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(54) **Sole comprising at least a hide element to couple with rubber element(s)**

(57) A sole (1) comprises a hide and/or leather element (3) which is placed on at least a gripping element (2) so as to form an only body with it. The gripping elements (2) are made of rubber or TPR or TPU or other

materials and comprise full and empty spaces in such a way as to permit a perfect anchoring of the sole (1) to the ground, the wearing being not only comfortable thanks to the hide and/or leather element (3) but also safe.

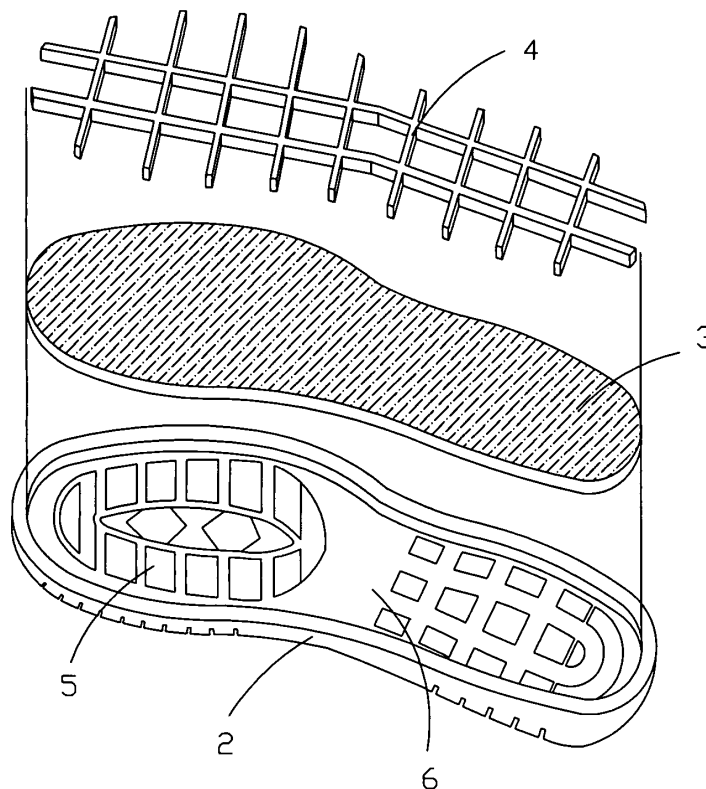


Fig. 3

Description

[0001] The present invention refers to a shoe sole which is obtained, in general, by coupling two or more injected and overlapped elements.

[0002] It is a particular sole which comprises at least a hide and/or leather element to be coupled and/or fused with different layers, each layer comprising different material, shape and structure.

[0003] In the shoe industry and footwearmaking it is known to produce shoes with particular measures which permit a better comfort in wearing and walking. For instance, the prior art discloses shoe soles which show microholes on the side which touches the ground. These microholes are part of the structure of the sole itself. Besides, the sole structure may comprise transpiring inserts made of a non-natural material.

[0004] However, the prior art solutions are difficult to carry out and their production costs are high. Additionally, said solutions do not satisfy the requirement of a healthy transpiration of the foot because the prior art transpiring inserts are produced in a synthetic material.

[0005] The aim and object of the present invention is to carry out a particular sole which has all the features and properties needed to facilitate a comfortable and safe walk, permitting a safe anchoring of the lower side of the sole to the ground as well as a good impermeability and a better transpiration as a result of the utilization of a natural and healthy material such as hide and/or leather tanned in such a way as to be transpiring and waterproof.

[0006] The above aim is reached with a sole according to the present invention, which is characterized in particular by the fact of providing a particular and original coupling of a sole made of hide or other natural material with one or more elements made of a plastic or rubber material such as TPU, TPR or other material, which is (are) positioned under the hide sole.

[0007] Further characteristics and details of the invention will be better understood from the following specification provided as a non-exclusive embodiment with reference to the accompanying drawings wherein:

Fig. 1 is a schematic top view of the assembled sole;
Fig. 2 is a perspective bottom view of the assembled components;
Fig. 3 is a schematic exploded view of the sole components; and
Fig. 4 is a schematic exploded view of a second embodiment of the sole.

[0008] With reference to the accompanying drawings, number 1 denotes a sole as an only body on the whole. This sole comprises a hide and/or leather element 3 and one or more gripping elements 2 which anchor to the ground. The gripping elements 2 are made of a pressure die-cast material or other suitable material, natural or synthetic, such as rubber, TPU, TPR or other rubber

substitutes.

[0009] The gripping elements 2, even when they comprise an only component, may have full and empty spaces of whatever shape such as a polygonal or circular shape on the lower surface that beats the ground.

[0010] Besides, the sole 1 may comprise a seat 6 which interests a part or the whole upper surface of the gripping elements 2. The seat 6 is to house the hide and/or leather element 3 which is tanned in such a special way as to become transpirant and waterproof.

[0011] There is also the possibility of positioning a netting 4 made of rubber or other suitable material on the hide and/or leather element 3. The netting 4 is to block the upper hide and/or leather element 3 and acts as a shock-absorber. In addition, there may be an insole between the foot and the lower part of sole 1.

[0012] Instead of the netting 4, a further insole 7 made of rubber or other suitable synthetic or natural material may be placed on the hide and/or leather element 3. The insole 7 comprises holes 8 and acts as a shock-absorber.

[0013] The sole 1 according to the present invention is obtained by coupling and overlapping the hide and/or leather element 3 and the gripping elements 2 and permits a perfect healthy transpiring of the foot through the hide and/or leather element 3 as well as a comfortable and safe walk thanks to the gripping rubber elements 2 that permit a safe anchoring of the sole 1 to the ground and prevent the persons wearing shoes with the present sole 1 from slipping.

[0014] The sole 1 has a good impermeability thanks to the close union of elements 2, 3 through sticking, injection or other suitable processes.

[0015] The sole 1 rests on the ground directly through the gripping elements 2 which anchor to the ground and support the hide and/or leather element 3 which is the supporting structure of the sole 1 and permits the transpiration and, at the same time, the impermeability of the sole 1.

[0016] The so-described sole is light but highly resistant and does not wear out easily. The foot enjoys a great comfort in wearing a shoe provided with a sole according to the present invention and the walk is safe.

[0017] A skilled artisan can modify the sole but his changes or versions are to be considered as included in the scope of protection of the invention.

Claims

1. Sole (1), **characterized in that** it comprises a particular coupling of at least a hide and/or leather element (3) overlapped to the surface of at least a gripping element (2) which permits a safe anchoring of sole (1) to the ground and prevent the person wearing shoes with sole (1) from slipping, the walk of the person being thus comfortable and safe.

2. Sole (1) according to the foregoing claim, **characterized in that** one or more gripping elements (2) are made of a natural or synthetic material such as rubber, plastic, TPU, TPR or other substitute of rubber and permit sole (1) to anchor to the walk surface. 5
3. Sole (1) according to the foregoing claims, **characterized in that** the gripping elements (2), also when they form an only element, may have full spaces and empty spaces of whatever shape, such as a polygonal or circular shape, on the ground beating surface. 10
4. Sole (1) according to the foregoing claims, **characterized in that** the particular coupling of elements (2, 3) permits the foot to healthy transpire through said hide and/or leather element (3), the property of a good impermeability being thus preserved. 15
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5. Sole (1) according to the foregoing claims, **characterized in that** said hide and/or leather element (3) is closely coupled with one or more gripping elements (2) through sticking, injection or other suitable processes. 25
6. Sole (1) according to the foregoing claims, **characterized in that** it comprises a netting (4), which is made of rubber or other suitable material and is placed on the hide and/or leather element (3), said netting (4) acting as a blocking element for the upper hide and/or leather element (3) and shock-absorber, the upper element (3) being in touch with the foot or an insole being interposed between the upper element (3) and the foot. 30
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7. Sole (1) according to claim 5, **characterized in that** it comprises at least a further shock-absorbing insole (7) which is positioned on the hide sole (3). 40
8. Sole (1) according to claim 7, **characterized in that** said shock-absorbing insole (4) comprises at least an opening (8). 45
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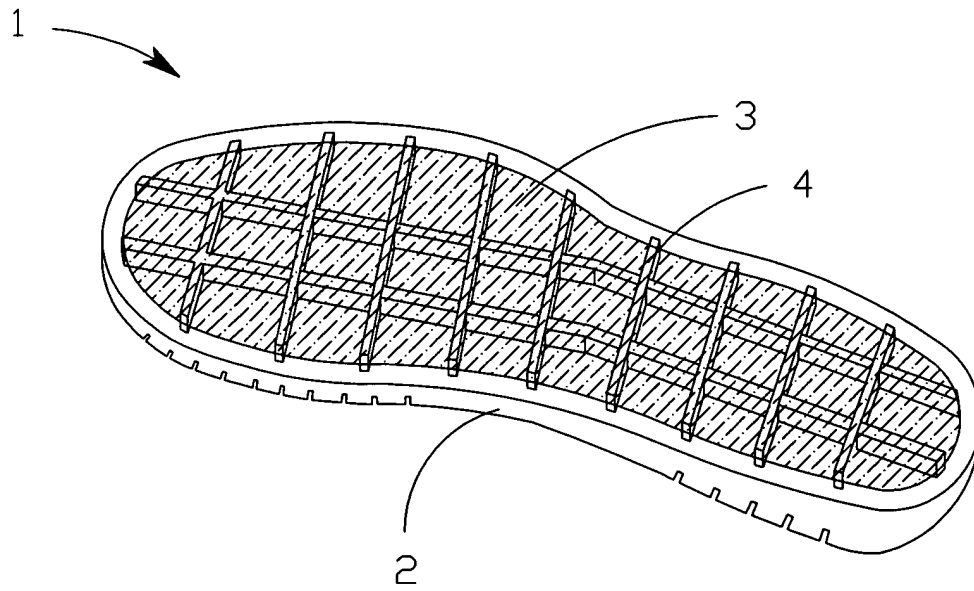


Fig. 1

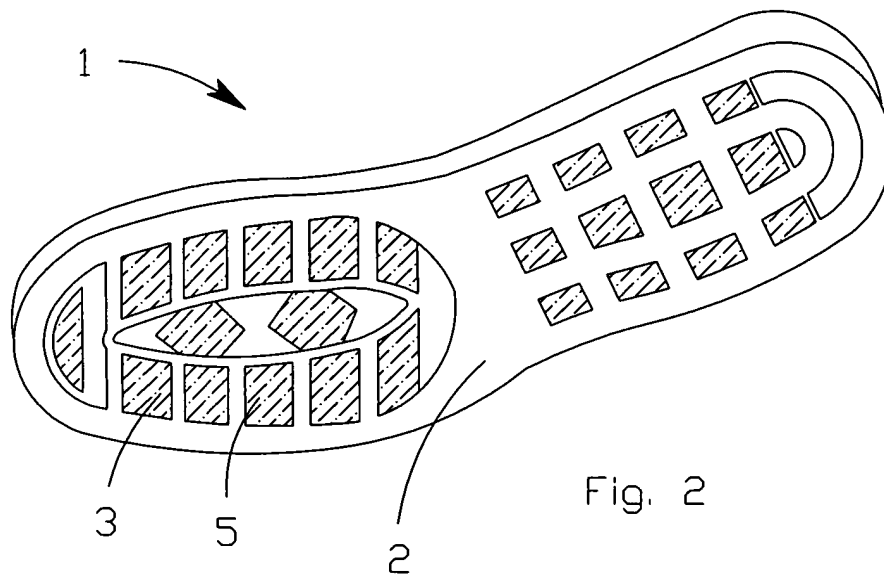
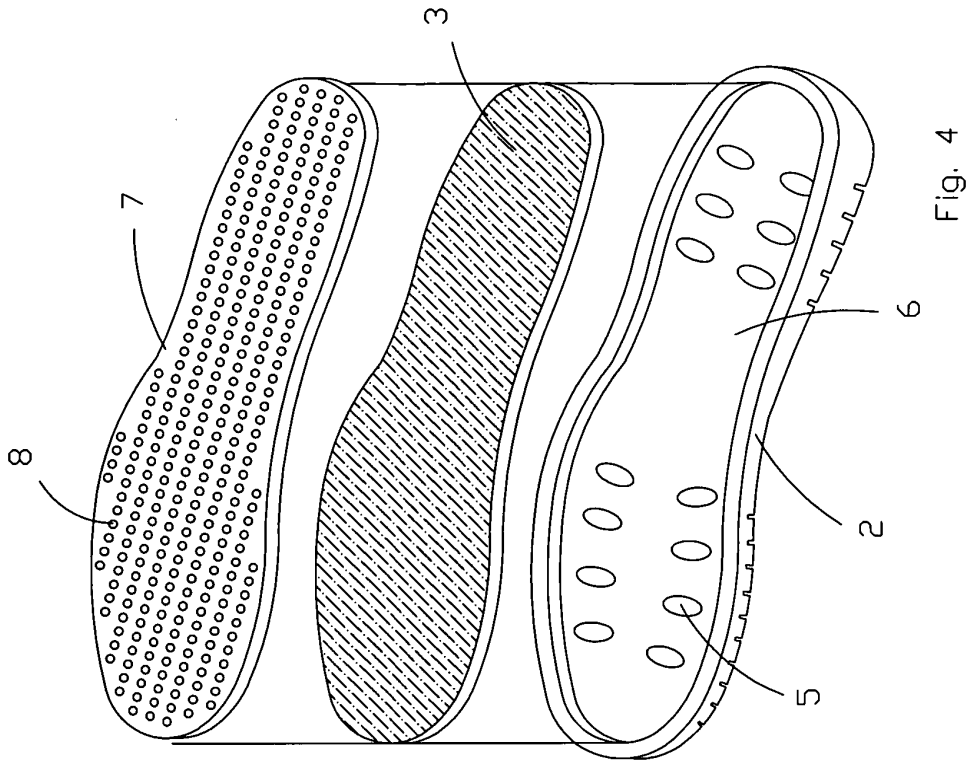
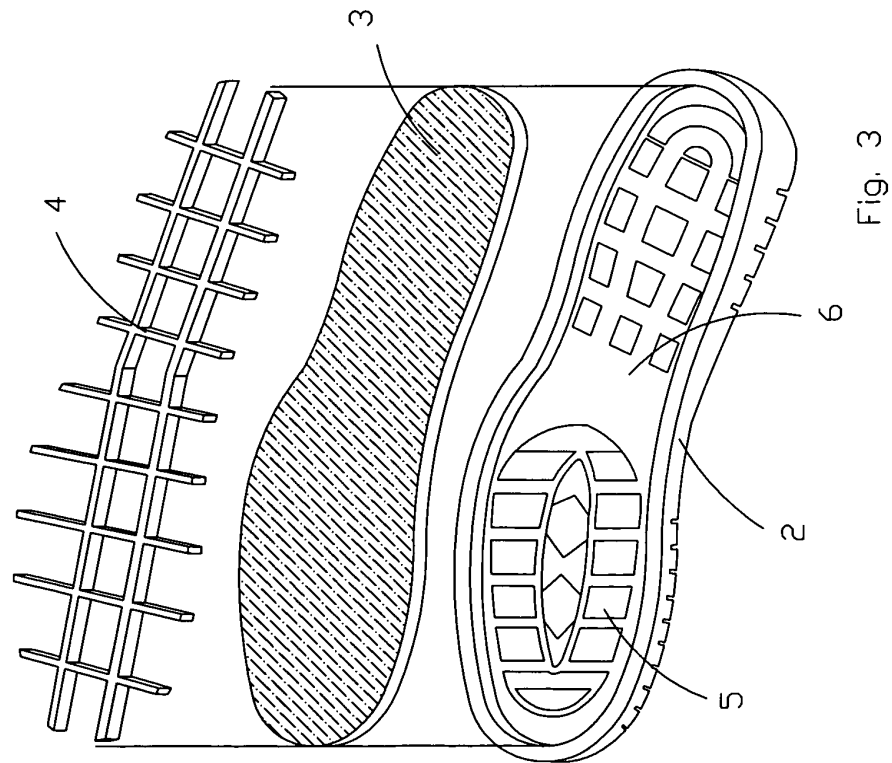


Fig. 2





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 05 01 0405

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	EP 0 121 645 A (DIAMANTI & C CREAZIONI FALC; CREAZIONI FALC S.N.C. DI PIETRO DIAMANTI) 17 October 1984 (1984-10-17) * page 3, line 16 - page 4, line 3 * -----	1-5,7,8	A43B7/12 A43B13/12 A43B13/24 A43B13/18
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		10 June 2005	Claudel, B
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 05 01 0405

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The members are as contained in the European Patent Office EDP file on
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