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(54) **A method for the manufacture of shoes and shoes thereby obtainable**

(57) A method for the manufacture of shoes comprising the operative phases of fastening an upper (2) onto an arch support (3) and subsequently applying the arch support (3) and the upper (2) to a sole (4). The operative phase of fastening the upper (2) onto the arch support (3) comprises the phases of attaching the upper

(2) to a lining (6) of the arch support (3), and securing the lining (6) and the upper (2) attached thereto, to a template (5) constituting the structure of the arch support (3). The phase of attaching the upper (2) to the lining (6) comprises the phases of laying the lining (6), of laying the upper (2) on the lining (6) and of sewing the upper (2) to the lining (6).

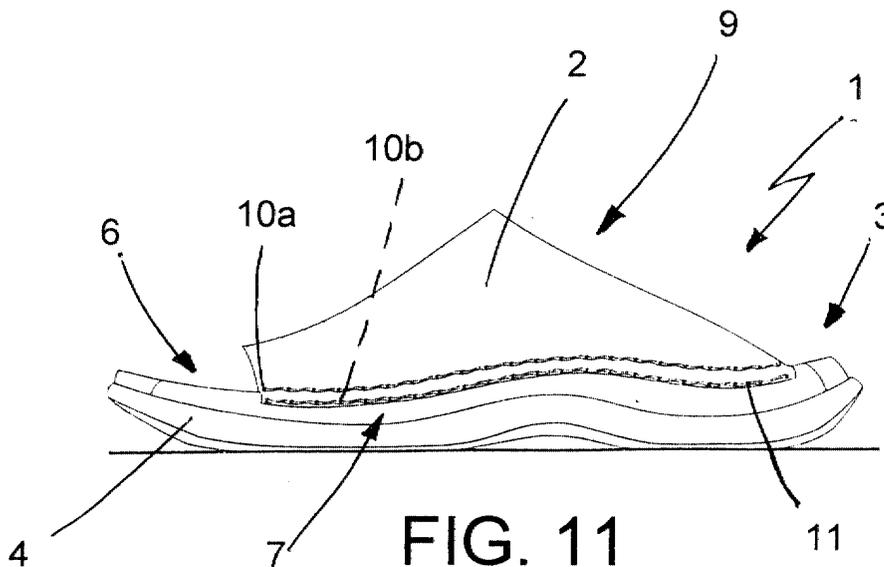


FIG. 11

Description

[0001] The present invention relates to a method for the manufacture of shoes of the type comprising the characteristics expressed in the preamble to claim 1.

[0002] Fundamentally, today two main methods are known for manufacturing shoes, differing from each other according to the presence or absence of an arch support in the shoe.

[0003] A first known method provides for the upper to be secured directly to the shoe, usually by means of sewing, although alternatively this can be accomplished by means of gluing, or with other systems.

[0004] When the securing operation takes place by means of sewing, such sewing can be accomplished both in such a way as to be visible, and as to be hidden from view, usually depending on choices linked both to the intended use of the shoe and to its aesthetics.

[0005] The sewing operation is performed by an operator who has to maintain the upper folded in the shape it will have to assume when the shoe is complete.

[0006] As stated, the second known method for the manufacture of shoes provides for the shoe to comprise, in addition to the upper and the sole, also an arch support.

[0007] This second method provides for the upper to be secured to the arch support, which in turn is applied to the sole.

[0008] As is well known, the arch support has a shape that is substantially similar to that of the sole.

[0009] The upper is therefore secured to the arch support in a manner that is wholly similar to the one described, in the first method, for securing the upper to the sole.

[0010] In this case, the operator sews the upper to the arch support whilst maintaining the upper folded in the shape it is to assume when the shoe is complete.

[0011] The prior art described above, however, presents a series of drawbacks.

[0012] In the first place, both methods described require, for their implementation, a considerable ability on the operator's part, since the latter must be able to sew the upper to the sole, or to the arch support, whilst attributing, at the same time, the definitive shape to the upper.

[0013] Consequently, an optimal quality standard of the work process executed cannot be guaranteed in every condition.

[0014] In the second place, known methods are, by their very nature, methods in which the manual component is fundamental.

[0015] This is mainly due to the fact that, as stated, when the upper is to be sewn to the sole or to the arch support, it is necessary to maintain it already in the shape it is to assume when the work is complete.

[0016] Consequently, known methods do not allow their automation. This obviously has repercussions on the time required for the manufacture of a shoe, and

hence on the productivity of the manufacturing line.

[0017] In this situation, the technical task at the base of the present invention is to perfect a method for the manufacture of shoes which overcomes the aforementioned drawbacks.

[0018] In particular, the technical task of the present invention is to perfect a method for the manufacture of shoes that can be implemented also by operators who are not particularly specialised.

[0019] The specified technical aim and the indicated aims are substantially achieved by a method for the manufacture of shoes, as described in the accompanying claims.

[0020] Further features and the advantages of the invention shall become more readily apparent from the detailed description of a preferred, but not exclusive, embodiment of a method for the manufacture of shoes, and of shoes thereby manufactured, as illustrated in the accompanying drawings, in which:

- Figure 1 schematically shows a cutting phase for forming an upper from a leather segment according to the method of the present invention;
- Figures 2 and 3 schematically show the cutting phase for forming a lining for an arch support from a leather segment, according to the present invention;
- Figure 4 shows the manufacturing phase of the lining for the arch support according to the method of the present invention;
- Figure 5 shows the phase of sewing the upper on the lining of Figure 4;
- Figures 6, 7, 8 and 9 show the phase of covering a shape with the lining of Figure 5;
- Figures 10 and 11 show the phase of applying the arch support and the upper of Figure 9 to a sole.

[0021] Figure 11 also shows a shoe manufactured according to the method in question.

[0022] With reference to aforementioned figures, the reference number 1 globally indicates a shoe manufactured with the method of the present invention (Figure 11).

[0023] The method of the present invention mainly comprises the operative phases of securing an upper 2 on an arch support 3 and subsequently applying the arch support 3 and the upper 2 to a sole 4.

[0024] The arch support 3 comprises a template 5, advantageously semi-rigid, which constitutes its structure, and a lining 6 covering the template 5.

[0025] The phase of fastening the upper 2 on the arch support 3 in turn comprises the operative phases of attaching the upper 2 to the lining 6 of the arch support 3, and subsequently securing the lining 6 and the arch support 2 attached thereto, to the template 5.

[0026] To attach the upper 2 to the lining 6, the following procedure is carried out. The lining 6 is substantially laid down in such a way as to be positioned substantially

planar and thereon is deposited the upper 2, also substantially laid down. At this point the edges 7 of the upper 2 are sewn to the lining 6 (Figure 5).

[0027] The upper 2 is positioned over the lining 6, which is wider than the upper 2, so that around the upper 2 a band of the lining 6 remains, constituting a free edge 8.

[0028] After the sewing phase, the part of the shoe 1 that constitutes a seat 9 able to house the foot, is nearly complete.

[0029] Advantageously, both on the upper 2 and on the lining 6, before the securing of the upper 2 to the arch support 3, a plurality of holes 10a, 10b can be obtained in correspondence with the area in which the sewing is then to be effected.

[0030] The holes 10a, 10b obtained on the upper 2 and on the lining 6 must be distributed in substantially identical fashion, so that when the upper 2 is laid on the arch support 3 the holes 10a obtained on the upper 2 coincide with the holes 10b obtained on the lining 6.

[0031] The sewing operation can then be effected passing a thread 11 through the holes 10a, 10b.

[0032] To secure the lining 6, whereon the upper 2 is attached, to the template 5 that constitutes the structure of the arch support 3, a shape 12 is inserted, having a lower portion 13 substantially counter-shaped relative to an upper face 14 of the shape 4, into the seat 9 between the lining 6 and the upper 2, so that the part 15 of the lining 6 that is part of the seat 9 is located in correspondence with the lower portion 13 of the shape 12.

[0033] The shape 12 has substantially the same conformation which the foot seat 9 is to assume when the shoe is complete.

[0034] The lower portion 13 of the shape 12 and the lining 6 positioned thereon are then made to adhere to the upper face 14 of the template 5. Subsequently, the free edge 8 of the lining 6 is folded and fastened under the template 5.

[0035] Advantageously, the lining 6 can be secured to the template 5 by gluing, spreading a layer of adhesive onto the lining 6 or onto the template 5 before making them adhere to each other. Alternatively, other known fastening methods can be used.

[0036] After the phase just described above, the arch support 3 (formed by template 5 and lining 6) and the upper 2 fastened thereon are applied to the sole 4, by gluing or by other equivalent procedure.

[0037] According to preference, this phase can be carried out using or not using the shape 12 to support upper 2 and arch support 3.

[0038] The method can further comprise a preliminary phase of preparation of the upper 2 and the lining 6.

[0039] During said preparation phase, the holes 10a, 10b are obtained on the upper 2 and on the lining 6.

[0040] The preparation phase can further comprise a phase of cutting the upper 2 and the lining 6 from a leather segment 16a, 16b, 16c.

[0041] This segment 16a, 16b, 16c may or may not

be the same for both, depending on requirement.

[0042] The fact that upper 2 and lining 6 are constituted by leather, is nevertheless not constraining for the implementation of the method of the present invention; they can be constituted by any material suitable for the manufacture of a shoe.

[0043] In the preferred embodiment of the method of the present invention, the lining 6 is constituted by two or more parts 17 joined together.

[0044] Advantageously the lining 6 can for instance be constituted by a first central part 17a (Figure 4) to which two second lateral parts 17b are joined by sewing.

[0045] The different parts 17 can be all cut from a single leather segment, or from distinct leather segment, having, for instance, different characteristics.

[0046] In this case the holes 10a, 10b can be obtained on the different parts 17 before the cutting phase, after the cutting phase, or after the different parts 17 have been joined together.

[0047] In the illustrated embodiment, the holes 10b are obtained on each of the second parts 17b substantially simultaneously with the cutting phase (Figure 2).

[0048] The present invention achieves important advantages.

[0049] In the first place, the method of the present invention comprises a plurality of phases, in each of which simple operations are carried out which do not require a particular skill on the part of the operator tasked with performing them.

[0050] In particular, the phase of fastening the upper to the arch support is very simple thanks to the fact that the arch support is obtained by securing to the template the lining whereon the upper has already been attached.

[0051] Moreover, the sewing of the upper to the lining is very easy thanks to the fact that it is effected with the upper and the lining kept lying down.

[0052] In the second place, thanks to the simplicity of the method, which entails a sequence of elementary operative phases, it can be easily performed also making use of not excessively complex automatic or semiautomatic tools.

[0053] It should also be observed that the cost connected to the implementation of the invention is also relatively low.

[0054] The shoe obtainable with the described method (shown in Figure 11) has all the advantages, both from the viewpoint of mechanical resistance and of comfort, of shoes manufactured with traditional method, but is free of their drawbacks.

[0055] The invention thus conceived can be subject to numerous modifications and variations, without thereby departing from the scope of the inventive concept that characterises it. All components can be replaced by technically equivalent elements and in practice all materials employed, as well as dimensions, can be any depending on requirements.

Claims

1. A method for the manufacture of shoes comprising the phases of fastening an upper (2) onto an arch support (3); successively applying the arch support (3) and the upper (2) to a sole (4); **characterised in that** the phase of fastening the upper (2) onto the arch support (3) comprises the phases of attaching the upper (2) to a lining (6) of the arch support (3); and securing the lining (6) and the upper (2) attached thereto (2), to a template (5) constituting the structure of the arch support (3).
2. A method as claimed in claim 1, **characterised in that** said phase of securing the lining (6) and the upper (2) to the template (5) comprises the phases of making the lining (6) to an upper face (14) of the template (5), and of folding the edge (8) of the lining (6) under the template (5).
3. A method as claimed in claim 1 or 2, **characterised in that** said phase of securing the coating (6) and the upper (2) to the template (5) is carried out by means of gluing.
4. A method as claimed in any of the previous claims, **characterised in that** said phase of fastening the upper (2) onto the arch support (3) further comprises, between said phases of attaching the upper (2) to the lining (6) and securing the lining (6) and the upper (2) to the template (5), the phase of inserting a shape (12), having a lower portion (13) that is substantially counter-shaped relative to the upper face (14) of said template (5), between the lining (6) and the upper (2).
5. A method as claimed in any of the previous claims, **characterised in that** said phase of attaching the upper (2) to the lining (6) comprises the phases of laying the lining (6), of laying the upper (2) on the lining (6) and of sewing the upper (2) to the lining (6).
6. A method as claimed in any of the previous claims, **characterised in that** it further comprises, before said phase of fastening the upper (2) to the arch support (3), the phase of obtaining the lining (6) by joining together at least a first (17a) and a second part (17b).
7. A method as claimed in any of the claims from 1 to 5, **characterised in that** it further comprises, before said phase of fastening the upper (2) to the arch support (3), the phase of obtaining the lining (6) by joining two second parts (17b) laterally to a first part (17a).
8. A method as claimed in any of the previous claims, **characterised in that** it further comprises, before said phase of fastening the upper (2) to the arch support (3), the phase of obtaining a plurality of holes (10a) on the upper (2).
9. A method as claimed in any of the previous claims **characterised in that** it further comprises, before said phase of fastening the upper (2) to the arch support (3), the phase of obtaining a plurality of holes (10b) on the lining (6).
10. A method as claimed in claim 7 or 8 when it depends on claim 7, **characterised in that** it further comprises the phase of obtaining a plurality of holes (10b) on each of the second parts (17b), before said phase of fastening the upper (2) to the arch support (3).
11. A method as claimed in claims 5, 8 and 9, **characterised in that** said phase of laying the upper (2) on the lining (6) comprises the phase of making the holes (10a) obtained on the upper (2) coincide with the holes (10b) obtained on the lining (6), and **in that** said phase of sewing the upper (2) to the lining (6) is carried out by passing a thread (11) through said holes (10a), (10b), obtained on the upper (2) and on the lining (6).
12. A method as claimed in claims 5, 8 e 10, **characterised in that** said phase of laying the upper (2) on the lining (6) comprises the phase of making the holes (10a) obtained on the upper (2) coincide with the holes (10b) obtained on the lining (6), and **in that** said phase of sewing the upper (2) to the lining (6) is carried out passing a thread (11) through said holes (10a), (10b) obtained on the upper (2) and on the lining (6).
13. A shoe obtainable with the method as claimed in the previous claims, comprising an arch support (3); an upper (2) fastened to the arch support (3); a sole (4) applied under the arch support (3); **characterised in that** the arch support (3) comprises a template (5) and a lining (6) that covers the template (5), said upper (2) being attached to said lining (6).
14. A shoe as claimed in claim 13, **characterised in that** the lining (6) comprises at least a first part (17a) and a second part (17b) joined together.
15. A shoe as claimed in claim 13, **characterised in that** the lining (6) comprises at least a first part (17a) and two second parts (17b) laterally joined to said first part (17a).
16. A shoe as claimed in any of the claims from 13 to 15, **characterised in that** the upper (2) is attached to the lining (6) by sewing.

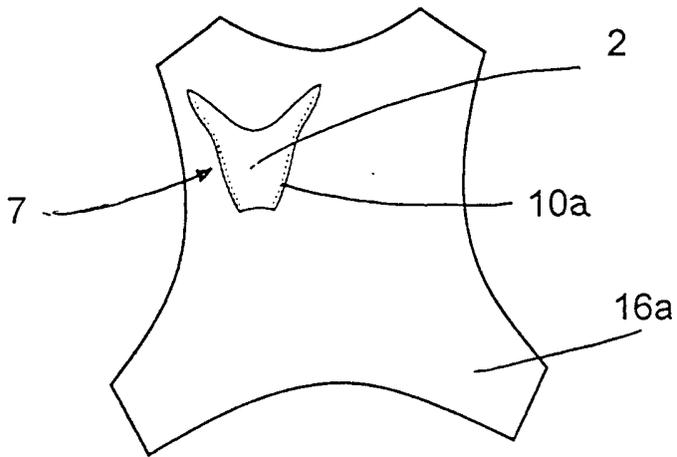


FIG. 1

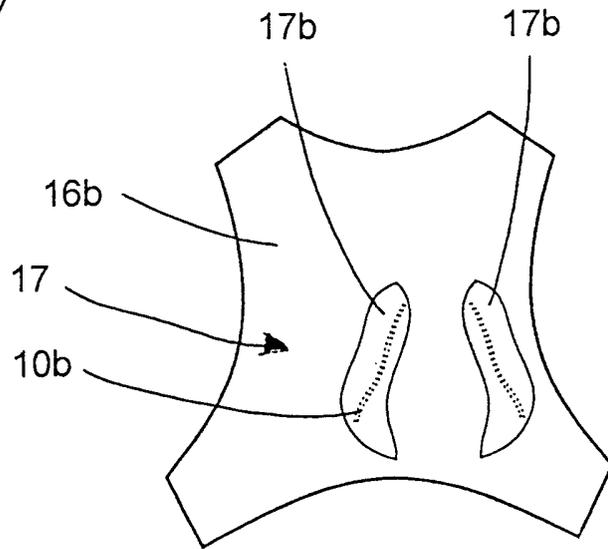


FIG. 2

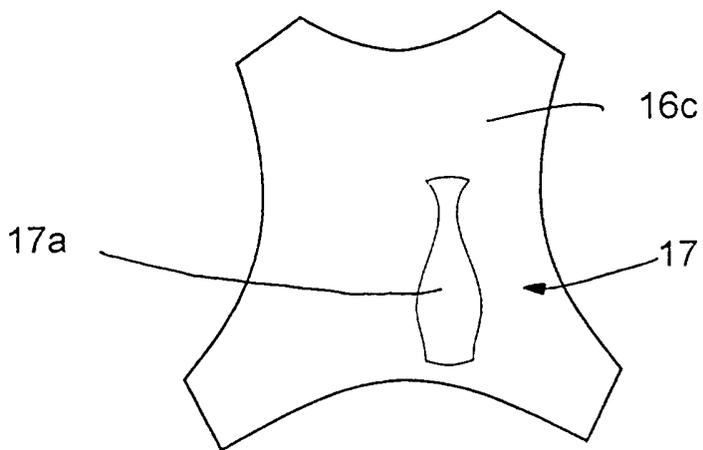


FIG. 3

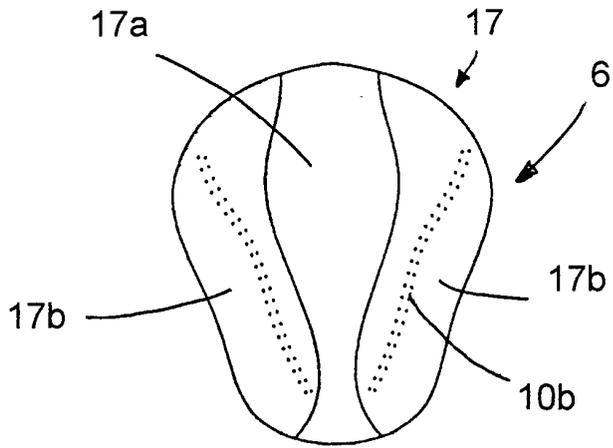


FIG. 4

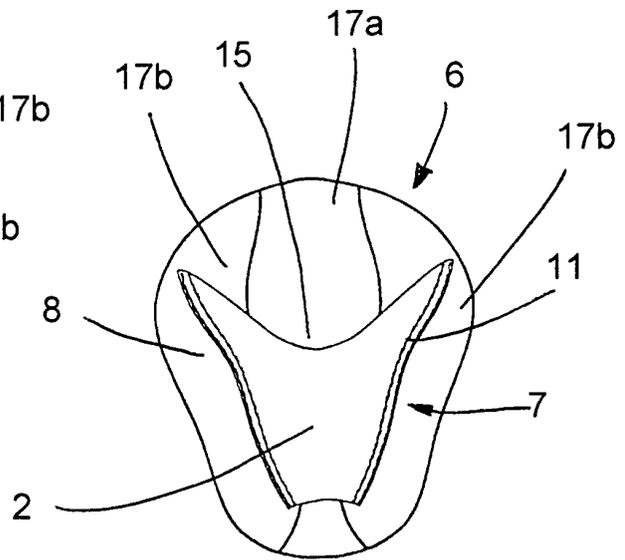


FIG. 5

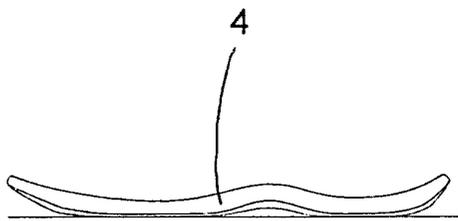


FIG. 10

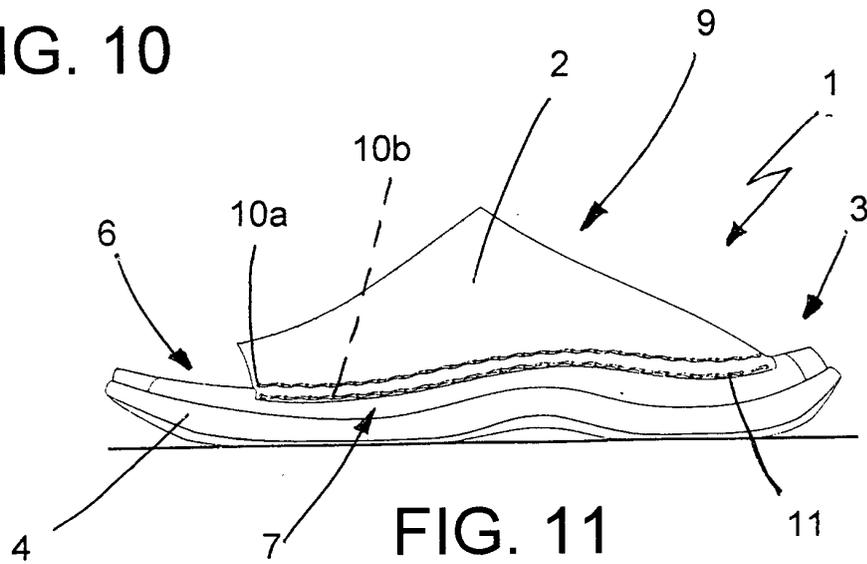


FIG. 11

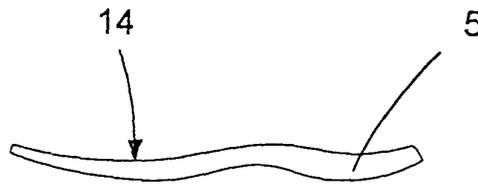


FIG. 6

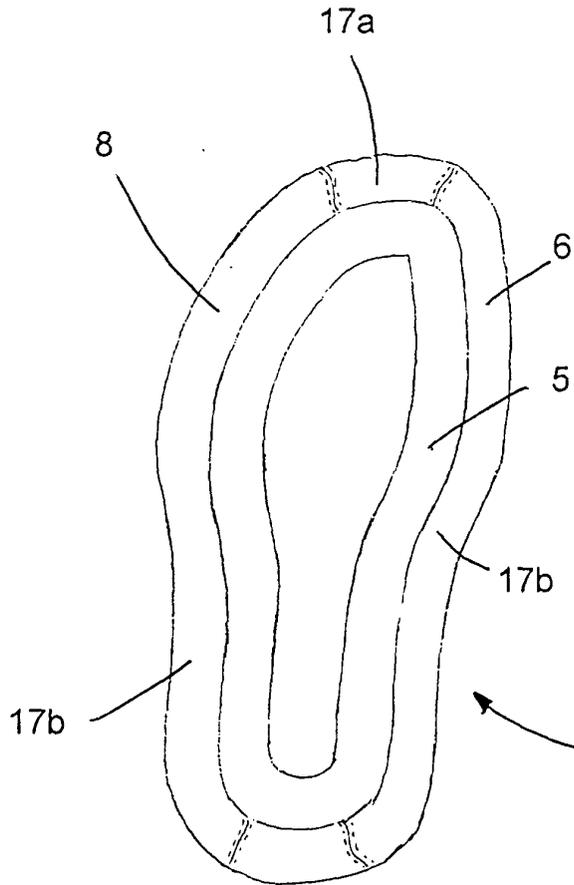


FIG. 7

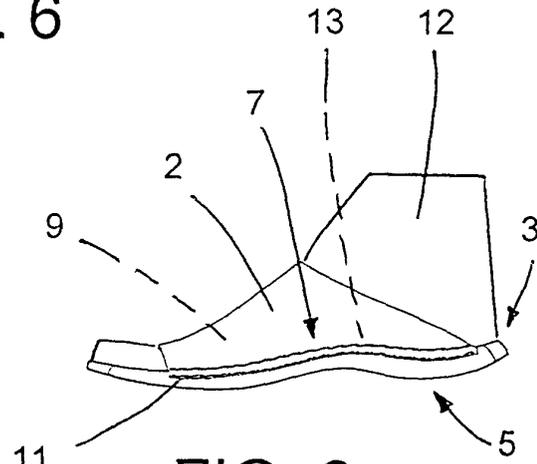


FIG. 9

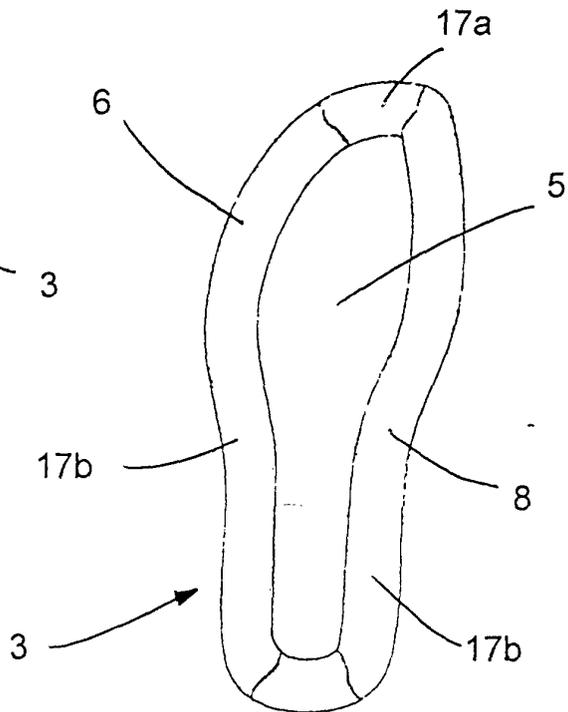


FIG. 8



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 00 83 0820

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	FR 2 606 605 A (MARQUET CIE) 20 May 1988 (1988-05-20) * the whole document * ----	1-5, 13, 16	A43B9/02 A43B3/10
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 482 (C-1105), 2 September 1993 (1993-09-02) -& JP 05 123202 A (YAMATO KK), 21 May 1993 (1993-05-21) * abstract *	1-16	
A	FR 2 443 221 A (FERRAND PIERRE) 4 July 1980 (1980-07-04) * the whole document * -----	1-16	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A43B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 5 June 2001	Examiner Schölvinck, T.S.
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	
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EP 00 83 0820

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