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(54) Innerboot for sports shoes in general

(57) Innerboot for sports shoes in general, including a lower part (102), that affects the foot, and an upper part (103), that affects the tibial region. The innerboot includes, at the lateral regions that are adjacent to the malleoli, wings (110) that provide a region where the lower part and the upper part overlap and slide with respect to each other.

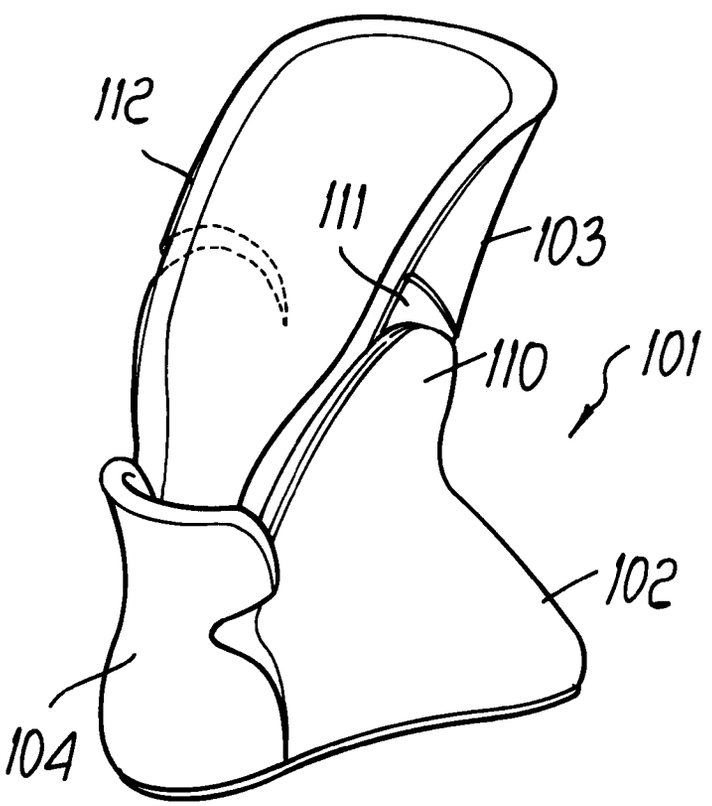

Fig. 11

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Description

The present invention relates to an innerboot for sports shoes in general.

It is known that one of the problems currently encountered in the manufacture of innerboots for sports shoes, and particularly for ski boots, is related to the need to combine two opposite requirements. In order to limit the localized pressure applied by the boot's closure levers to the leg, the innerboot must have relatively rigid surfaces so as to distribute the stress and consequently avoid localized pressure on the tibia.

On the other hand, the innerboot must be relatively flexible to allow the user to perform the necessary movements.

The solutions adopted so far are not free of drawbacks, as in many cases they have introduced considerable constructive complications and weakened the structure of the innerboot. For example, US patent 4,499,671 discloses an innerboot that has a relatively rigid quarter or cuff which therefore allows to distribute pressure stress uniformly; in order to allow flexibility, soft lateral inserts are provided at its lateral parts, allowing the innerboot to oscillate.

This solution is complicated from the point of view of manufacture, as it requires the assembly of the various parts; the flexible lateral inserts are also subjected to traction during use and can therefore break.

Other known solutions meant to allow flexibility, such as for example the one described in US patent 4,723,364, have a front quarter which in practice has, in its lower part, a recess that allows to provide good flexibility; this solution, however, offers poor protection indeed due to the presence of the recess.

The aim of the present invention is to eliminate the drawbacks described above by providing an innerboot for sports shoes in general that can have rigid portions that distribute the pressure stresses applied to said innerboot but at the same time allows excellent innerboot flexibility without producing strains in the structure of the innerboot and without having to have low-protection areas.

Within the scope of this aim, a particular object of the invention is to provide an innerboot that allows to arrange the quarter vertically, thus making it easier to walk.

Another object of the present invention is to provide an innerboot that can provide maximum comfort for the user by distributing all stress in an optimum manner.

Another object of the present invention is to provide an innerboot which, by virtue of its particular constructive characteristics, is capable of giving the greatest assurances of reliability and safety in use.

This aim, these objects, and others which will become apparent hereinafter are achieved by an innerboot for sports shoes in general, comprising a lower part that affects the foot and an upper part that affects the tibial region, characterized in that it comprises, at the lateral regions that are adjacent to the malleoli, at least one wing that provides a region where said lower part and said upper part overlap and slide with respect to each other.

Further characteristics and advantages will become apparent from the description of some preferred but not exclusive embodiments of an innerboot for sports footgear in general, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a view of a first embodiment of an innerboot, with the heel pad shown in exploded view;
figure 2 is a view of the innerboot with the quarter flexed forward;
figures 3 and 4 are rear perspective views of the innerboot, with two different arrangements of the upper part;
figure 5 is a view of a second embodiment of the innerboot particularly for front- or central-entry boots;
figure 6 is a view of the innerboot with the quarter portion tilted backward in order to arrange the boot vertically;
figure 7 is a view of a third embodiment of the innerboot;
figure 8 is a view of the removable tibial reinforcement of the innerboot of figure 7;
figure 9 is a perspective view of an innerboot according to a further aspect of the invention;
figure 10 is a view similar to the preceding one showing the quarter tilted forward;
figure 11 is a rear perspective view of the innerboot of figures 9 and 10;
figure 12 is a view similar to the preceding one showing the quarter tilted forward.

With reference to the above figures, and particularly to figures 1 to 4, the innerboot for sports shoes in general according to the invention, generally designated by the reference numeral 1, comprises a lower part 2, which substantially affects the region of the foot, and an upper part 3, which affects the tibial region.

There is also a heel portion 4 which is fixed at the rear part of the lower part.

A feature of the invention is constituted by the fact that there are inserts or elements that stiffen the upper part, particularly in the front and lateral regions of the tibia, so as to achieve good stress distribution.

Flexibility is achieved by means of a wing which is located at the lateral regions that are adjacent to the malleoli and forms a region where the lower part 2 and the upper part 3 overlap and slide with respect to each other.

As shown in figure 1, said wing, designated by the reference numeral 10, is provided in the lower part 2 and extends upwards, where it is accommodated in a recess 11 formed by the upper part 3.

In this manner the innerboot is divided horizontally, thus forming a region that allows the quarter that forms the upper part to be flexible, without however compromising its resistance to pressures with stress distribution.

In this manner the innerboot provides considerable comfort and also allows good flexibility without producing strains on the parts that compose the innerboot.

Figures 5 and 6 illustrate an innerboot, designated by the reference numeral 1', which is specifically provided for front- or central-entry boots and in which there are flaps, designated by the reference numeral 20, that extend from the lower part, again designated by the reference numeral 2, and are laterally adjacent to the quarter portion, designated by the reference numeral 21, providing a coupling which is conceptually similar to the one considered earlier, with the only difference that in practice it is the rear part of the quarter that can oscillate, also by virtue of a bellows-like portion 22 interposed in the rear region of the lower part 2 and of the rear quarter 21.

This solution also allows to arrange the boot vertically, that is to say to achieve a position in which the quarter or cuff is vertical, allowing to walk adequately.

Figures 7 and 8 illustrate an innerboot, designated by the reference numeral 1'', in which the upper part, again designated by the reference numeral 3, has lateral reinforcements 30 that delimit a central portion 31 which is not affected by a fixed reinforcement but allows to accommodate a movable tibial reinforcement 32 that is provided, in a downward region, with an expansion 33 that couples in a slot 34 formed in the lower part of the quarter.

In this manner the tibial reinforcement is practically disconnected from the structure of the innerboot, thus providing greater flexibility while maintaining comfort when the tibia rests forward.

Furthermore, the movable tibial reinforcement 32 can be removed easily and optionally replaced with another one that has different characteristics.

Figures 9-12 show an innerboot 101, substantially similar to the innerboot 1 described above, including an upper part 103, a lower part 102 and a heel portion 104.

The lower part 102 has a wing 110 adapted to be accommodated in a recess 111 provided in the upper part 103.

The innerboot 101 is also provided with an inner elastic lining 112 connecting the upper and lower parts together in order to provide a greater structural solidity.

From the above description it is thus evident that the invention achieves the intended aim and objects, and in particular, the innerboot allows to have substantially rigid portions to distribute stress uniformly without thereby hindering in any way the correct flexibility of the innerboot, which can thus easily adapt to the different operating conditions and to walking.

The innerboot according to the invention is susceptible of numerous modifications and variations, all of which are within the scope of the inventive concept.

All the details may furthermore be replaced with other technically equivalent elements.

In practice, the materials employed, as well as the contingent shapes and dimensions, may be any according to the requirements.

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 scope of each element identified by way of example by such reference signs.

Claims

1. Innerboot for sports shoes in general, comprising a lower part (2,102) that affects the foot and an upper part (3,103) that affects the tibial region, characterized in that it comprises, at the lateral regions that are adjacent to the malleoli, at least one wing (10,20,110) that provides a region where said lower part and said upper part overlap and slide with respect to each other.

2. Innerboot according to claim 1, characterized in that it comprises elements (30) for stiffening said upper part at the front region and at the lateral regions at the tibia.

3. Innerboot according to the preceding claims, characterized in that said wing (10,110) protrudes upward from said lower part (2,102) and is accommodated in a recess (11,111) formed by said upper part.

4. Innerboot according to one or more of the preceding claims, characterized in that it comprises an upper part that is open at the front and forms, at the rear, quarter portions (21) which are connected to the lower part (2) by means of a bellows-like portion (22) and a mutual overlap portion which is formed by lateral flaps (20) that are provided on the lower part (2) and overlap the lower portion of the rear quarter.

5. Innerboot according to claim 1, characterized in that said upper part (3) has lateral reinforcements (30) that delimit a central portion (31) which is not affected by a fixed reinforcement (32), and in that a movable tibial reinforcement can be removably accommodated in said central portion and is provided, in a downward region, with an expansion (33) that couples in a slot (34) provided at the lower part of the quarter.

6. Innerboot according to claim 1, characterized in that it comprises an inner elastic lining adapted to connect said upper and lower parts together.

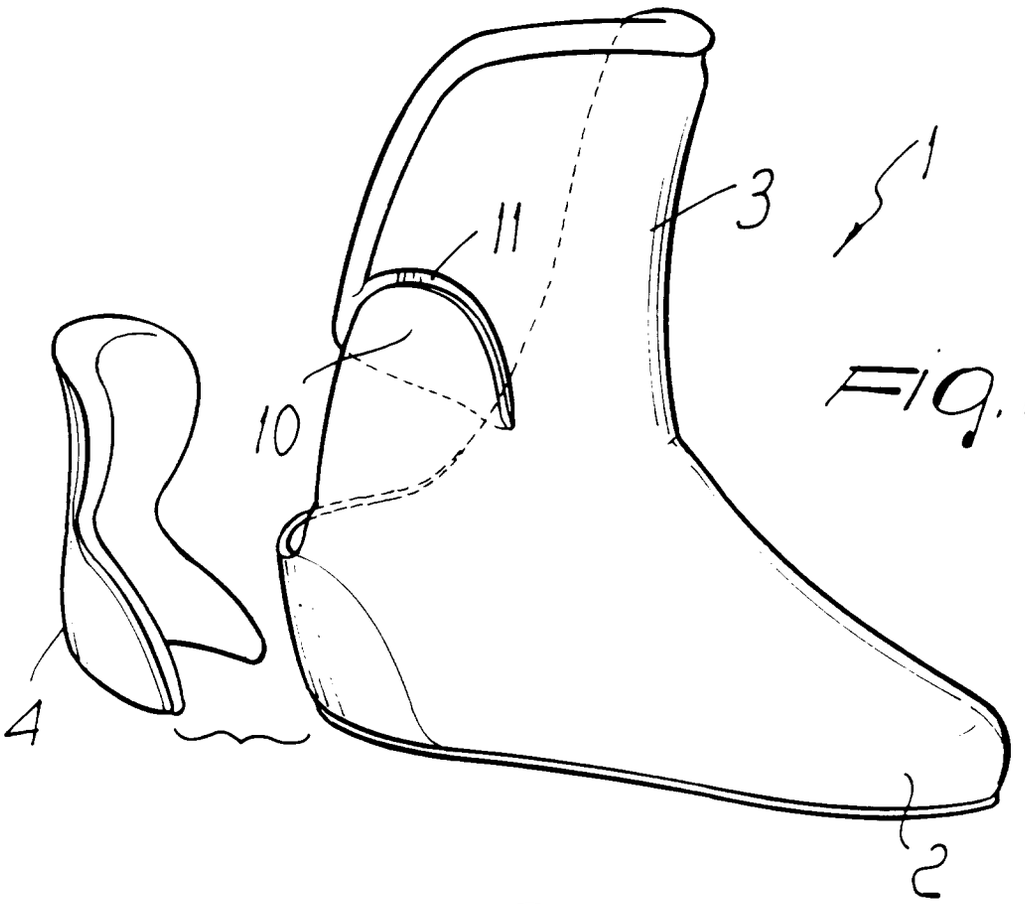

FIG. 1

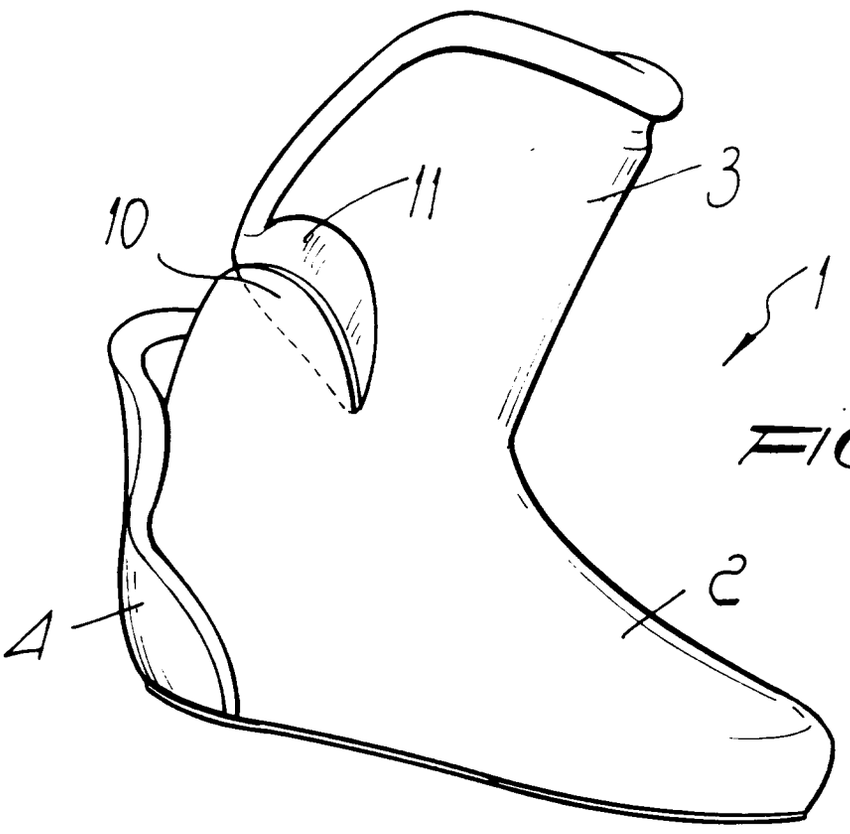

FIG. 2

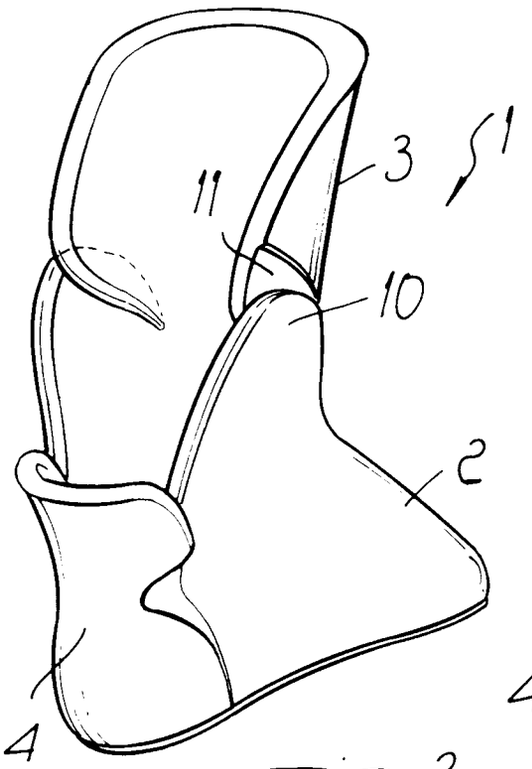

FIG. 3

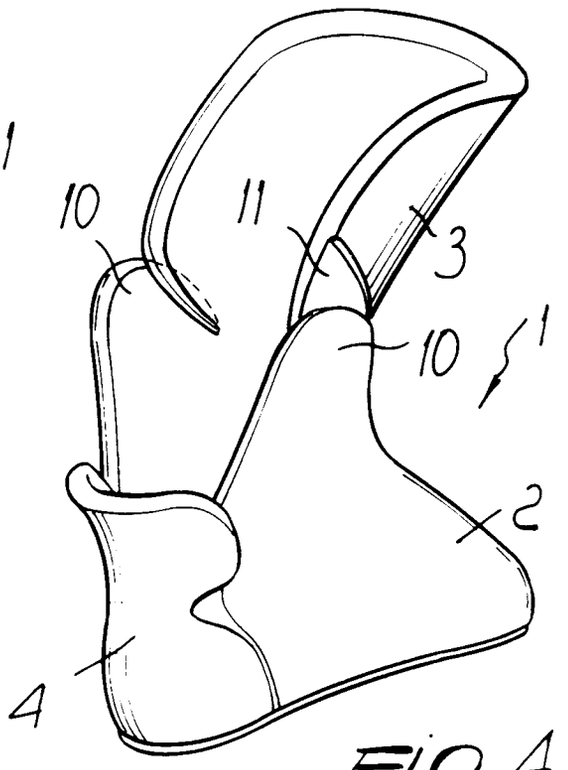

FIG. 4

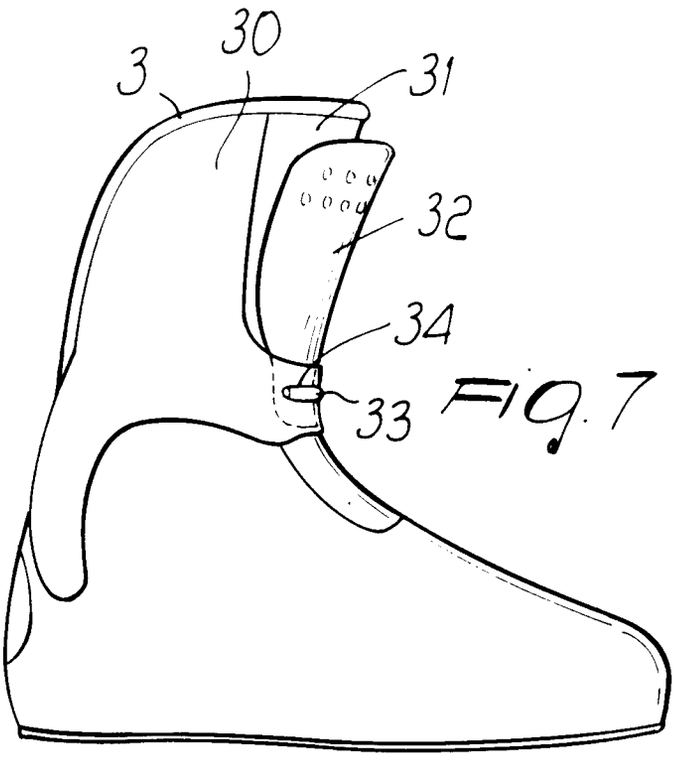

FIG. 7

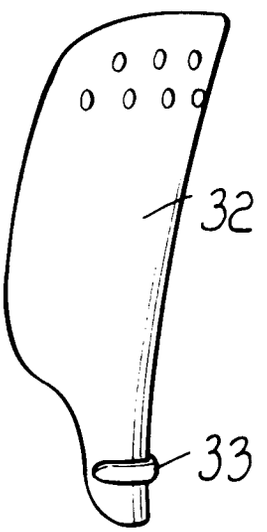

FIG. 8

FIG. 5

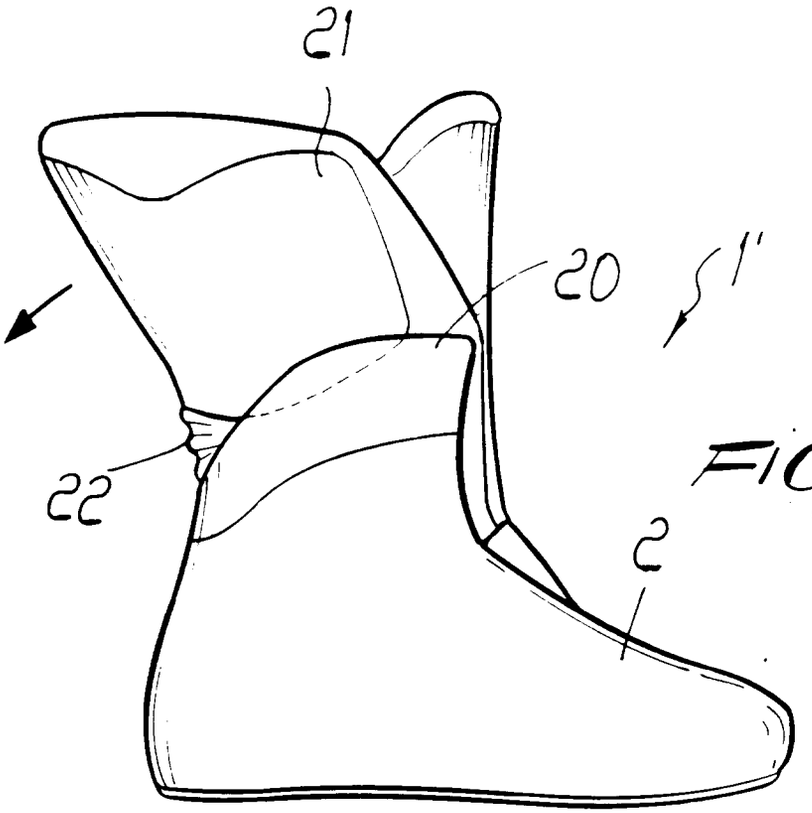

FIG. 6

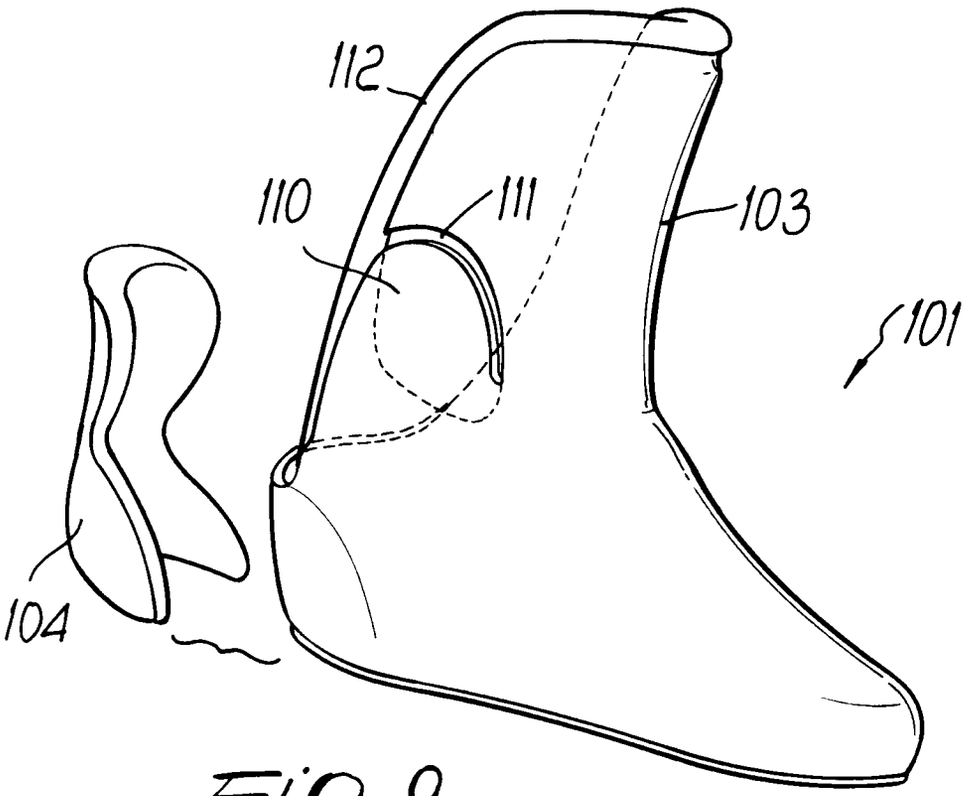

Fig. 9

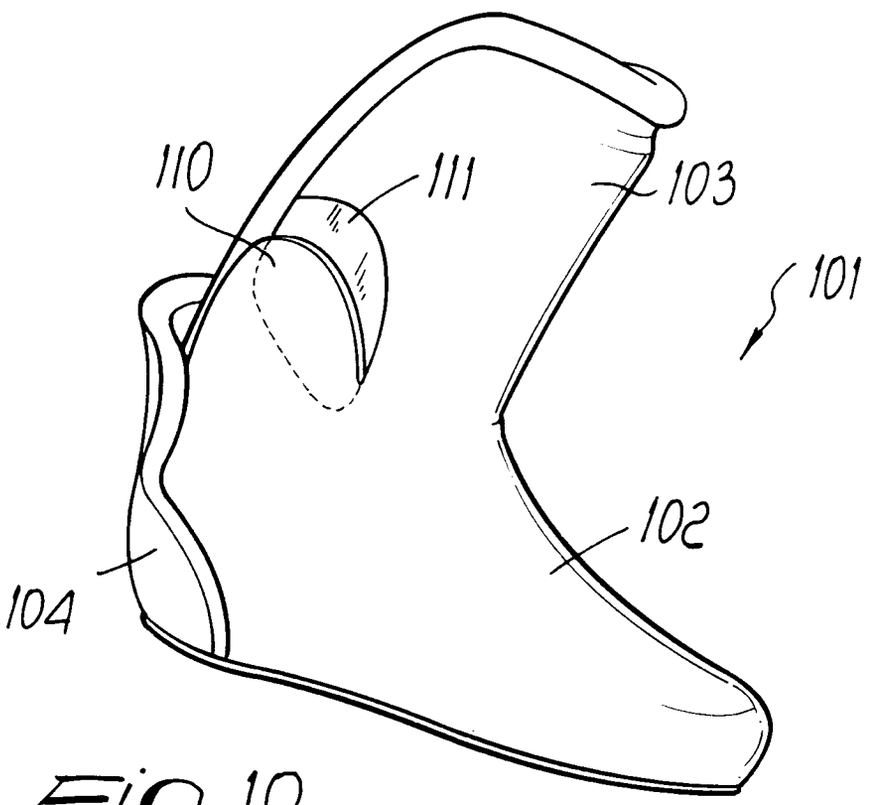

Fig. 10

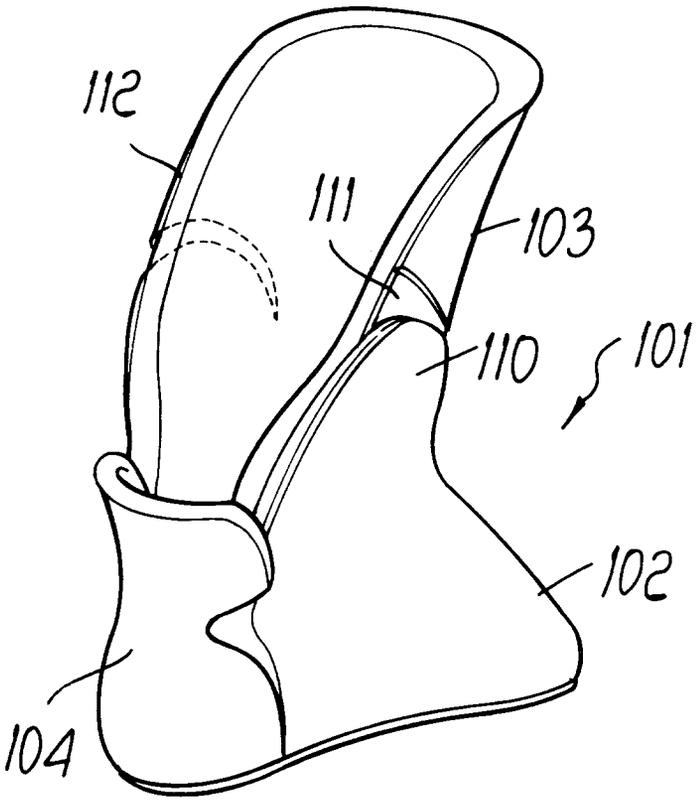

Fig. 11

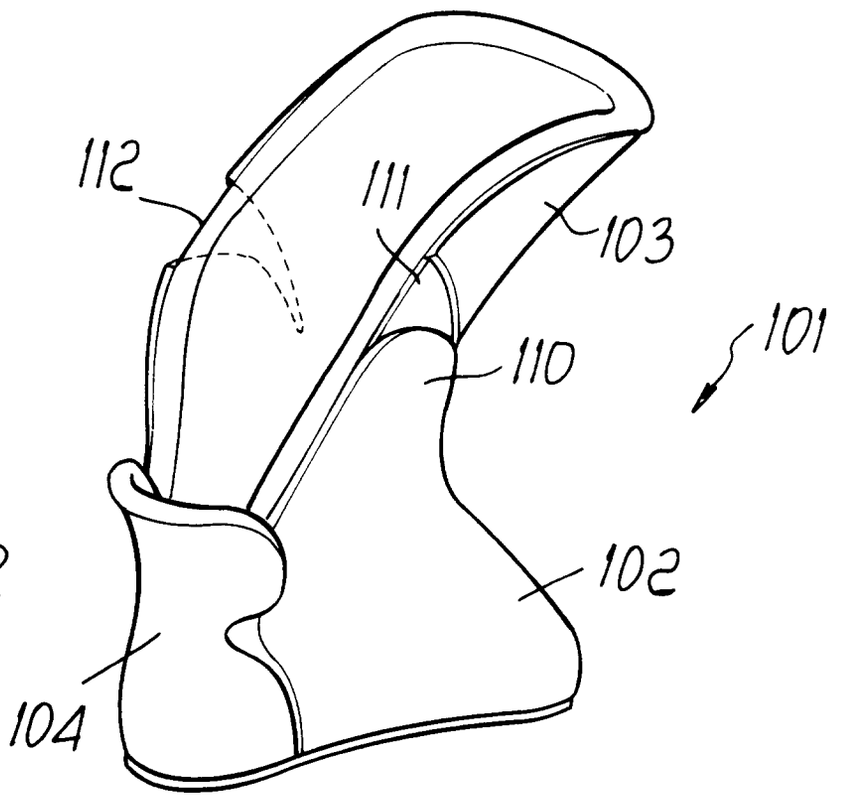

Fig. 12

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EUROPEAN SEARCH REPORT

Application Number
EP 94 12 0548

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.6)
X	WO-A-92 10955 (CALZATURIFICIO BRIXIA S.P.A.) * page 2, paragraph 2 - page 3, paragraph 1; claim 1; figure 1 * ---	1,2,6	A43B5/04
D,A	EP-A-0 084 788 (NORDICA S.P.A.) * the whole document * ---	1	
A	EP-A-0 317 798 (CALZATURIFICIO TECNICA S.P.A.) * figure 1 * -----	4	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

A43B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	14 June 1995	Scholvinck, T

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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