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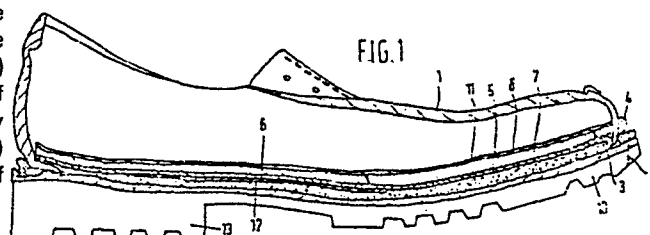
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54 Shoe provided with an insole and an inlay of resilient material.

57 Shoe comprising an insole (5, 6) with a welt (3) at the underside along at least a considerable part of its outer edge region for stitching the upper (1) thereto, said insole (5, 6) comprising two laminated layers (5, 6), the upper layer (6) of which has an aperture therein which is fully surrounded by material of that insole layer (6), in which aperture an inlay (7) of resilient material is applied, glued to the lower layer (5) of the insole (5, 6).



Title: Shoe provided with an insole and an inlay of resilient material.

This invention relates to a shoe comprising an insole at the underside of which, along at least a considerable part of its outer edge region, a welt is secured for stitching the upper, and an inlay of resilient
5 material.

In making a shoe of this kind, the upper is lasted before being stitched to the insole, secured to the welt, often with the addition of a leather strip, in accordance with the Goodyear welt system. This treatment,
10 which must be carried out under tension, involves problems if an inlay or pad of resilient material is applied to the insole, on account of possible displacements resulting from the elasticity of the inlay material. Moreover, to achieve a reliable joint between insole and upper by means
15 of the welt, a certain strength and, hence, thickness of the insole is necessary, which when further an inlay is introduced results in a relatively thick packet with consequential effects on the appearance of the shoe. It is also possible for the inlay to be applied only after
20 the above jointing procedure. This, however, involves reducing the inner space of the shoe, and, hence, a negative effect on its fit. In addition, glueing such an inlay afterwards is a cumbersome and time-consuming operation, in which the difficult accessibility of the forward part
25 of the shoe presents additional problems as regards fastening the inlay in its correct position.

A further disadvantage of such an inlay in a more general sense is that as a result of the elasticity of the material it may be deflected sideways in response
30 to lateral foot pressure, which adversely affects walking comfort.

It is an object of the invention to provide a shoe with a soft foot support with which the above problems

and disadvantages in both manufacture and use are avoided.

In accordance with the invention, this is achieved in a shoe of the kind referred to in the opening paragraph in that the insole comprises two laminated layers with
5 the upper layer having an aperture fully surrounded by material of that insole layer, in which aperture the inlay is applied, glued to the lower layer of the insole. By virtue of these features, the required material thickness is provided in the two-layer marginal zone for interconnecting
10 upper and insole in a reliable manner by means of the welt attached in this location. At the same time, the insole thus acquires such a direct contact area with the last as to prevent shifting during the sewing procedure under tension, in spite of the previous application of
15 the resilient inlay. The latter is, as it were, built into the insole, so that the fit of the shoe provided by the last is not in fact affected, while the thickness of the insole with inlay is minimized.

Surrounding the inlay with insole material not
20 only gives the desirable contact with the last, but has an additional advantageous effect. In fact, the upright edge of the aperture around the inlay forms a supporting edge for the latter against resilient lateral deflection, so that the material of the inlay cannot, as it were,
25 be yieldingly deflected.

The thickness of the inlay should preferably be such that the foot supported on the soft foot support does not come into contact with the upper surface of the insole upper layer. In accordance with a further preferred
30 embodiment, therefore, the inlay has a thickness larger than that of the insole upper layer, the arrangement being such that, in a compressed condition from foot pressure, said thickness is equal to, or virtually equal to, the thickness of said insole upper layer. The features last
35 referred to continue to ensure optimum fit.

In some cases, and in accordance with a further

embodiment of the invention, it may be preferable for the aperture to be made in the forward part of the insole upper layer. This is the case, for example, if an arch-support is provided in the middle portion of the shoe. If, in addition, a soft foot support is desired in the heel portion of the shoe, this can be applied afterwards by means of an adhesive, as that portion of the shoe is of easy access, and an inlay situated at that position hardly, if at all, affects the fit, as the foot is not fully enclosed in that portion.

Furthermore, from the point of view of ventilation, it is preferable that the inlay is made of resilient, permeable synthetic plastics material.

The shoe according to the invention will now be discussed and elucidated in more detail with reference to an exemplary embodiment illustrated in the accompanying drawings. In said drawings,

Fig. 1 shows the shoe in longitudinal section;

Fig. 2 shows, on an enlarged scale, the toe portion of the shoe illustrated in Fig. 1; and

Fig. 3 shows the insole with inlay in top plan view.

The shoe comprises an upper 1, which as shown in Fig. 2, is connected by means of stitching 2 to a welt 3 and a leather strip 4. Welt 3 is secured to an insole lower layer 5 which, in turn, is glued to an insole upper layer 6. As best shown in Fig. 3, an aperture is formed in the latter, in which an inlay 7 is accommodated which, in turn, is glued to the insole lower layer 5. A liner sole 8 is glued to inlay 7 and inner sole upper layer 6 by way of shoe liner. Secured to the leather strip 4, by means of stitching 9, is the outsole 10, with the space remaining between the insole lower layer 6 and the outsole 10 being filled with a layer of cork 11.

Embedded in cork layer 11, in the middle portion of the shoe, is an arch-support 12. Finally, at the heel

portion of the shoe, a heel 13 is secured to outsole 10.

For the manufacture of such a shoe, the upper 1 is produced by cutting pieces of leather to size and sewing these together. The insole lower layer 5, the insole upper layer 6, the latter with an aperture therein, and inlay 7 are also cut to size and glued together, whereafter the welt 3 is secured to the bottom of the insole lower layer 5. From welt 3, the non-secured portion initially extends at an angle to the insole lower layer 5, as a result of which this portion can be connected to upper 1 and leather strip 4, by stitching 2, after lasting. After this operation, welt 3 is moved into the position shown in Fig. 2, whereafter arch-support 12 and cork layer 11 are applied. The outsole 10 is then to be secured to strip 4 by means of stitching 9, and finally heel 13 is secured to outsole 10.

Naturally, many modifications and variants are possible without departing from the scope of the invention. Thus the above manufacturing process for the shoe can be supplemented with some further operations. Furthermore, the aperture in the insole upper layer 6 as shown in Fig. 3 can be extended to cover virtually the entire foot support, for example in such a manner that the insole upper layer only consists of a margin surrounding a correspondingly enlarged inlay 7. Also, still further ornamental strips can be secured to welt 3 and, hence to the insole, along with upper 1 and leather strip 4 by means of the stitching.

Claims

1. A shoe comprising an insole to the underside of which, along at least a considerable part of its outer edge region, a welt is secured for stitching the upper thereto, and an inlay of resilient material, characterized
5 in that the insole comprises two laminated layers with the upper layer having an aperture fully surrounded by material of that insole layer, in which aperture the inlay is applied, glued to the lower layer of the insole.
2. A shoe as claimed in claim 1, characterized
10 in that the inlay has a thickness larger than that of the insole upper layer, the arrangement being such that, in a compressed condition from foot pressure, said thickness is equal to, or virtually equal to, the thickness of said insole upper layer.
- 15 3. A shoe as claimed in claim 1 or 2, characterized in that the aperture is formed in the forward portion of the insole upper layer.
4. A shoe as claimed in any one of the preceding claims, characterized in that the inlay is made of resilient
20 permeable, synthetic plastics material.

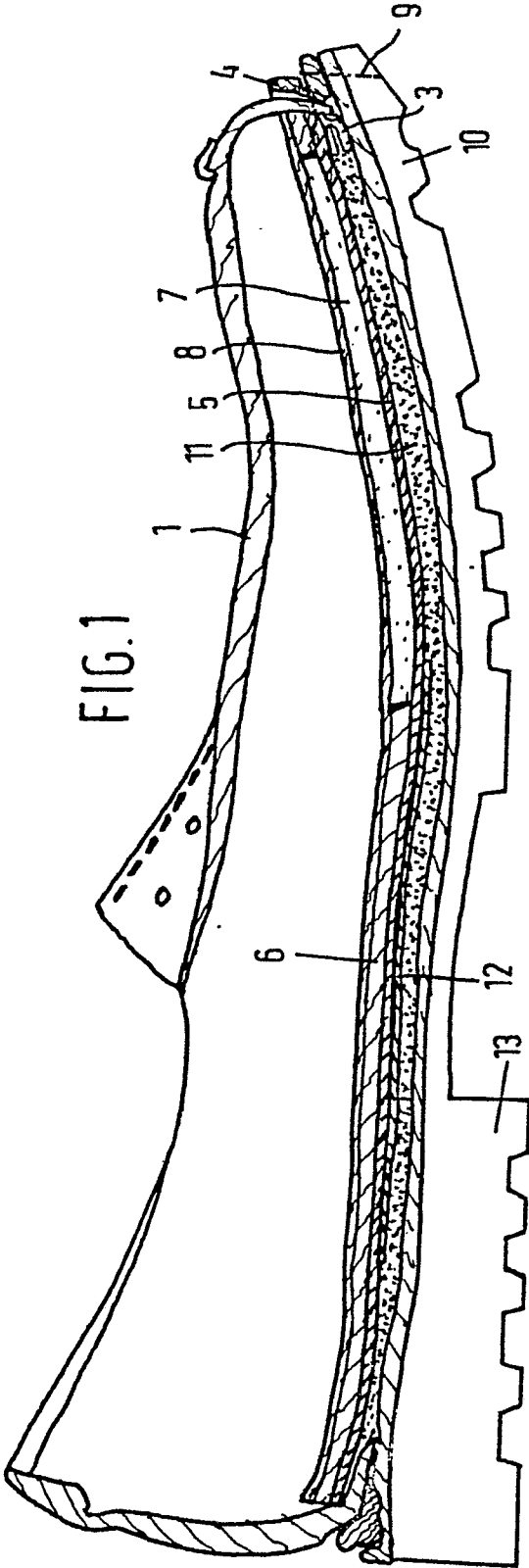


FIG. 2

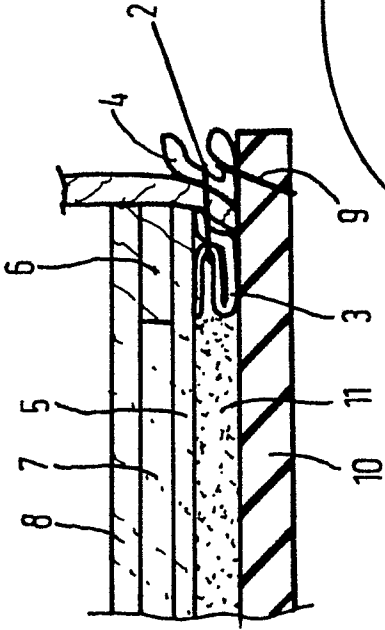
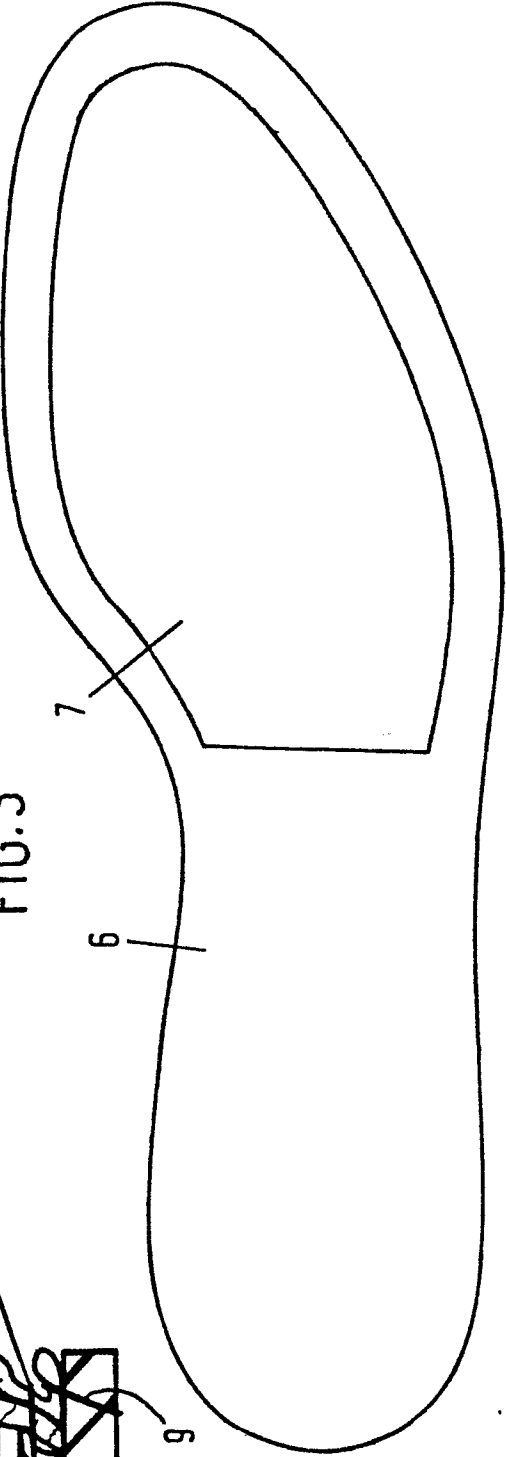


FIG. 3





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. 4)
X	US-A-2 055 574 (H. HÄRTL) * Figure 3 *	1-4	A 43 B 13/40
X	--- GB-A- 463 623 (E. WILLIAMSON) * Page 2; figures 1-4 *	1-4	
X	--- US-A-3 412 487 (F.J. DIAMANT) * Abstract; figures 1-4 *	1-4	
X	--- DE-U-1 666 789 (G. HOFFMANN) * Whole document *	1	
X	--- FR-A-1 078 079 (C. BAUMANN) * Abstract; figures 1-7 *	1	
	-----		TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			A 43 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 11-08-1986	Examiner MALIC K.
CATEGORY OF CITED DOCUMENTS			
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		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	