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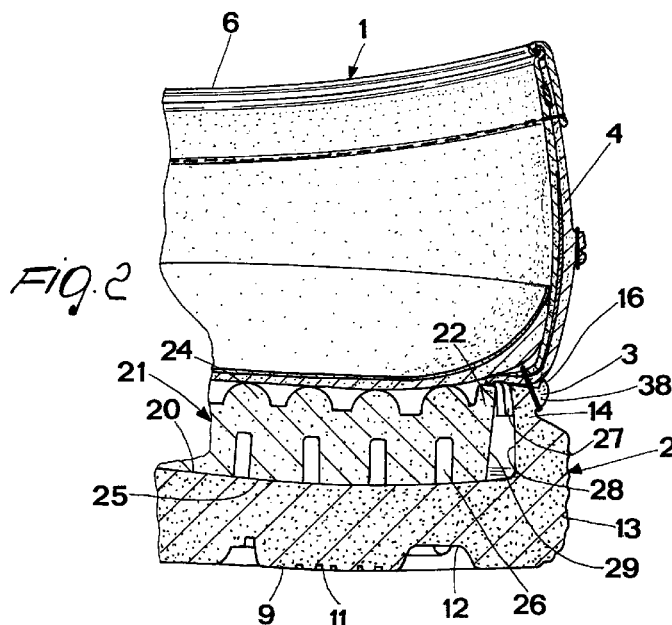
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(54) **Shoe with hull-shaped sole stitched to the upper**

(57) A shoe with a hull-shaped sole and a seam (38) between the sole (2) and the upper (4), comprising a sole (2) which has a peripheral rim (3) to which the edge of the upper (4) is sewn; the edge of the upper (4) is

folded over toward the inside of the sole (2) at the peripheral rim (3) and is fixed thereto by sewing from the inside of the upper (4) toward the outside of the sole (2).



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Description

[0001] The present invention relates to a shoe with a hull-shaped sole sewn to an upper.

[0002] The main object of the present invention is to provide a shoe with visible or concealed seams which can be manufactured at competitive costs without using adhesives.

[0003] Another object of the present invention is to provide a shoe with a hand-stitched seam between the sole and the upper.

[0004] These and other objects which will become better apparent hereinafter are achieved by a shoe with a hull-shaped sole and a seam between sole and upper, comprising a sole having a peripheral rim to which an edge of the upper is stitched, characterized in that the edge of said upper is folded toward the inside of the sole at said peripheral rim and is secured thereto by sewing from the inside of the upper toward the outside of said sole.

[0005] Advantageously, a portion of said seam extends through the entire thickness of the sole in order to be visible at the lower surface thereof and a portion thereof comes out just below said rim of the sole.

[0006] The invention is described in greater detail hereinafter with reference to the accompanying drawings, in which:

Figure 1 is a reduced-scale side elevation view of a shoe according to the invention;

Figure 2 is a partial cross-sectional view of the rear portion of the shoe of Figure 1;

Figure 3 is a partial longitudinal cross-sectional view of the front portion of the shoe of Figure 1;

Figure 4 is a partly cross-sectional side view on an enlarged scale of the sole for the shoe of Figure 1;

Figure 5 is a partial cross-sectional view of the rear portion of a shoe according to another embodiment of the invention;

Figure 6 is a perspective view slightly from below of a shoe according to Figure 5; and

Figure 7 is a partial cross-sectional view of the shoe of Figures 5 and 6.

[0007] In the accompanying drawings, identical or similar parts or components have been designated by the same reference numerals.

[0008] With reference first to Figures 1 to 4 of the drawings, a shoe according to the invention is generally designated by the reference numeral 1 and comprises a sole 2 surrounded by a rim 3 to which the edge of an upper 4 is fixed e.g. an upper of the type closed at its upper front area by a vamp portion 5 which extends partly over a neck-opening 6 by means of a tongue 7 which is crossed by an instep strap 8.

[0009] As usual, the lower surface 9 of the sole 2, except its shank portion 10, has transverse grooves 11 spaced by recesses 12 of larger dimensions. The sole 2

is normally made of rubber and can have a rough peripheral edge 13 (Figure 4). In the external part of the rim 3 there is formed a continuous channel 14 which extends throughout the entire perimeter of the shoe. At the top the rim 3 ends with an uninterrupted peripheral recess or groove 15 having a peripheral border 16 which extends upwards likewise a side wall, and is arranged to abut against the lower part of the upper 4.

[0010] Along the recess 15 a sequence of uniformly spaced holes 17 leading to the outer channel 14 are provided.

[0011] The sole 2 delimits an inner chamber 20 which accommodates a mid-sole 21 made of flexible material, whose upper face is formed with a sequence of transverse ridges 24 which preferably have a semicircular transverse cross-section. The lower face or surface 25 of the mid-sole 21 is formed with a transverse slot 26 at each ridge 24.

[0012] The structure of the mid-sole 21 is such as to ensure that, in use, air below the foot of the user is interchanged owing to a pumping effect produced by the foot resting-lifting sequence while walking.

[0013] An insole 40 rests on the transverse ridges 24 of the mid-sole 21 and perfectly matches with the inner contour of the sole.

[0014] The lower border 37 of the upper 4 is folded over toward the inside of the sole and is seated in the recess 15 of the rim 3, to which it is secured by means of a hand-made fixing seam 38 through the holes 17 provided in the sole, so as to obtain a firmly bound structure.

[0015] In the embodiment shown in Figures 5 and 6, the shoe 1 has a seam 38 which shows outside in the channel 14 around the heel, and is visible below the sole at the remaining portion of the sole.

[0016] In a shoe 1 according to the invention, a plurality of shoe parts are fixed by means of one seam 38, thereby avoiding the use of adhesives.

[0017] The materials used and the dimensions may be any according to requirements.

[0018] The disclosures in Italian Utility Model No. VR98U000042 from which this application claims priority are incorporated herein by reference.

[0019] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A shoe with a hull-shaped sole and a seam between sole (2) and upper, comprising a sole having a peripheral rim (3) to which an edge of the upper (4) is sewn, characterized in that the edge of said upper (4) is folded over toward the inside of the

sole (2) at said peripheral rim (3) and is secured thereto by a seam (38) sewn from the inside of the upper toward the outside of said sole.

2. The shoe according to claim 1, characterized in that a length of said seam (38) extends through the sole (2) so as to come out and be visible on the lower surface of the sole (2) and another length thereof shows directly below said rim (3) of the sole (2). 5
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3. The shoe according to claim 1, characterized in that said seam (38) extends through the entire thickness of said sole (2).
4. The shoe according to claim 1, characterized in that a length of said seam (38) shows in a recess (14) below the rim (3) of the sole (2) and another length below said sole (2). 15
5. The shoe according to any one of the preceding claims, characterized in that said sole (2) delimits an inner chamber (20) for accommodating a resiliently deformable mid-sole (21) therein which has lightening cavities for sucking/expelling the air below the user's foot. 20
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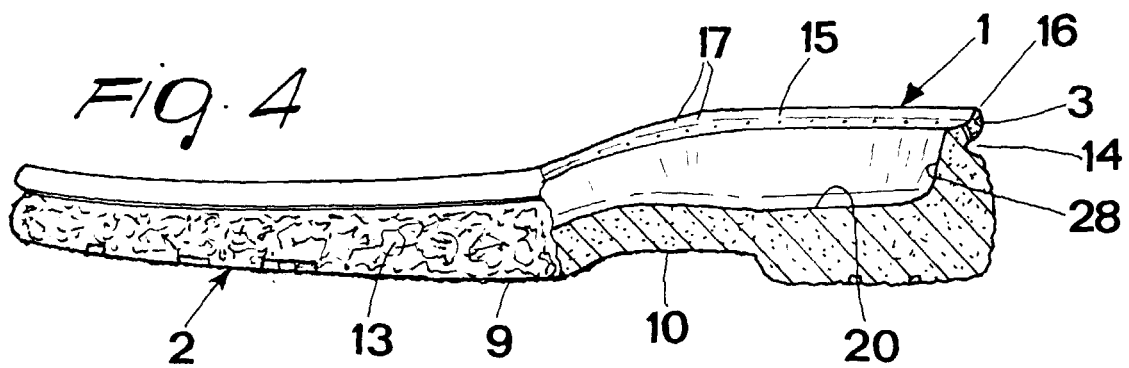
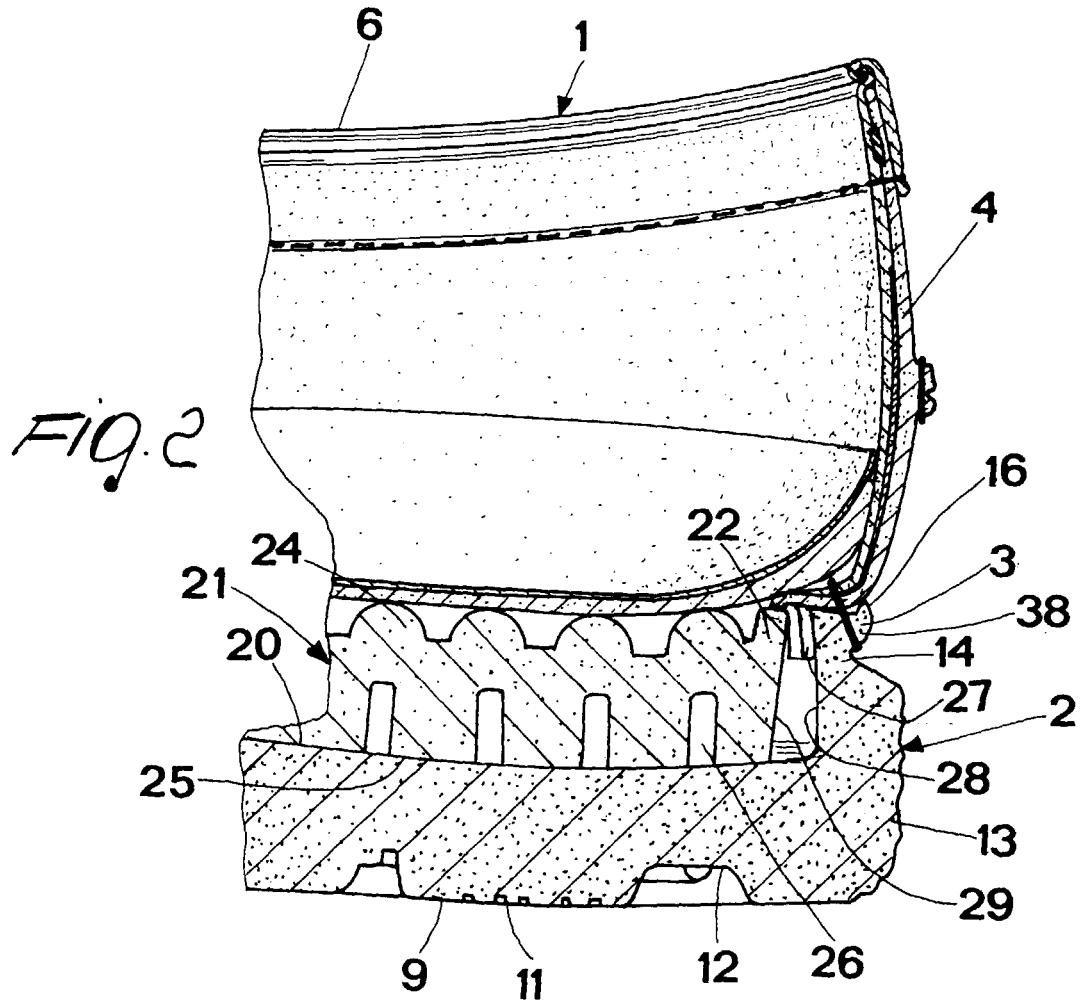
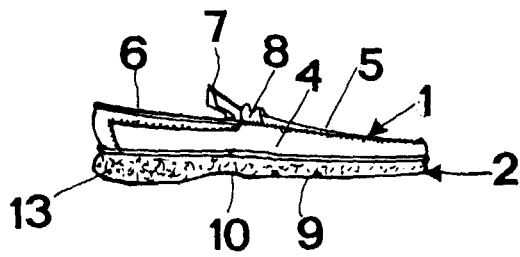


FIG. 3

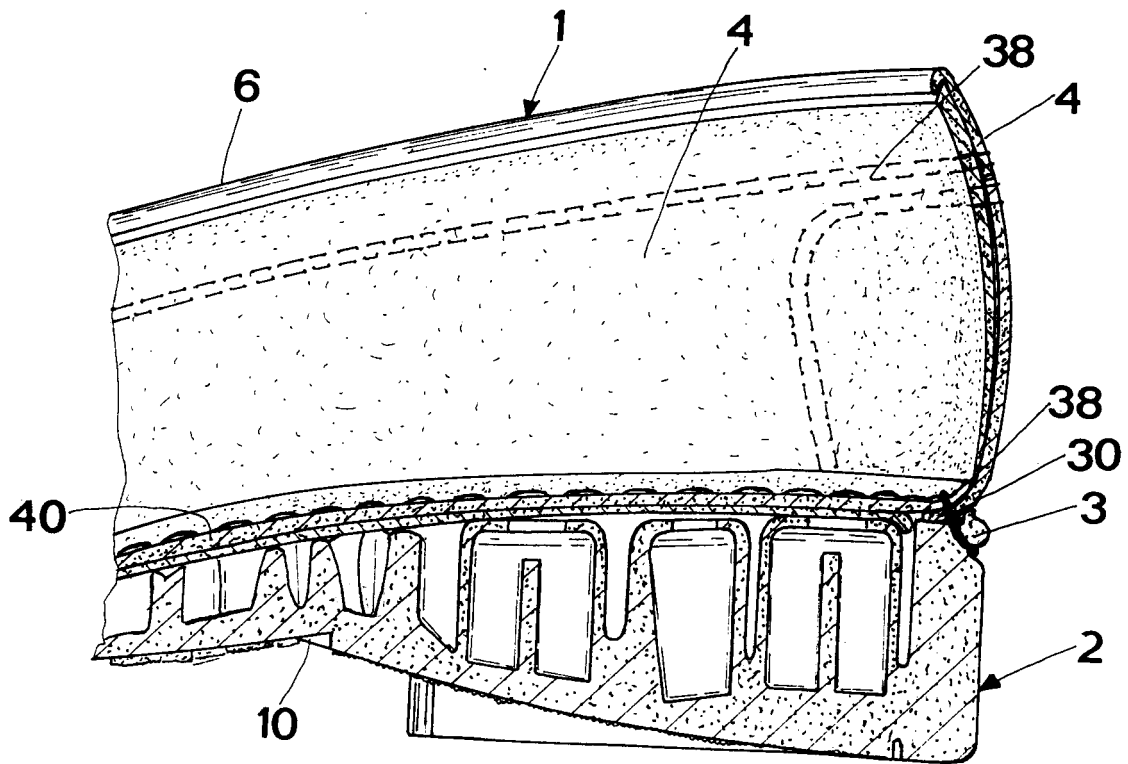
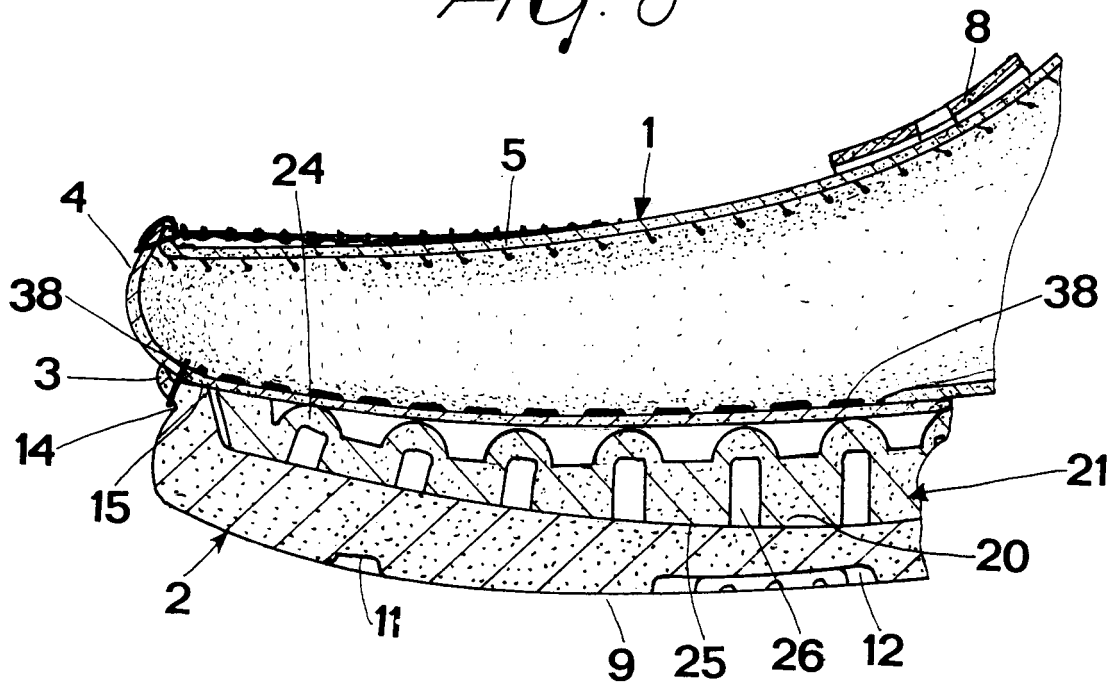
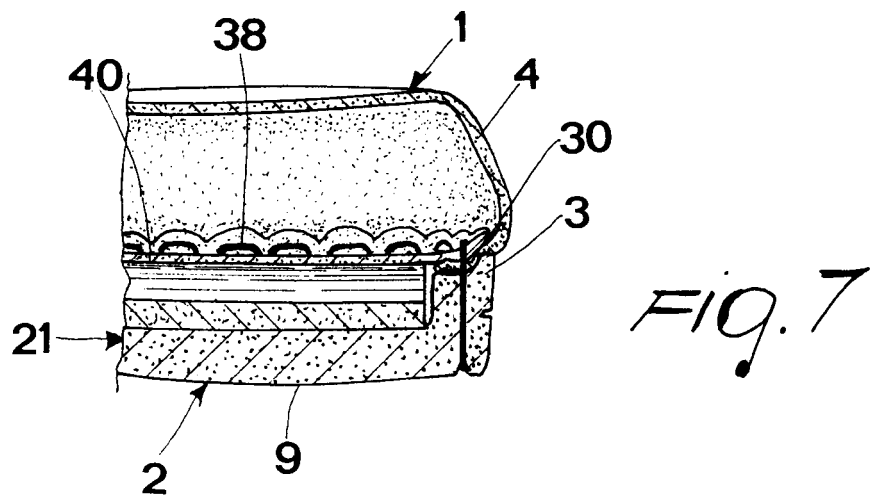
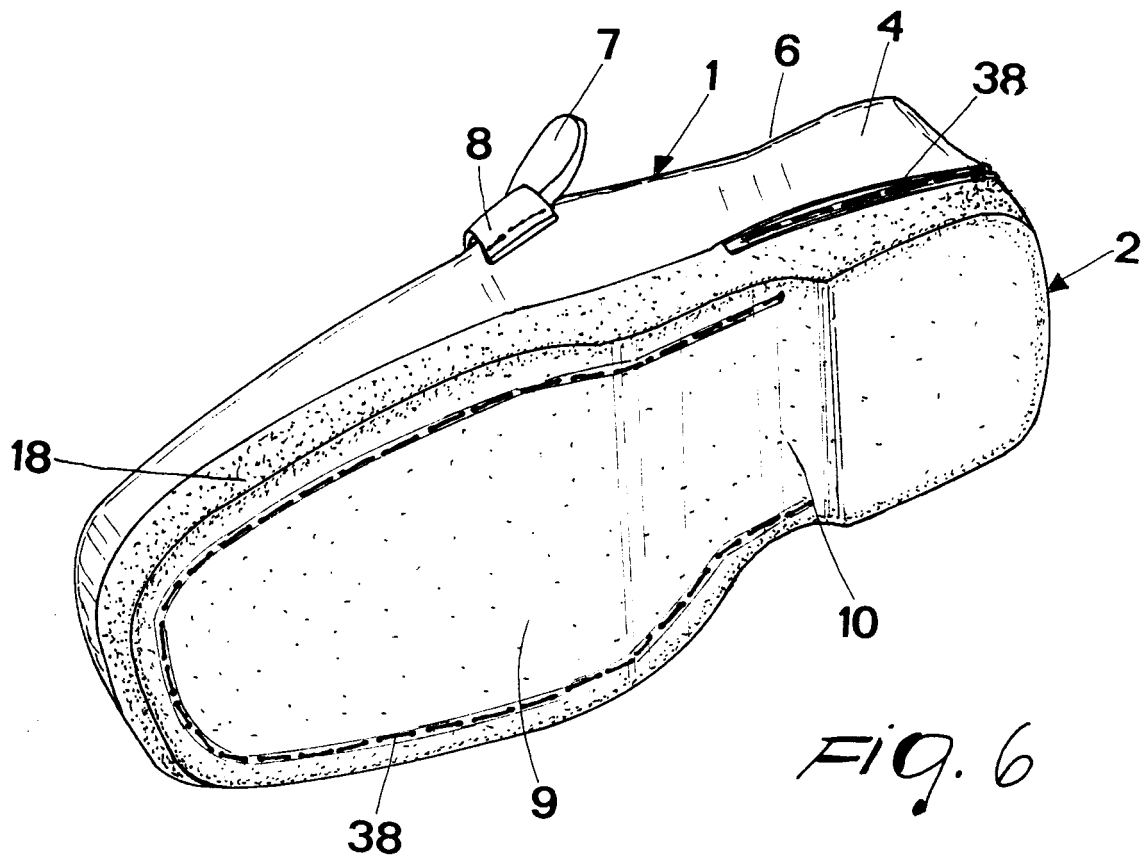


FIG. 5





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EUROPEAN SEARCH REPORT

Application Number
EP 99 11 4161

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	DE 34 34 654 A (BRETSCHNEIDER WALTER) 3 April 1986 (1986-04-03)	1-3	A43B9/02
Y	* page 7, line 25 - line 26 * * claims 1-5 *	4	
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Y	* claims 1,4-7; figure 1 *	4	
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A	FR 2 707 464 A (CHUPIN BATARDIERE) 20 January 1995 (1995-01-20) * the whole document *	5	A43B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 15 October 1999	Examiner Claudé, B
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>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</p>			

EPO FORM 1503 03/82 (P4/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 99 11 4161

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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EPO FORM P0459

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