracting the die (F) from the insole-upper unit and bottom assembly (M);
- e) maintaining the positioning of the insole-upper unit and bottom assembly (M) so that the references (R) on the external side of the upper (1) are maintained adjacent to the edge of the perimeter abutment (31) of the bottom (3) and at the same time carrying out a looped second seam (8) to join the bottom (3) to the upper (1) of the insole-upper unit (C) and obtain the shoe (100).

In the method of the invention, an insole (2) is advantageously used, with the incision (I); this type of insole is made of leather with a thickness such as to enable, by use of a sewing machine, produced by the same Applicant and not further described as of known type, the possibility of having an insole-upper unit (C) in which the insole (2) can be directed abutted by a user's foot: the insole-upper unit (C) will therefore already be internally finished.

In step b) the perimeter edge of the upper (1) is flanked externally of the perimeter edge (23) of the insole (2) and aligned in height thereto.

Internally of the obtained unit, following the sewing between the upper (1) and the insole (2), the stitches of the first seam (9) will not be visible, as the first seam (9) will

externally concern the upper (1) and internally concern the incision (I) realised in the insole (2), as can be seen in figure 9.

The oblique incision (I) of the lower surface (21) of the body (20) of the insole (2) gives rise to a flap (L) (figure 9) which is displaced to enable, in a known way, the sewing between the upper (1) and the insole (2); once the first seam (9) has been stitched, the flap (L) is lowered and brought adjacent to the body (20), enabling the first seam (9), advantageously, to be "concealed".

In a second embodiment, not illustrated, the insole comprises a perpendicular flank ("wall") on the lower face, which flank is loop-closed and profiled to follow the perimeter profile of the insole at an appropriate distance from the external edge of the insole.

In step b) the perimeter edge of the upper (1) is flanked externally of the perpendicular flank of the insole (2) and aligned in height thereto for the first seam then to be carried out.

In the unit obtained, following the sewing of the seam between the upper and the insole, the first sewing stitches will not be visible, as the first seam externally concerns the upper and the internal face of the perpendicular flank. The use of this type of insole includes, between step b**) and step c), a further step b***) wherein to the part internally delimited of the perpendicular flank of the insole, part of the insole-upper unit obtained, a soft insert is associated, either by friction or sewing stitches, which insert, in step c) of the proposed method, will be imprisoned between the corresponding lower face of the insole and the base (30) of the bottom (3) to compensate the thickness of the flank and create a damping effect.

In order to carry out step d), a known marking machine is advantageously used, comprising, as schematically illustrated in figure 5, a cushion (7) on which the insole-upper unit and bottom assembly (M) is positioned, and known presser means (6) destined to abut the insole-upper unit and bottom assembly (M), for example the upper (1), in proximity of the back of the front part and the die (F) in the rear part, in order, during the marking of the references (R), for the lower part of the assembly (C) to be always maintained in abutment against the base (30) of the bottom (3).

The marking of the references (R) will therefore indicate the correct coupling between the insole-upper unit (C) and the bottom (3) and the second seam (8) can also be carried out by not-especially expert operatives.

The fact of carrying out the marking of the references (R) further makes the realising of the shoe adaptable to different combinations of colour between upper and sole; in fact, on the basis of any customer demand, it is possible to carry out the step of sewing of the coupling between insole-upper units (C), on which the references (R) have been made, and where the upper (1) has a particular colour or leather, and a bottom (3) of a predetermined colour.

The method for manufacturing a shoe described in the foregoing is further advantageous, as it enables realising

a shoe without the use of glues and, therefore, the shoe will be more breathable and comfortable.

In fact, the upper will better adapted to the conformation of the foot and the bottom will be more flexible in following, during use of the shoe, the movements that the user's foot performs when walking.

This method includes a smaller number of operating steps with respect to the steps required in the described methods in the preamble, and therefore, it is simple in its actuation, rapid and economical.

This method is easily actuatable with the use of sewing machines manufactured by the same Applicant, which enable sewing an insole (2) made of leather having the incision I, or the perpendicular flank, appropriately coupled, as previously described, to the upper (1).

Thus an insole-upper unit is obtained, supported by the insole (2) and, as already mentioned, internally finished as the first seam 9 is a "concealed seam" not visible internally of the finished shoe, a significant aesthetic aspect for experts in the sector when evaluating a prestige shoe. Both step a) and step b) can be realised as is done at present for manufacture using the Strobel method; in that case the insole used will be of a smaller thickness with respect to the insole with the incision so as to externally obtain a shoe that is identical to the one manufactured as described in the foregoing, but of a lower quality, as it will be internally less well finished and less comfortable for the user.

This method enables obtaining a shoe in which the bottom (3) is fixed to the insole-upper unit exclusively by the means of the second seam (8); following the damage, or uneven wear, of only the bottom (3) of the shoe the second seam (8) can be operated on to replace the damaged bottom with a new one.

For a purely descriptive reason two insoles have been described; but it is stressed that the insole-upper unit can be realised by the sewing of the upper to any insole differently conformed with respect to the insoles considered.

It is understood that the above has been described by way of non-limiting example and that any practical-applicative variants are considered to fall within the protective scope of the present technical solution, as claimed in the following.

Claims

1. A method for realising a shoe comprising: an upper (1); an insole (2) which comprises a lower surface (21), destined to be facing downwards when the insole (2) is associated to the upper (1), an upper surface (22) destined to be facing upwards to abut, when the shoe has been completed, a user's foot, and a perimeter edge (23) having a determined profile and thickness; a bottom (3) that comprises a base (30) an edge of which extends vertically upwards to define a perimeter abutment (31) which delimits, in said

bottom (3), a housing seat (S), said method being **characterised in that** it comprises following steps:

- a) obtaining an upper (1) of an open type of a corresponding model;
 - b) bringing into contact the internal perimeter edge of the upper (1) with the corresponding insole in order to carry out a first seam (9) between the upper (1) and the insole (2) and obtain an insole-upper unit (C);
 - c) positioning the insole-upper unit (C) in the seat (S) of the bottom (3) in such a way that the lower portion of the insole-upper unit (C) abuts the internal face of the base (30) of the bottom (3) and the external perimeter portion of the insole-upper unit (C), with the first seam (9), abuts the internal face of the perimeter abutment (31) in order to obtain an insole-upper unit and bottom assembly (M);
 - d) marking references (R) on the external side of the upper (1) of the insole-upper unit and bottom assembly (M) adjacent to the edge (B) of the perimeter abutment (31) of the bottom (3);
 - e) maintaining the positioning of the insole-upper unit and bottom assembly (M) so that the references (R) on the external side of the upper (1) are maintained adjacent to the edge of the perimeter abutment (31) of the bottom (3) and at the same time carrying out a second seam (8) to join the bottom (3) to the upper (1) of the insole-upper unit (C) and obtain the shoe (100).
2. The method of claim 1, **characterised in that** between step b) and step c), a step b*) is included in which the insole-upper unit (C) is positioned on a corresponding die for shoes (F).
 3. The method of claim 2, **characterised in that** between step b*) and step c) a step b**) is included in which the insole-upper unit (C) is stretched in order for the upper (1) to adhere perfectly to the die (F) and for the profile thereof to be copied.
 4. The method according to claim 2 or 3, **characterised in that** between step d) and e) a step d*) is included in which the insole-upper unit and bottom assembly (M) is extracted from the die (F).
 5. The method of the preceding claims, wherein step b) is actuated using an insole (2) having an incision (I) that originates on the lower surface (21) and which penetrates the thickness of the insole (2) in an oblique direction so as to extend towards the perimeter edge (23), the incision (I) being such as to extend in a closed loop and flank the perimeter edge and **characterised in that** in step b) the internal perimeter edge of the upper (1) is brought to abut against the perimeter edge (23) of the insole (2) so that the first

seam (9) is partly concealed in the incision (I).

6. The method of the preceding claims, wherein step b) is actuated using an insole (2) which comprises a perpendicular flank that is solidly constrained to the lower face of the insole, is loop-closed and profiled in such a way as to follow the perimeter profile of the insole at an appropriate distance from the external edge of the insole, and **characterised in that** in said step b) the perimeter edge of the upper (1) is flanked externally of the perpendicular flank of the insole (2) and aligned in height thereto so that the first seam (9) is between the upper (1) and the perpendicular flank.
7. The method of claim 6, **characterised in that** between step b**) and step c) a further step b***) is included wherein a soft insert is associated to the part internally delimited by the perpendicular flank which, in following step c) will be imprisoned between the corresponding lower face of the insole and the base (30) of the bottom (3) to define an insole-upper unit and bottom assembly (M).
8. A shoe obtained using the method of the preceding claims, **characterised in that** it comprises: an upper (1); an insole (2) comprising a body (20) in turn comprising a lower surface (21), destined to be facing downwards when the insole (2) is associated to the upper (1), an upper surface (22) destined to be facing upwards to abut, when the shoe has been completed, a user's foot, and a perimeter edge (23) having a determined profile and thickness; a bottom (3) comprising a base (30) an edge of which extends vertically upwards to define a perimeter abutment (31) which delimits, in the bottom (3), a housing seat (S), the upper (1) and the insole (2) being joined by means of a first seam (9) so as to obtain an insole-upper unit (C) and the insole upper unit (C) being joined by a second seam (8) to the bottom (3) in order to obtain the shoe (100).
9. The shoe of claim 8, **characterised in that** the first and second seam (9, 8) are looped respectively on the insole-upper unit (C) and on the insole-upper unit and bottom assembly (M) obtained following positioning of the insole-upper unit (C) in the seat (S) of the bottom (3).
10. The shoe of claim 8, **characterised in that** the insole (2) comprises a perpendicular flank that is solidly constrained to the lower face of the insole, is loop-closed and profiled in such a way as to follow the perimeter profile of the insole at an appropriate distance from the external edge of the insole, **characterised in that** the shoe comprises a movable insert positioned in the part internally delimited by the perpendicular flank, so as to be imprisoned between the

corresponding lower face of the insole and the base
(30) of the bottom (3).

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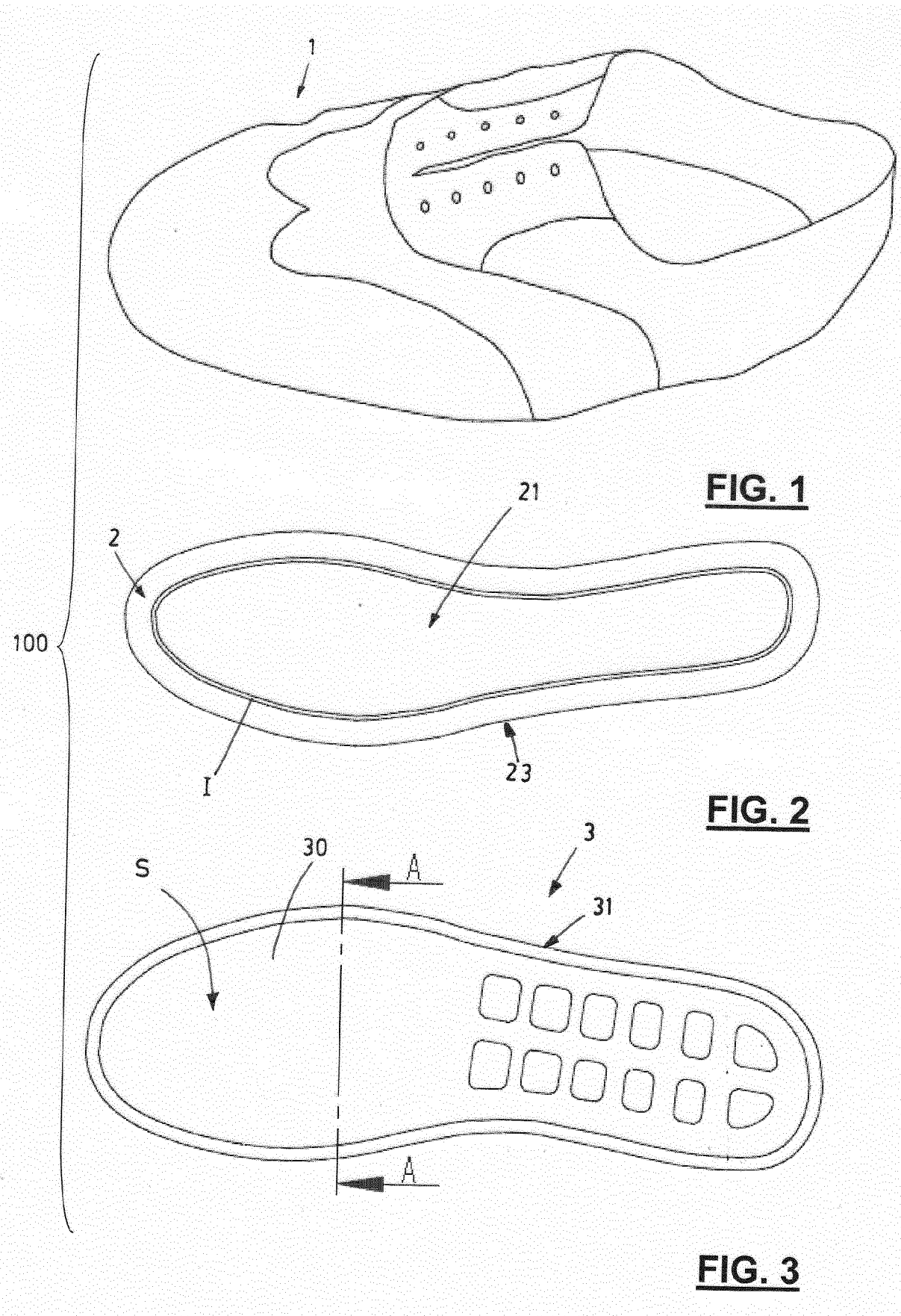
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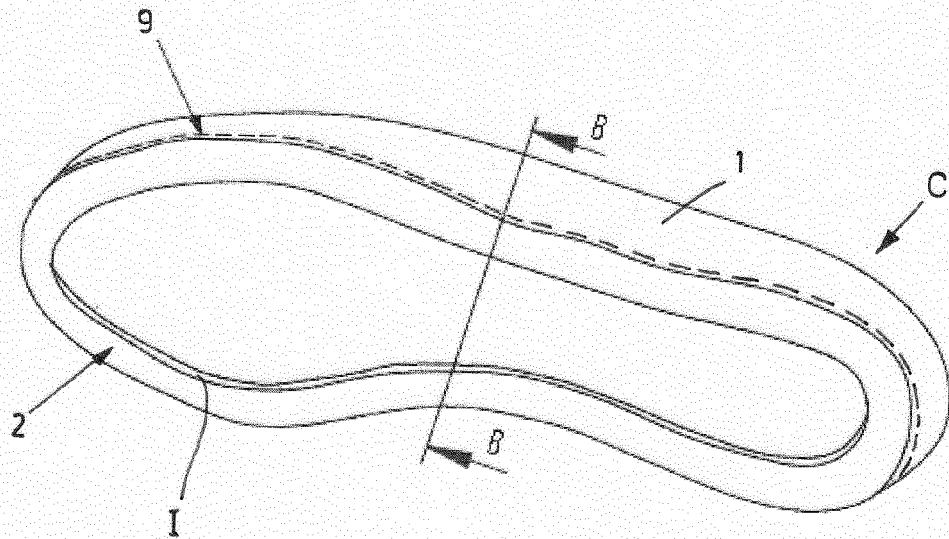


FIG. 4

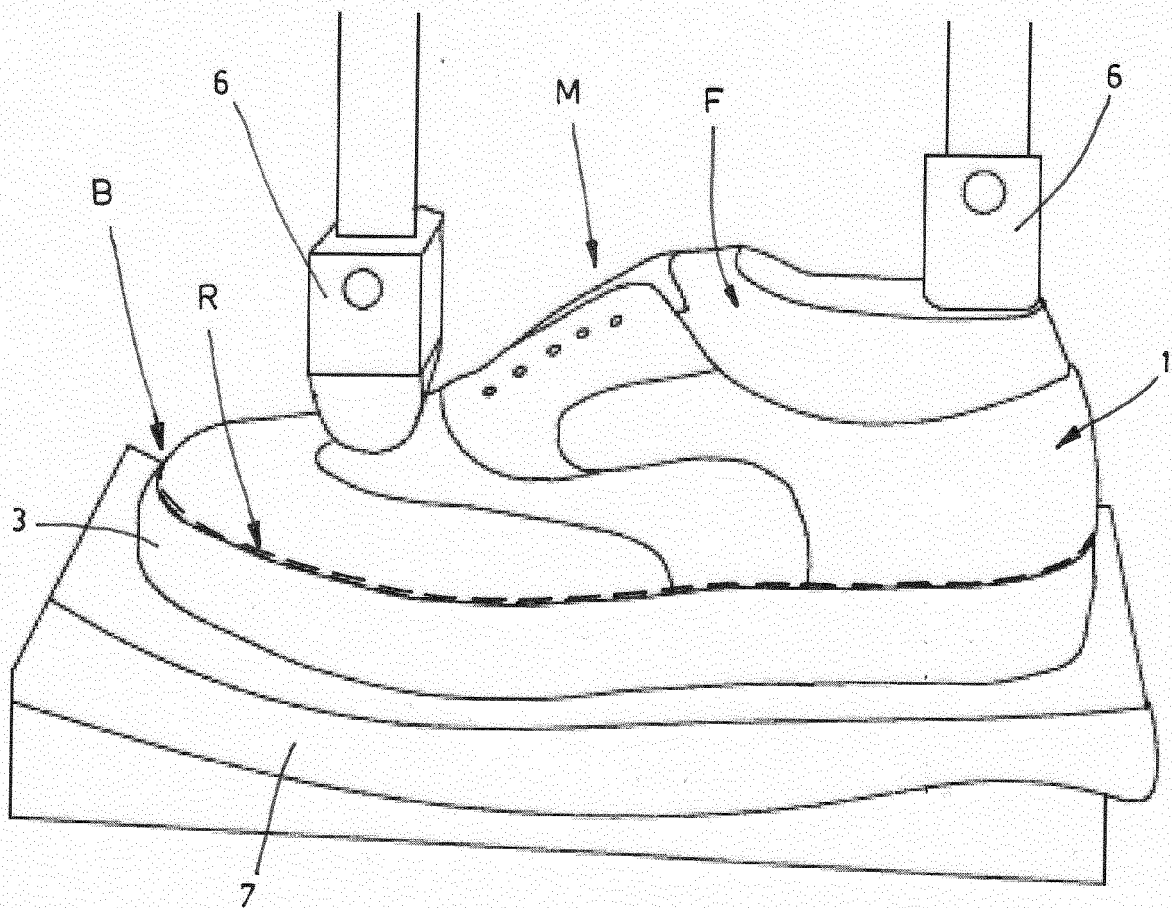


FIG. 5

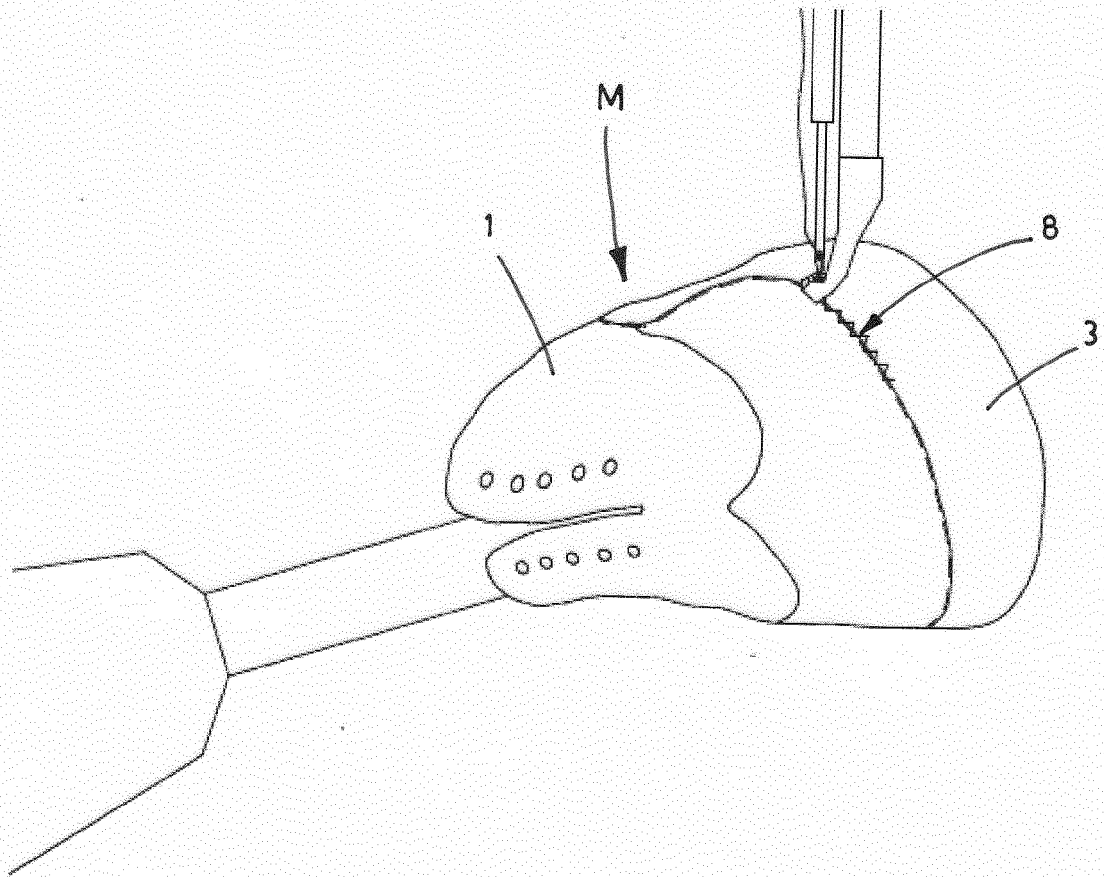


FIG. 6

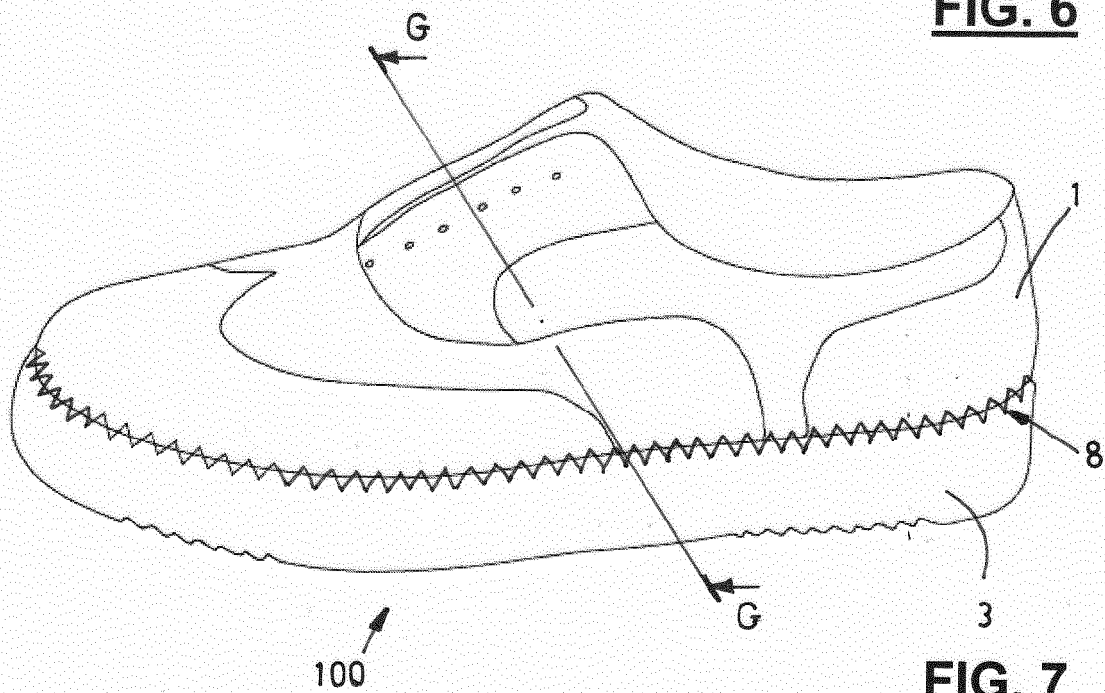


FIG. 7

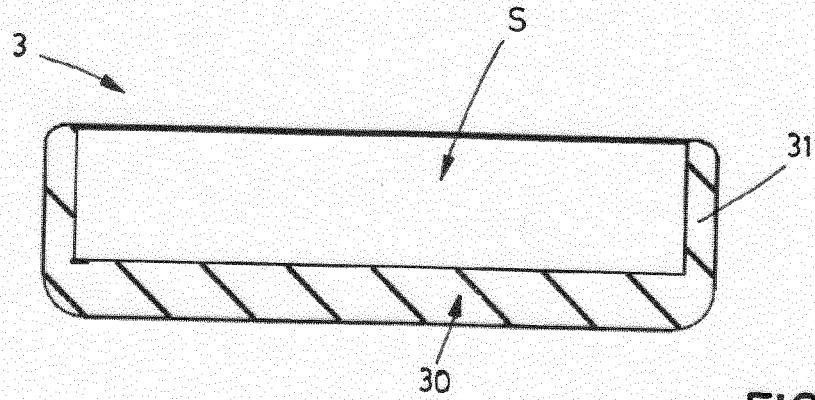


FIG. 8

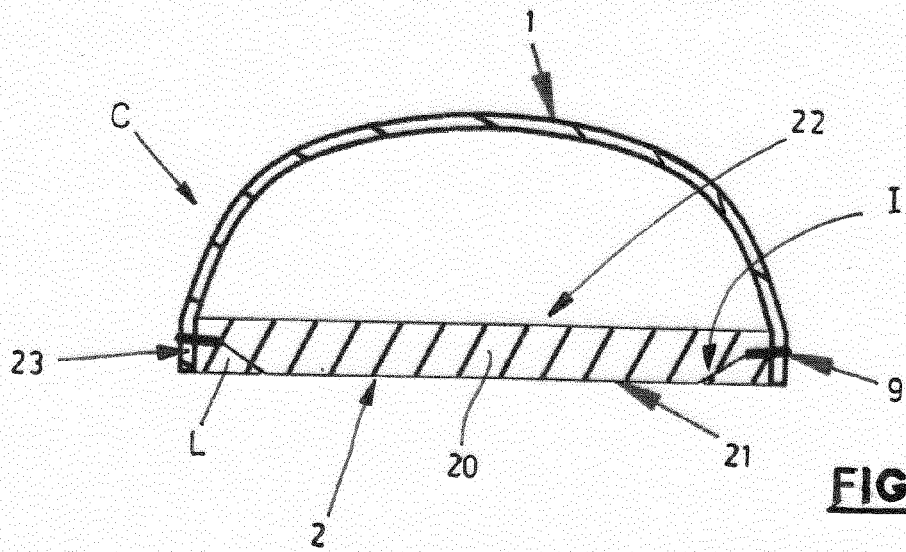


FIG. 9

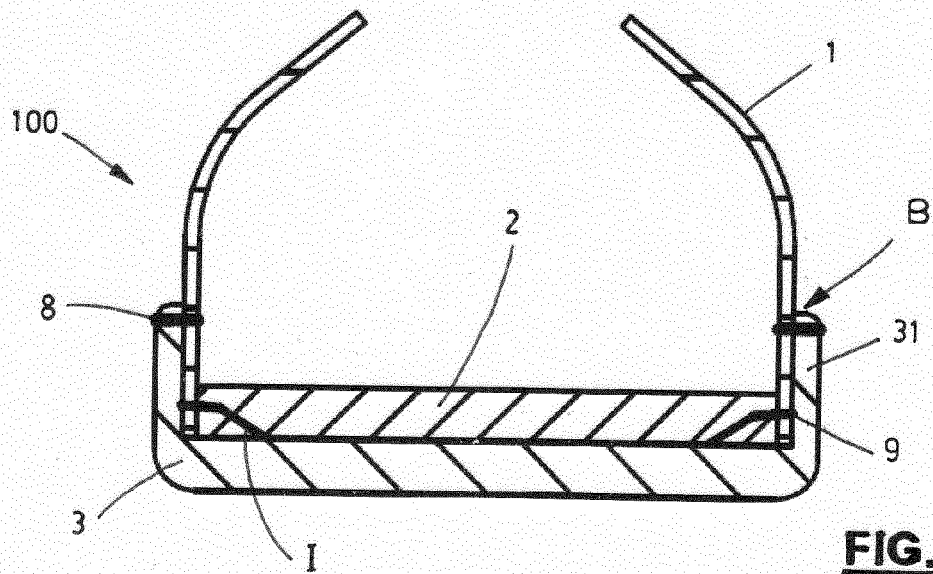


FIG. 10



EUROPEAN SEARCH REPORT

Application Number
EP 20 17 9547

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			TECHNICAL FIELDS SEARCHED (IPC)
			A43B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 28 October 2020	Examiner Cianci, Sabino
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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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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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