(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 809 947 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.12.1997 Bulletin 1997/49

(51) Int. Cl.[6]: **A43B 3/26**, A43B 17/00, A43B 17/08, A43B 7/14

(21) Application number: **97106162.7**

(22) Date of filing: **15.04.1997**

(84) Designated Contracting States:
AT DE DK FR GB IT SE

(30) Priority: **16.04.1996 ES 9600856**

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(54) Multiple-use shoe with interchangeable insole

(57) Multiple-use shoe with an interchangeable insole, which interchangeable insole consists of the application, in a shoe [2] of any type, made of any material, on top of two recesses [4] and [4'] that are present in the upper region of the sole [3], of an insole [10] that has various front-end projections [16] and back-end projections [14], as well as lateral front-end projections [15] and lateral back-end projections [13], along with convex prominences [12] and [12'] that are fitted to the interior of the said concavities [4] and [4'], which interchangeable insole may also be provided with projections [17], [17'], and [17''] that enable the harmonious attachment of the said interchangeable insole in cooperation with front-end and back-end projections [16'] and [14'], respectively.

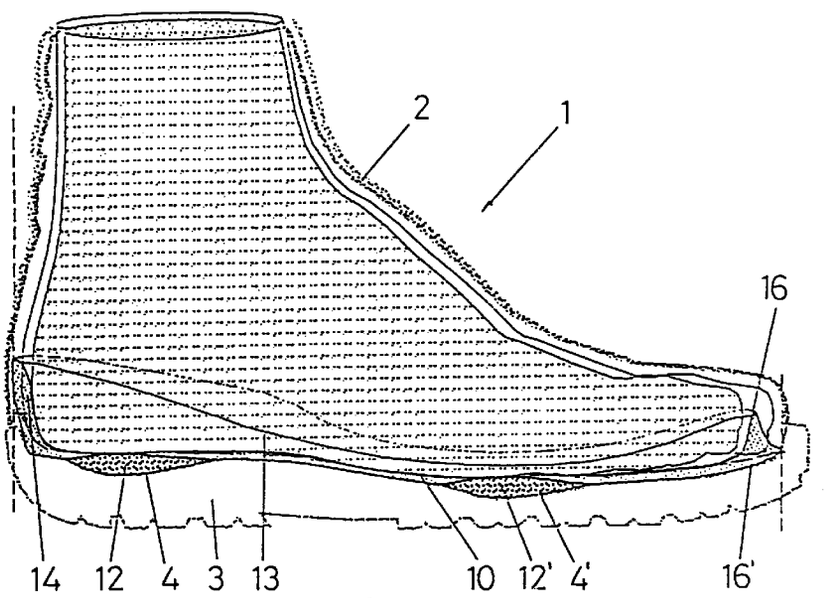

FIG.- 1

EP 0 809 947 A2

Description

The present invention relates to a multiple-use shoe.

The field of application of the present invention lies within the industry that is dedicated to the manufacture of shoes and associated articles.

At present, the existence is known of a plurality of insoles or similar items that are incorporated into the inner lower region of a shoe, for the purpose of ensuring the fitting of the said region of the shoe to the dimensions of the foot of the user, filling in a certain way the excess space that may be present between the foot of the user and the inside of the shoe per se.

However, when the shoe is purchased in order to be utilized by a user, who because of his age or nature may increase the dimensions of his feet over a relatively short period of time, during which period of time the shoe may remain unchanged during use, it is restrictively necessary to make a radical change in the shoe, if within the time period during which the said shoe is utilized, the foot of the user should grow and therefore hinder or interfere with the use of the said shoe.

An object of the invention is to provide a multiple-use shoe which can easily be utilized for a user for a period of time during which the foot of the user grows in a gradual manner.

This and other objects are solved according to the invention by a multiple-use shoe exhibiting the features shown in claim 1. Dependent claims 2 to 10 show further improvements thereof.

The solution to the currently existing problem in this area relates to the provision of a shoe that facilitates the fitting of an interchangeable inner shoe, by means of which it would be possible to utilize the shoe during a time period of opportune length, thereby allowing the use of the shoe by a user who, during the utilization period, would display a gradual growth of the foot, without the replacement of the shoe being made necessary by the said growth of the foot, and also facilitating the incorporation of an insole, the use of which insole would enable the utilization of the shoe per se, which insole would be interchanged in accordance with the growth of the foot.

Hence, the solution relates to an improved multiple-use shoe which is improved by means of the utilization of an interchangeable insole, which interchangeable insole is consistent with, and fitted to, the inner shape of the shoe and also to the shape of the foot of the user, with the foot of the user being fully and properly fitted inside the shoe by means of the utilization of the interchangeable insole which is fitted to the shape of the foot in accordance with the growth of the said foot, without requiring the replacement of the shoe until the dimensions of the said foot exceed the dimensions permitted by the shoe itself.

However, until now, the existence has not been known of a multiple-use shoe that allows the incorporation of an interchangeable insole, the utilization of which insole would enable the utilization of the shoe per se by a user for a period of time during which the foot of the user grows in a gradual way, such as the type of growth that may occur during puberty.

The multiple-use shoe with an interchangeable insole that solves the object of the invention constitutes, in and of itself, a novelty within the field of application of the invention, inasmuch as the utilization of the said shoe to a limited extent enables the utilization of a given type of shoe, which in turn, because of its interchangeable insole, can be utilized by a user whose foot size, because of the age of the user, increases gradually during a relatively short interval or period of time.

More specifically, the multiple-use shoe with an interchangeable insole that solves the object of the invention is generally constructed in the same way as a conventional shoe, but which is adapted to various physical characteristics of a foot of a given size, in that the shoe in accordance with the invention includes in its lower region, and specifically in the upper region of its sole, two or more hollows or recesses whose purpose is to allow the attachment of an anatomical insole, which insole is adapted to the configuration of a foot of a given size, and which insole, because of the characteristics of the size of the foot of the user, embodies any particular configuration that restrictively limits the adaptation of the foot of the user to the body of the shoe per se, by fitting the foot to the general morphology of the shoe, in a harmonious relationship with the appropriate morphology of the inside of the shoe.

In other words, for example, if a user who wears a size 38 shoe purchases a shoe that fits in a suitable way after the incorporation of a conventional insole in its lower region, which insole is adapted to the anatomy of a size 40 shoe, then the said size 40 shoe may be utilized, during the stage of growth of the foot, by a user who wears a size 38, after the incorporation of an interchangeable insole which, because the growth of the foot, adapts the latter to the internal morphology of the size 40 shoe. Consequently, as the growth of the foot of the user takes place, the interchangeable insole that is incorporated into the interior of the shoe is reduced in volume in order to adapt itself internally, in proper cooperation with the foot, to the internal morphology of the size 40 shoe that was purchased.

The shoe may have the configuration of a conventional shoe that has a convenient application and that may have any type of outward morphology, and includes internally, on the upper region of the sole, several recesses that are intended to receive two or more harmonious prominences that are present in the insole, in order to achieve the immobilization of the said insole in both the posterior and front-end regions. The said insole may also include, in the lateral regions located in proximity to the toes and to the heel of the foot, projections that are suitable for allowing a foot to be introduced into the inside of a shoe whose nominal size is larger than the corresponding size, in such a way that the said foot remains adequately fitted within the inside of the said

shoe, and in such a way as to allow the said shoe to be utilized in the conventional manner.

The said interchangeable insole may include, in the lower region, two or more projections that are appropriate for allowing the said interchangeable insole to be fitted to the interior of the recesses or concavities existing in the sole of the shoe. The said interchangeable insole may be configured in the form of a single block that includes the relevant lateral, posterior, and frontend prominences, which facilitate the incorporation and attachment of the said insole on the area of the shoe, positioning the said insole on top of the upper region of the sole, providing, in the case of the said insole which must be fitted to the measurements of a foot of smaller size, several blunt projections that prevent the said insole from slipping or becoming dislodged. As the dimensions of the foot increase, the insoles that are incorporated reduce their structural dimensions in terms of the lateral, anterior, and posterior projections, as well as in terms of the projections extending from the sole, which prevent slippage, until a point is react at which the insole is virtually smooth, has an anatomical configuration, and has solely and exclusively the conventional projections with a convex configuration, in order to adapt itself to the concavities that are present in the surface of the sole.

Once the user has outgrown the characteristic nominal measurements of the shoe, no other type of insole can be incorporated for the adaptation of the shoe, due to the simple fact that the constitution of the shoe per se has been exceeded, with the inevitable consequence that the user must obtain a new shoe that is more or less adapted to a new utilization, consistent with a second adaptation, which, if necessary, includes all of the characteristics of the earlier shoe.

The interchangeable insoles may have on their surface the relevant conventional areas that provide a massage effect, which areas include a plurality of perforations on their surface, in order to achieve an appropriate ventilation of the sole of the foot of the user by releasing through the said perforations the sweat produced by the sole of the foot, thereby keeping the said sole of the foot in optimal condition, by passing the fluids through the perforations, to the lower region which is provided with the corresponding bosses, where the said fluids are received in the conventional way, in order subsequently to be evacuated by means of evaporation.

The interchangeable insoles may optionally be provided with longitudinal and transverse projections located in proximity to the bridge in order to adapt themselves to the anatomy of the foot of the user, which projections may also be included in proximity to the heel and the sole.

In summary, the multiple-use shoe with an interchangeable insole may be utilized by a given type of user whose feet, because of the age of the user, may grow more rapidly than the shoe wears out, for which reason the said multiple-use shoe includes interchangeable insoles, by means of which a gradual adaptation to the morphology of the foot can be achieved, in terms of the morphology of the shoe per se that is utilized, or by means of which a shoe of a given size can be fitted to a user who wears a size that is smaller than the nominal measurements of the shoe per se, which shoe can be utilized in the conventional way after the incorporation of an insole that allows the said shoe to be fitted to the said foot.

Finally, it should be noted that the lower region in each of the interchangeable insoles may include an anti-slippage area or a strap for attachment to the shoe, i.e., a Velcro-type strap.

It should be noted that other methods for the attachment of the insole to the sole of the shoe may be introduced, which other methods do not consist of projections and recesses (i.e., the concavity-convexity system). In addition to consisting of the Velcro-type system mentioned hereinabove, the said systems may consist of hooks and eyes, clasps, snap fasteners, pins, or laces.

In order to complement the description that has been provided and in order to assist in the acquisition of a better understanding of the characteristics of the invention, the present invention is further explained by multiple sheets of drawings, on which, for illustrative and non-limitative purposes, the following figures showing particular embodiments are provided:

- Figure 1, which is a cross-sectional side-elevation view of the multiple-use shoe with an interchangeable insole according to the invention. As can be seen in this graphic representation, the surface of the sole of the shoe bears an interchangeable insole, by means of which the adaptation of the foot of the user can be achieved, along with subsequent utilization of the shoe.

- Figure 2, which is a cross-sectional side view of an interchangeable insole, which is affixed inside the shoe shown in Figure 1 or inside a shoe whose characteristics are identical or similar to those of the said shoe shown in Figure 1, which interchangeable insole is applicable to a person or user who wears a size that is substantially smaller than the size of the shoe into which the said interchangeable insole is installed.

- Figure 3, which is a cross-sectional side view of another embodiment of an interchangeable insole that includes characteristics that are also displayed by the embodiment shown in Figure 2, and that therefore enables the utilization of, and the fitting of the foot of a user to, a shoe that is similar or equivalent to the shoe shown in Figure 1.

- Figure 4, which is a cross-sectional side view of another embodiment of an interchangeable insole, which insole can be utilized by a user whose foot is substantially larger than the foot in conjunction with

which the interchangeable insoles shown in Figures 2 and 3 are intended to be utilized.

- Figure 5, which is a bottom view of the embodiment shown in Figures 2, 3, and 4.

An examination of the figures described hereinabove reveals how the multiple-use shoe [1] with an interchangeable insole [10] has been constructed from the body [2] of a conventional shoe, which may have any configuration that is considered appropriate, and which has a sole [3] that is provided with a posterior recess [4] located in proximity to the heel of the foot and a recess [4'] located in proximity to the sole of the foot, with both of the said recesses forming concave regions into which will be fitted the projections emerging from an insole [10], which insole has, in the lower anterior and posterior regions, two convex prominences [12] and [12'] that form areas that allow the said interchangeable insole [10] to be fitted to the upper region of the sole [3] of the shoe [2].

As mentioned hereinabove, the said convex regions or projections [12] and [12'] will always have a common denominator that in all cases will govern the existence of these projections, in order to allow the said convex regions or projections to be fitted to the concave configurations [4] and [4'] that are present in the upper region of the sole [3] of the shoe [2].

Optionally, as shown in Figure 2, the insoles [10] may include the said projections [12] and [12']; a thickened central area in the lower region of the bridge [11]; and projections [14] in the posterior region, in order to fit the heel area to the anatomy of the body of the shoe [2], with the inclusion, in the region below the said projection [14], of a lower projection [14'], so as to achieve the full and proper fit of the said insole [10] on the sole [3] of the shoe [2], with the further inclusion, in the central back-end region, of projections [17'] whose purpose is to ensure that the said insole [10], as shown in Figure 2, which represents utilization by a user whose foot is substantially smaller than the size of the shoe [2], is fitted, by means of the said area, to the upper region of the sole [3], with the further inclusion, in the front-end region of the said interchangeable insole [10], as shown in Figure 2, of curved vertical projections [16] and a lower projection [16'], and with the further inclusion, in the solid front-end region, of a series of raised lines [17] whose purpose is to enable a full and proper fit on the sole.

In the upper front-end region, the insole shown in Figure 2 includes lateral projections [15], and also includes, in the lateral back-end region, projections [13], which act in such a way as to enable the insole [10] shown in Figure 2 to be fitted to the shape of the foot of a user who wears a size that is significantly smaller than the size permitted by the shoe shown in Figure 1.

In Figure 3 it can be seen how the interchangeable insole [10] may also include, in the front-end region, a curved vertical projection [16] and a frontal projection [16'], while, because of the morphological configuration in relation to the size of the foot of the user who will utilize the said insole [10], a back-end projection [14] has been included in the back-end portion. However, this embodiment omits the projection [14'] that was present in the article shown in Figure 2, while nevertheless retaining the presence of the back-end lateral projections [13], which, although they function in a manner identical to that of the projections shown in Figure 2, nevertheless are smaller in size.

In Figure 4 it can be seen that, in the same way as in the embodiments shown in Figure 2 and Figure 3, the lower projections [12] and [12'] are present, in order to be fitted to the recesses [4] and [4'] that are present on the sole [3] of the shoe [2]. However, the front-end projections [16] and [16'] have been eliminated, along with the lateral projections [15]. The posterior projection [14] has been retained (although only in a partial manner), as have the lateral posterior projections [13], but the thickness of the bridge area [11] has been substantially reduced.

Finally, as shown in Figure 5, the interchangeable insole [10] may include the relevant projections [12] and [12'], located appropriately in the region of the sole and the heel, as well as a longitudinal region [18], located in the lower portion of the bridge, which longitudinal region, by functioning like a strap of the Velcro type, allows the insole to be affixed to the shoe. Furthermore, the said insole [10] may optionally include a polyperforated area [19] in order to allow the gradual evacuation of the sweat or perspiration emitted through the skin of the user, thereby making it possible to keep the foot in healthy condition and to avoid any problems involving the skin.

It should also be noted that the invention is provided at the side of the polyperforated area [19] located in the insole, with a specific material incorporated into the shoe, which material has the property of expelling water vapor and liquid water in one direction (that is, from the interior toward the exterior), in such a way as to prevent any entry in the opposite direction (that is, from the exterior toward the interior).

It should be noted that the primary product utilized in the polyperforated area of the insole for transpiration, as the membrane, is Gore-Tex, a product that is claimed in U.S. patents No. 3,953,586, No. 4,187,390, No. 4,194,941, No. 4,725,481, and No. 4,493,870.

The materials utilized may generally consist of plastic, etc., without the choice of material being in any way limitative. Furthermore, the form, size, and arrangement of the elements may also be varied, provided that any such variant does not entail an alteration in the essential nature of the invention.

Claims

1. Multiple-use shoe with an interchangeable insole, of the type constructed from the body of a shoe [2] that may have any configuration that is considered

appropriate, and which is made of any type of material, characterized by the fact that the said insole [10] includes one or more primary means or forms of fixation or attachment [12], [12'], and [18], which in turn include one or more means or forms which are complementary to the said primary means or forms of fixation or attachment [4] and [4'] of the sole [3] in order to affix or attach the interchangeable insole [10] to the said shoe [2].

2. Multiple-use shoe with an interchangeable insole in accordance with Claim 1, characterized in that the said means or forms of fixation or attachment [12] and [12'] consist of projections that are introduced into the said complementary means of fixation or attachment [4] and [4'], which consist of cavities in the sole [3], in such a way that the said insole [10] remains fully and properly affixed to the said sole [3] of the shoe [2].

3. Multiple-use shoe with an interchangeable insole in accordance with Claim 1 or Claim 2, characterized in that the said projections [12] and [12'] may optionally have a convex configuration, and the recessed cavities [4] and [4'] may optionally have a concave configuration, such as to complement the said convex projections [12] and [12'] in terms of size and curvature.

4. Multiple-use shoe with an interchangeable insole in accordance with Claim 1, Claim 2, or Claim 3, characterized in that the said recessed regions [4] and [4'] are located in the upper portion of the sole [3] of the shoe [2], in the central anterior region, and in its posterior region, corresponding to the region of the sole and the heel of the foot of the user.

5. Multiple-use shoe with an interchangeable insole in accordance with Claim 1, characterized in that the said insole may have, in the lower region, transverse projections [17], [17'], and [17''], with the presence of a prominence [16'] located at the anterior end, from which end extends an area [16], located in the upper front-end region of the said insole [10], from which extend prominences intended for anatomical adaptation [15], located in the lateral regions of the front-end area, which prominences are terminated in the lateral posterior region by similar anatomically designed projections [13], which in turn are terminated in the posterior region of the insole [10] by a vertically projecting area [14] that includes a lower prominence [14'].

6. Multiple-use shoe with an interchangeable insole in accordance with Claim 1 or Claim 5, characterized in that the said insole that is utilizable by a user may optionally have only one front-end projection [16] and one front-end prominence [16'].

7. Multiple-use shoe with an interchangeable insole in accordance with Claim 1, Claim 5, or Claim 6, characterized in that the said insole that is utilizable by a user may optionally be terminated at the posterior part by a semi-vertical projection [14], and by the fact that the said insole may have lateral back-end projections [13] and lateral front-end projections [15].

8. Multiple-use shoe with an interchangeable insole in accordance with Claim 1, Claim 5, Claim 6, or Claim 7, characterized in that the said insole [10] may optionally obviate the existence of the front-end projections [16] and [16'] and the front-end projections [15], while retaining the convex projections [12] and [12'], the lower region of the bridge [11], the lateral back-end projections [13], and the fitted heel area [14].

9. Multiple-use shoe with an interchangeable insole in accordance with Claim 1, Claim 5, Claim 6, Claim 7, or Claim 8, characterized in that the said insole [10] includes an area [18] by means of which the said insole is attached to the said sole [3] of the said shoe [2].

10. Multiple-use shoe with an interchangeable insole in accordance with Claim 1, characterized in that the said insole [10] includes a polyperforated area [19] for the discharge of sweat.

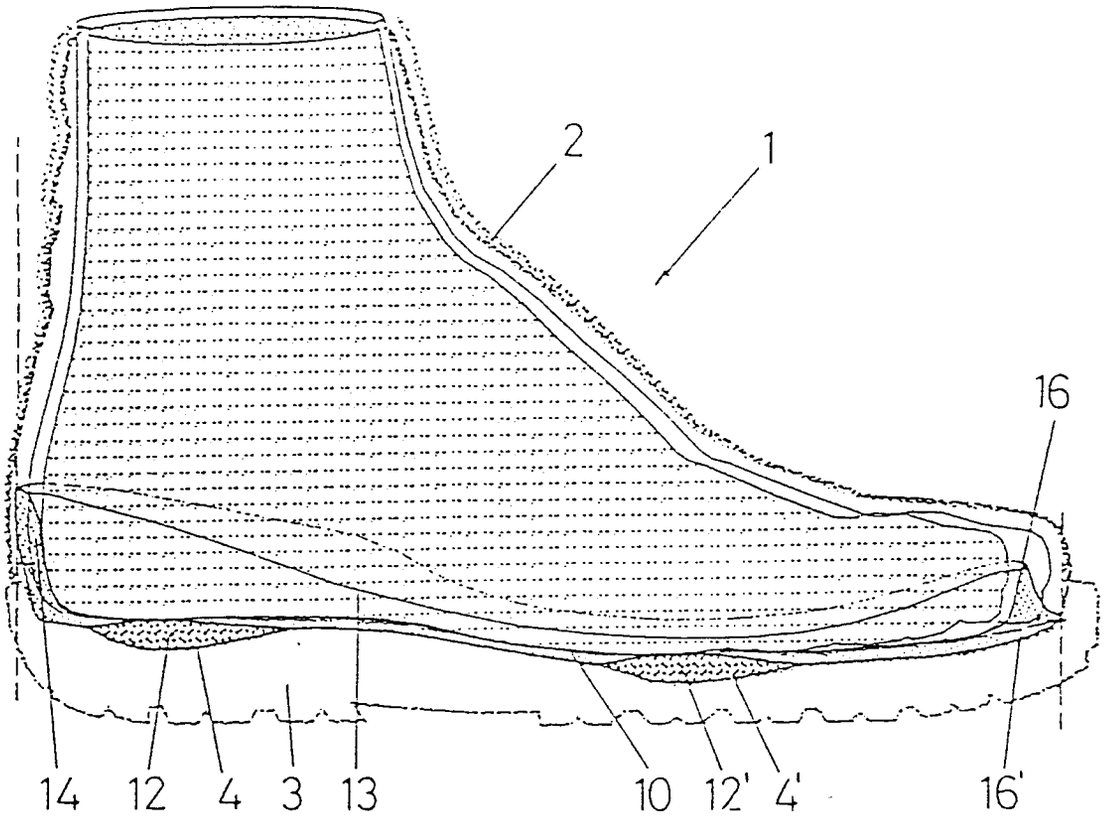

FIG.- 1

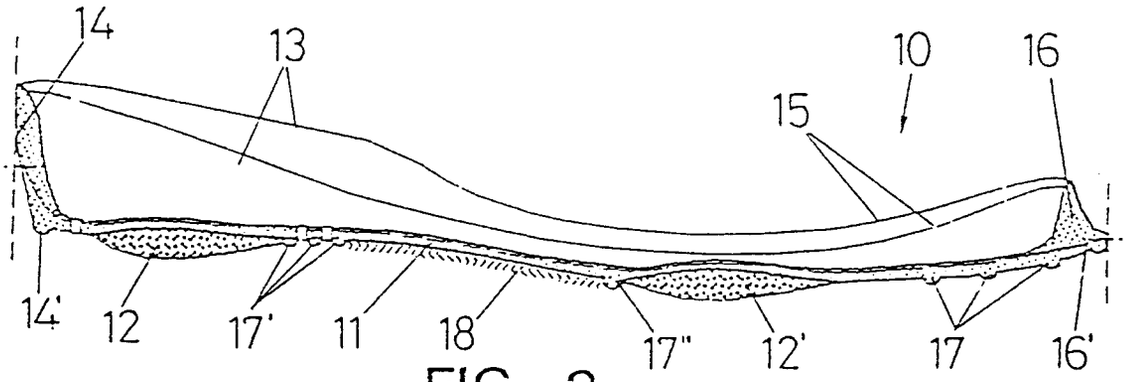

FIG.- 2

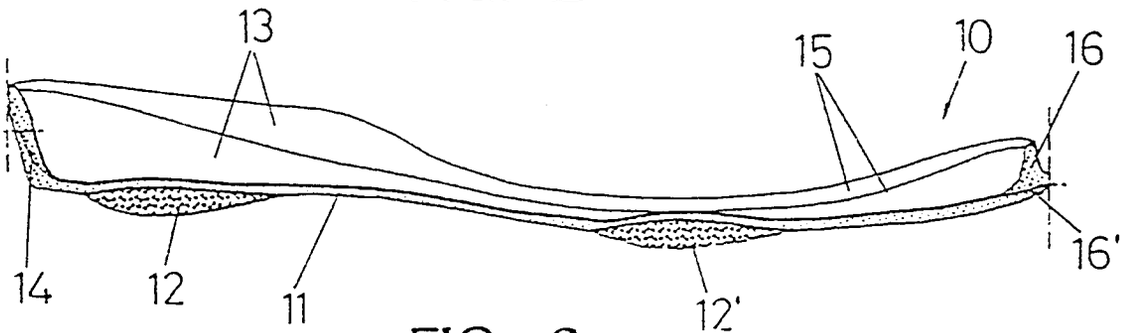

FIG.- 3

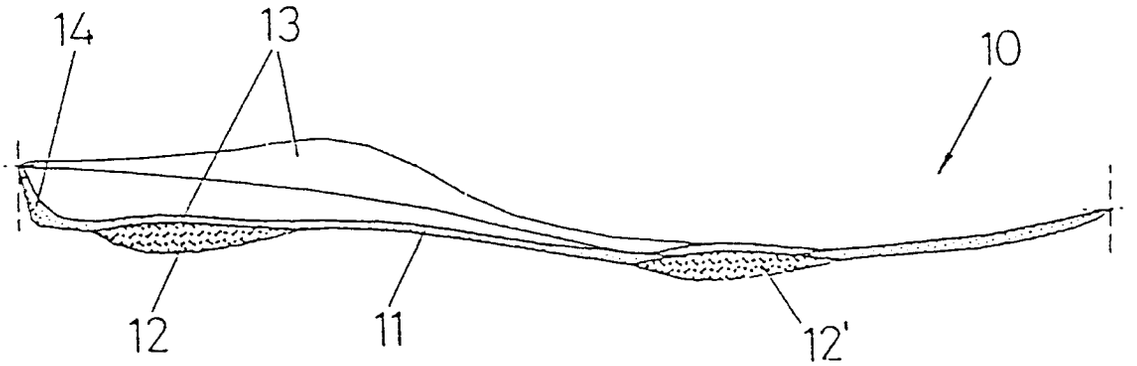

FIG.- 4

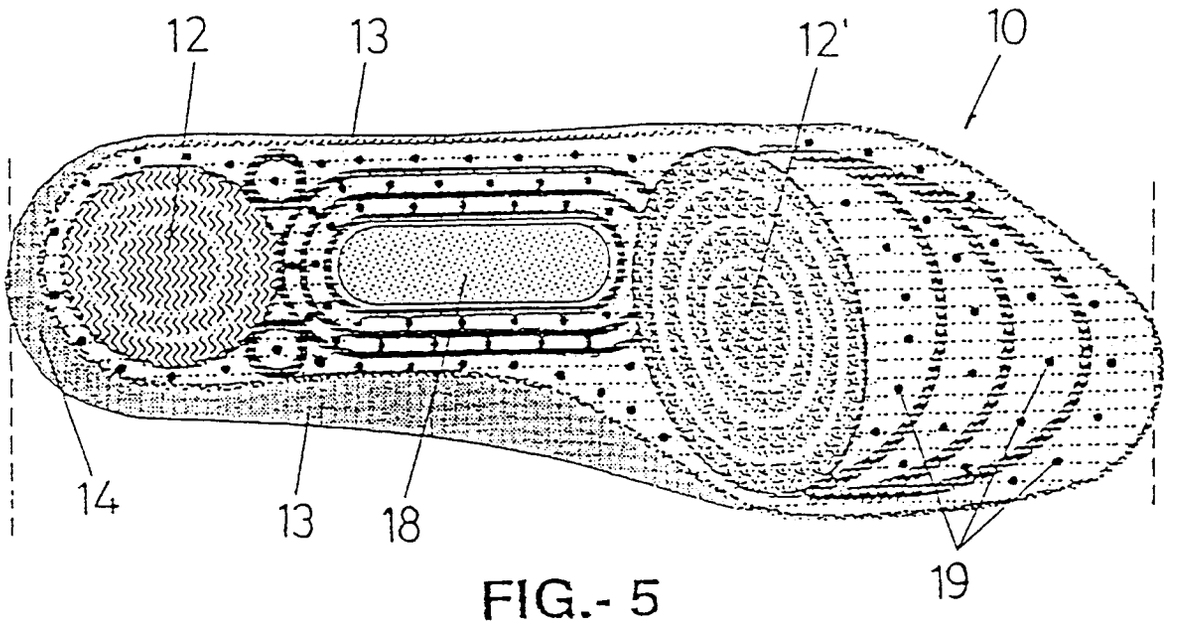

FIG.- 5