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(54) Non-slip sole structure for fishing shoes

(57) A non-slip sole structure of fishing shoes contains a sole (20), a profile of which corresponds to that of a bottom end of a body (10). The body (10) includes two groups of hooks (11), one being arranged on a forefoot position thereof and the other on a heel portion of the bottom end thereof. The sole (20) includes a slot (21) defined on a middle section thereof to space apart two group of hooks (11). Each hook (11) has two extending sections extending outward from a bottom end thereof, and a length of the slot is greater than a size of each hook (11), such that after the sole (20) is retained and glued with the bottom end of the body (10), a gap forms between the slot (21) and the two groups of hooks (11). The sole (20) also includes plural V-shaped cutouts (22) arranged on a forefoot position thereof and a heel portion thereof to correspond to and retain with the two groups of hooks (11).

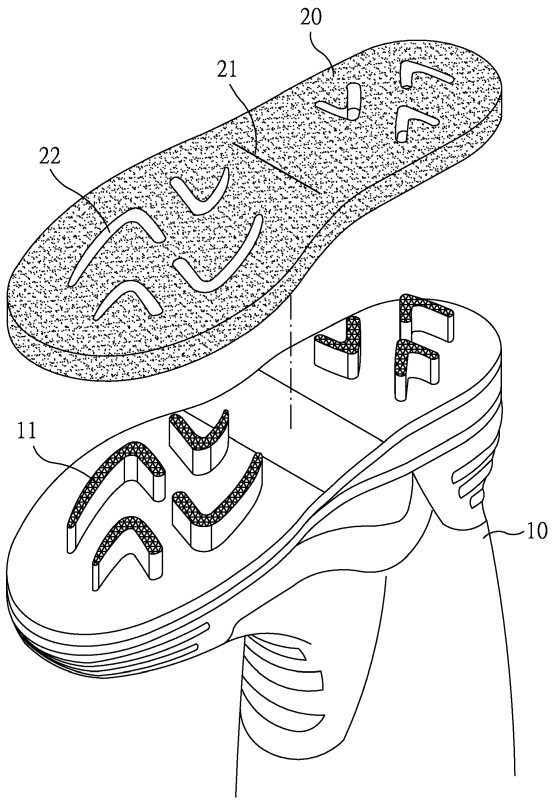

FIG. 1

EP 2 944 209 A1

Description

FIELD OF THE INVENTION

[0001] The present invention relates to fishing shoes, and more particularly to a non-slip sole structure for fishing shoes which keeps a shoe body stable in walking and stepping, when a sole is removed from a shoe body, by ways of two groups of hooks enhancing the grabbing friction and anti-slip function.

BACKGROUND OF THE INVENTION

[0002] Conventional fishing shoes are employed to walk in a river preventing to slip and containing a sole glued with a non-woven fabric on a bottom end of a shoe body to achieve friction resistance in stepping and walking. However, the sole removes from the bottom end of the shoe body easily.

[0003] To overcome such a problem, an improved non-slip sole structure is disclosed in US Publication No. 20130036633 and contains a plurality of regular or irregular protrusions which are formed in one piece on a bottom end of a shoe body and a plurality of cutouts defined on a sole to retain with the plurality of protrusions, and wherein the shoe body is glued with the sole to avoid a removal of the sole from the bottom end of the shoe body.

[0004] Nevertheless, a size of the bottom end of the shoe body is too small to cause sufficient friction resistance, and a size of each protrusion and the number of the plural protrusions is limited, hence when a user walks and steps on slippery surfaces, such as stones or wave dissipating concrete blocks, non-slip structures of fishing shoes cannot cause friction resistance against the slippery surfaces. Furthermore, since the sole is glued with the bottom end of the shoe body, the stretching capacity of the non-slip sole structure is restricted in walking and cannot change with a curvature of the shoe body.

[0005] The present invention has arisen to mitigate and/or obviate the afore-described disadvantages.

SUMMARY OF THE INVENTION

[0006] The primary objective of the present invention is to provide a non-slip sole structure for fishing shoes which keep a person' s body stable in walking and stepping even when a sole is partially removed from a shoe body by ways of two groups of hooks enhancing the grabbing friction and anti-slip function.

[0007] Another object of the present invention is to provide a non-slip sole structure for fishing shoes in which a gap is formed between a slot and two groups of hooks, and the sole also includes plural V-shaped cutouts arranged on a forefoot position thereof and a heel portion thereof to correspond to and retain with the two groups of hooks, so that the activity margin and deformation rate of the sole is increased when a curvature of the shoe body changes in walking or stepping.

[0008] To obtain the above objectives, a counterweight structure of a traffic cone provided by the present invention contains:

a sole, a profile of which corresponds to that of a bottom end of a shoe body, the body including two groups of hooks one piece arranged on a forefoot position thereof and a heel portion of the bottom end thereof, the sole including a slot defined on a middle section thereof to space apart two group of hooks.

[0009] Each hook has two extending sections extending outward from a bottom end thereof, and a length of the slot is greater than a size of each hook, such that after the sole is retained and glued with the bottom end of the shoe body, a gap is formed between the slot and the two groups of hooks to obtain high flexibility and deformation rates for the sole.

[0010] The sole also includes plural V-shaped cutouts arranged on a forefoot position thereof and a heel portion thereof to correspond to and retain with the two groups of hooks, such that activity margin and deformation rate of the sole is increased when a curvature of the shoe body changes in walking or stepping.

[0011] Preferably, the two groups of hooks are arranged in different directions.

[0012] Preferably, the two groups of hooks are arranged in only a single direction.

[0013] Preferably, the two groups of hooks are arranged regularly on the bottom of the shoe body.

[0014] Preferably, the two groups of hooks are arranged irregularly on the bottom of the shoe body.

[0015] Preferably, the two groups of hooks have different sizes. Preferably, each hook has two extending sections linearly extending toward two different directions from a bottom end thereof.

[0016] Preferably, each hook has two extending sections arcuately extending toward two different directions from a bottom end thereof.

[0017] The foregoing, as well as additional objects, features and advantages of the invention will be more readily apparent from the following detailed description, which proceeds with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

FIG. 1 is a perspective view showing the exploded components of a non-slip sole structure for fishing shoes according to a preferred embodiment of the present invention.

FIG. 2 is a perspective view showing the assembly of the non-slip sole structure for the fishing shoes according to the preferred embodiment of the present invention.

FIG. 3 is a bottom plane view showing the assembly of the non-slip sole structure for the fishing shoes

according to the preferred embodiment of the present invention.

FIG. 4 is a cross sectional view showing the assembly of the non-slip sole structure for the fishing shoes according to the preferred embodiment of the present invention.

FIG. 5 is a cross sectional view showing the application of the non-slip sole structure for the fishing shoes according to the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] With reference to FIGS. 1 to 5, a non-slip sole structure of fishing shoes according to a preferred embodiment of the present invention comprises a sole 20 made of non-woven fabric with a large friction resistance, wherein a profile of the sole 20 corresponds to that of a bottom end of a shoe body 10, and wherein the shoe body 10 includes two groups of hooks 11which are respectively arranged on a forefoot position and a heel position of the bottom end of a shoe body, wherein the two groups of hooks 11 are either arranged in different directions or only in a single direction, wherein the two groups of hooks 11 are either arranged regularly or irregularly on the shoe body 10. The two groups of hooks 11 can have different sizes and each hook 11 has two extending sections linearly or arcuately extending towards two different directions on a bottom end of a shoe body. The sole 20 further includes a slot 21 which is defined on a middle section of the bottom end of a shoe body 10 to separate the two groups of hooks 11, wherein a length of the slot 21 is greater than a size of each hook 11, so that after the sole 20 is retained and glued with the bottom end of the shoe body 10, a gap is formed between the slot 21 and the two groups of hooks 11 so that high flexibility and deformation rates of the sole 20 can be obtained. The sole 20 also includes plural V-shaped cutouts 22 respectively arranged on a forefoot position and a heel position thereof and corresponding to and retaining with the two groups of hooks 11 for increasing the activity margin and deformation rate of the sole 20 when a curvature of the shoe body 10 changes in walking or stepping.

[0020] Accordingly, the slot 21 of the sole 20 separates the two groups of hooks 11 of the shoe body 10, wherein the sole 20 also includes plural V-shaped cutouts 22 corresponding to and retaining with the two groups of hooks 11 of the shoe body 10, and thus enhancing the connecting capacity of the sole 20 and the shoe body 10. Preferably, when the sole 20 is removed from the shoe body 10, the shoe body 10 keeps stable in walking and stepping by means of the two groups of hooks 11, which thus enhance the grabbing friction and anti-slip function. A gap is formed between the slot 21 and the two groups of hooks 11 and the sole 20 further includes a plurality of V-shaped cutouts 22 which are respectively arranged on the forefoot position and the heel position of the sole 20 and correspond to and retain with the two groups of hooks 11, hence the activity margin and the deformation rate of the sole 20 is increased when the curvature of the shoe body 10 changes in walking or stepping.

[0021] Accordingly, the non-slip sole structure of the fishing shoes comprises two groups of hooks wherein these groups are respectively arranged on the forefoot position and the heel position of the bottom end of a shoe body 10, and each hook is formed in a V shape, wherein the length of a slot 21, formed between the two groups of hooks, is greater than the size of each hook, so that after the sole 20 is retained and glued with the bottom end of the shoe body10, a gap is formed between the slot 21 and the two groups of hooks 11 to obtain high flexibility and deformation rates for the sole 20. When the sole 20 is removed from the shoe body 10, the shoe body 10 keeps stable during walking and stepping by means of the two groups of hooks 11, which thus enhance grabbing friction and anti-slip function.

[0022] Accordingly a non-slip sole structure of fishing shoes contains a sole, a profile of which corresponds to that of a bottom end of a body. The body includes two groups of hooks, one being arranged on a forefoot position thereof and the other on a heel portion of the bottom end thereof. The sole includes a slot defined on a middle section thereof to space apart two group of hooks. Each hook has two extending sections extending outward from a bottom end thereof, and a length of the slot is greater than a size of each hook, such that after the sole is retained and glued with the bottom end of the body, a gap forms between the slot and the two groups of hooks. The sole also includes plural V-shaped cutouts arranged on a forefoot position thereof and a heel portion thereof to correspond to and retain with the two groups of hooks.

[0023] While the preferred embodiments of the invention have been set forth for the purpose of disclosure, modifications of the disclosed embodiments of the invention as well as other embodiments thereof may be obvious to those skilled in the art. Accordingly, the appended claims are intended to cover all embodiments which do not depart from the spirit and scope of the invention.

Claims

1. A non-slip sole structure of fishing shoes comprising a sole (20), a profile of which corresponds to that of a bottom end of a body (10), the body including two groups of hooks (11) one piece arranged on a forefoot position thereof and a heel portion of the bottom end thereof, the sole (20) including a slot (21) defined on a middle section thereof to space apart two group of hooks (11), **characterized in that**
each hook (11) has two extending sections extending outward from a bottom end thereof, and a length of the slot (21) is greater than a size of each hook (11), such that after the sole (20) is retained and

glued with the bottom end of the body (10), a gap forms between the slot (21) and the two groups of hooks (11) to obtain high flexibility and deformation rate of the sole (20);
the sole (20) also includes plural V-shaped cutouts (22) arranged on a forefoot position thereof and a heel portion thereof to correspond to and retain with the two groups of hooks (11), such that activity margin and deformation rate of the sole (20) is increased when a curve of the body (10) changes in walking or stepping.

2. The non-slip sole structure of the fishing shoes as claimed in claim 1, wherein the two groups of hooks (11) are arranged in different directions.

3. The non-slip sole structure of the fishing shoes as claimed in claim 1, wherein the two groups of hooks (11) are arranged in a direction.

4. The non-slip sole structure of the fishing shoes as claimed in claim 1, wherein the two groups of hooks (11) are arranged regularly on the body (10).

5. The non-slip sole structure of the fishing shoes as claimed in claim 1, wherein the two groups of hooks (11) are arranged irregularly on the body (10).

6. The non-slip sole structure of the fishing shoes as claimed in claim 1, wherein the two groups of hooks (11) are in different sizes.

7. The non-slip sole structure of the fishing shoes as claimed in claim 1, wherein each hook (11) has two extending sections linearly extending toward two different directions from a bottom end thereof.

8. The non-slip sole structure of the fishing shoes as claimed in claim 1, wherein each hook (11) has two extending sections arcuately extending toward two different directions from a bottom end thereof.

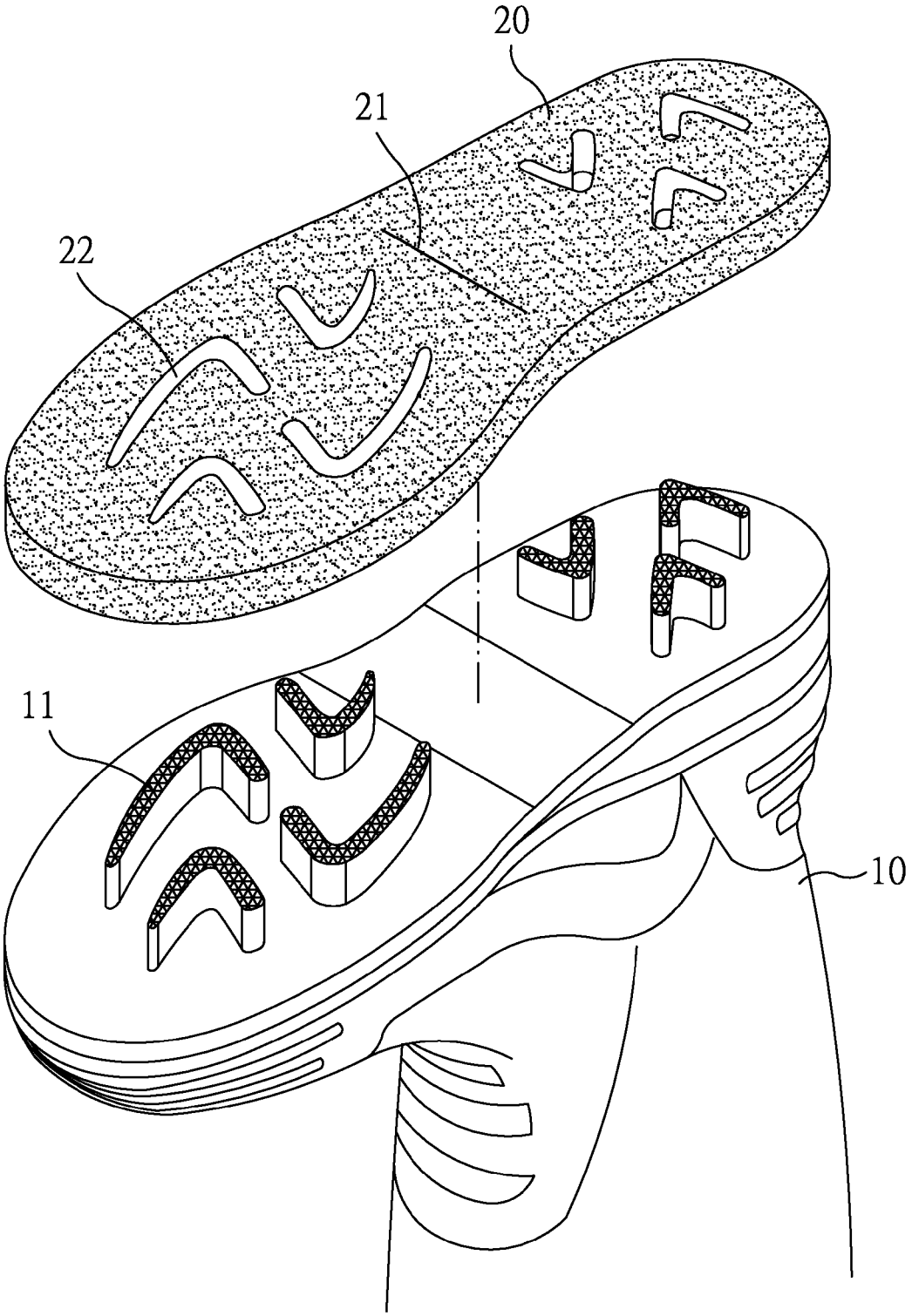

FIG. 1

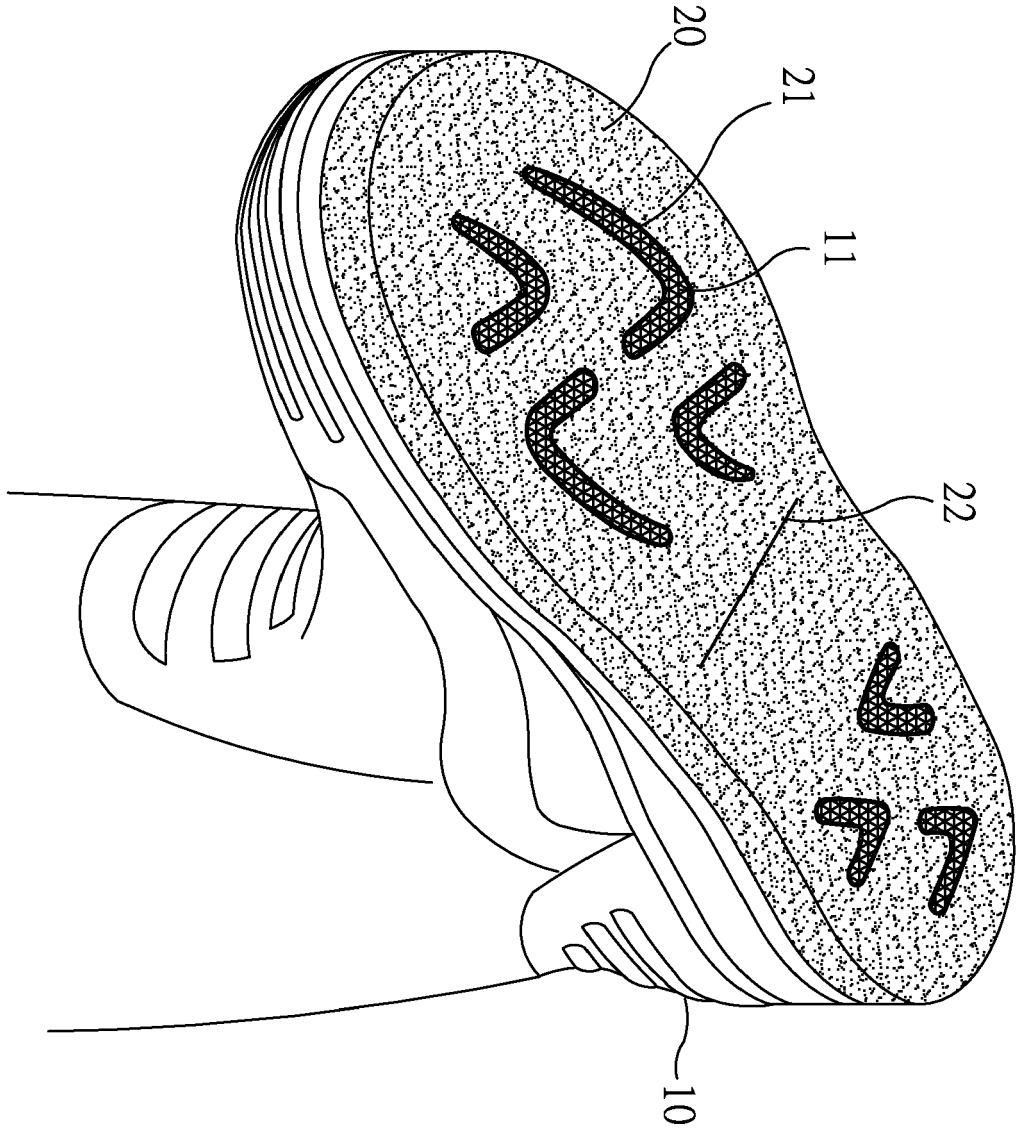

FIG. 2

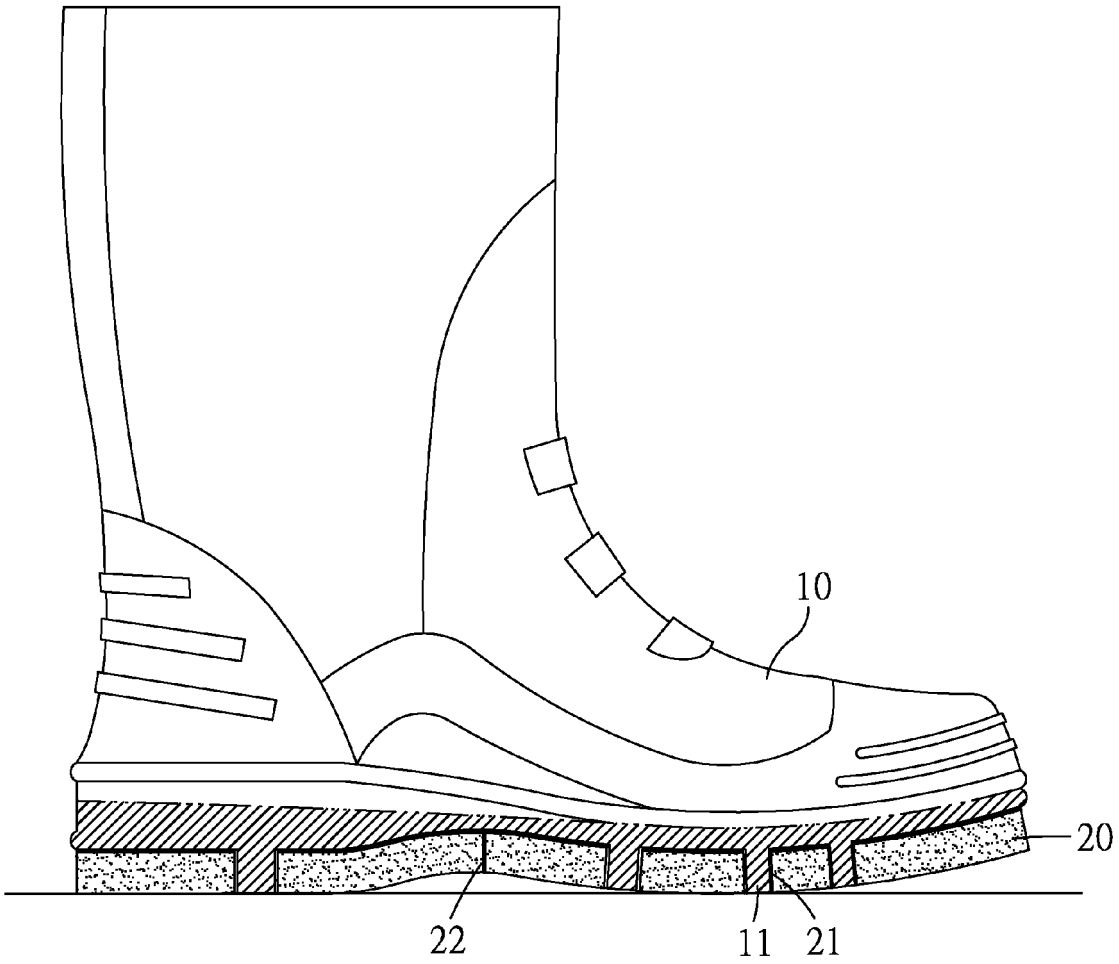

FIG. 4

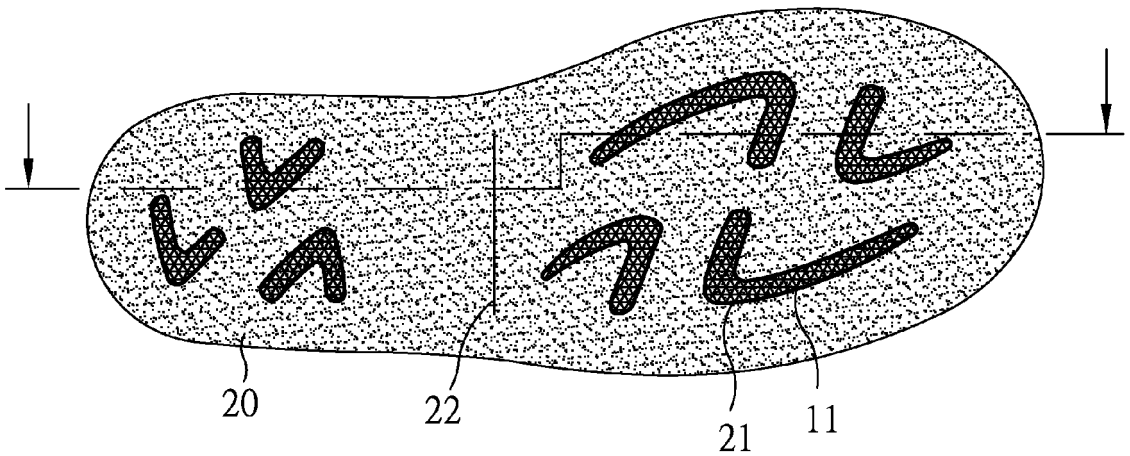

FIG. 3

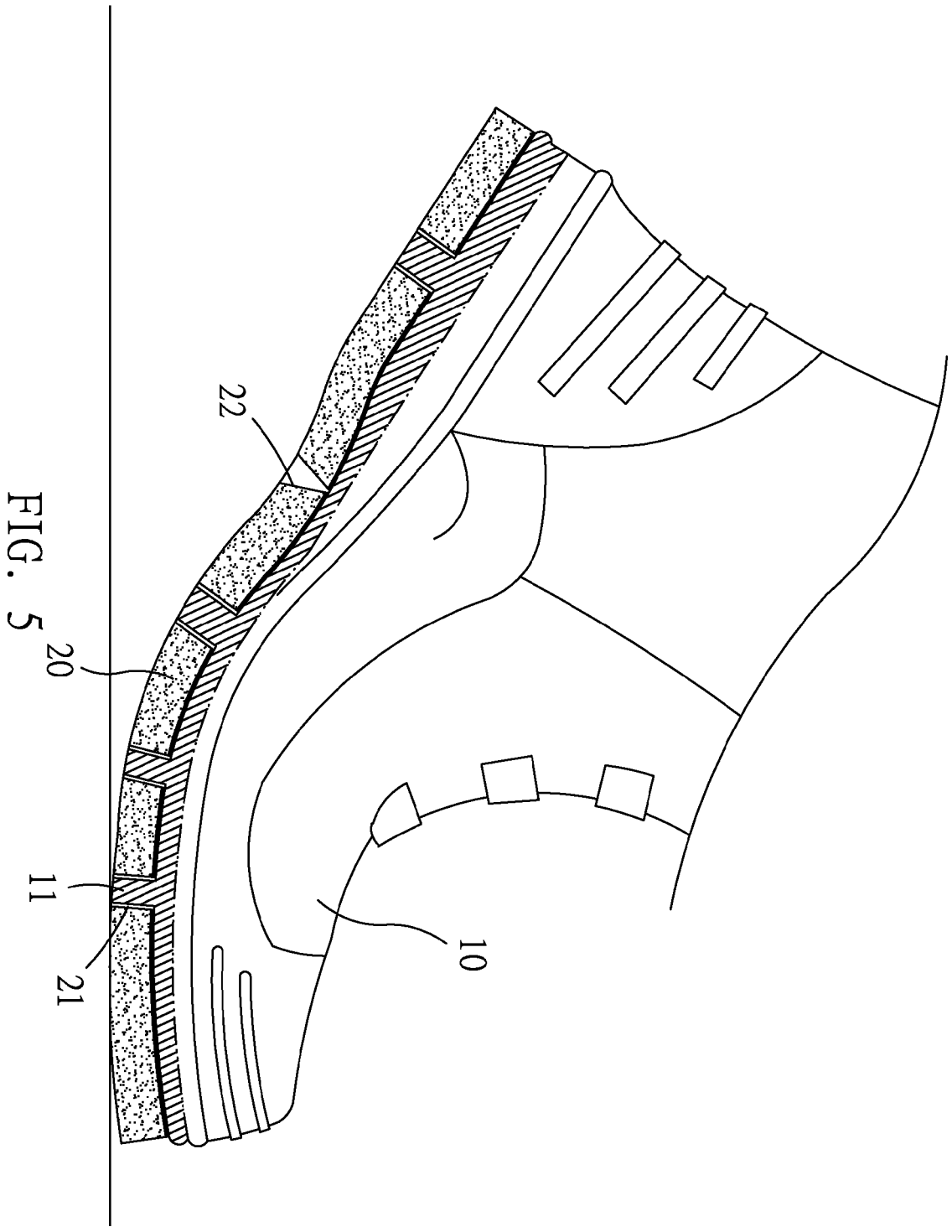

FIG. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 14 16 8531

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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	20 October 2014	Duquénoy, Alain

CATEGORY OF CITED DOCUMENTS

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EUROPEAN SEARCH REPORT

Application Number
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TECHNICAL FIELDS SEARCHED (IPC)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	20 October 2014	Duquénoy, Alain

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