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(54) **Non-slip sole structure for fishing shoes**

Rutschfeste Sohlenstruktur für Angelschuhe

Structure de semelle antidérapante pour chaussures de pêche

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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] From documents US 2013/0036633 A1 and US 4 747 220 A non-slip sole structures are known each comprising a sole body with a cleat structure formed on the bottom end of the sole body and a sole with cutouts corresponding in size and shape to the sizes and shapes of the cleats to be fixed to the sole body.

[0006] From documents US 2013/0074370 A1 and JP S51 98731 U a bowling shoe and a sport shoe are known each comprising a sole structure with transversely oriented slits for improved flexibility of the sole.

[0007] From documents FR 31 745 A, US 2 888 756 A, US 2005/097782 A1, US 4 393 604 A, FR 609 384 A, US 2009/249652 A1 and US 2004/000075 A1 several sport shoes are known each comprising sole structures with irregularly oriented cleats and spikes of X-, U- or V-shape.

[0008] The present invention has arisen to mitigate and/or obviate the afore-described disadvantages.

SUMMARY OF THE INVENTION

[0009] 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 if a sole is partially removed from a shoe body by ways of two groups of hooks enhancing the grabbing friction and anti-slip function.

[0010] 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.

[0011] 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.

[0012] 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.

[0013] 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.

[0014] Preferably, the two groups of hooks are arranged in different directions.

[0015] Preferably, the two groups of hooks are arranged in only a single direction.

[0016] Preferably, the two groups of hooks are arranged regularly on the bottom of the shoe body.

[0017] Preferably, the two groups of hooks are arranged irregularly on the bottom of the shoe body.

[0018] 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.

[0019] Preferably, each hook has two extending sections arcuately extending toward two different directions from a bottom end thereof. To summarize, the invention is defined in claim 1 and the preferred embodiments in the dependent claims 2-7.

[0020] 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

[0021]

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

[0022] 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 11 which 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.

[0023] 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, if 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. 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 body 10, 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. If 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.

[0024] 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.

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.

Patentansprüche

1. Rutschfeste Sohlenstruktur für Angelschuhe, umfassend eine Sohle (20), deren Profil mit demjenigen eines unteren Endes eines Körpers (10) korrespondiert, wobei der Körper zwei Gruppen von Haken (11) beinhaltet, wobei ein Teil an seiner Vorderfußposition und einem Fersenabschnitt von seinem unterem Ende angeordnet ist, wobei die Sohle (20) einen Schlitz (21) aufweist, der an einem Mittelabschnitt derselben ausgebildet ist, um die zwei Gruppen von Haken (11) voneinander zu trennen,
dadurch gekennzeichnet, dass
jeder Haken (11) zwei Erstreckungsabschnitte hat, welche sich von einem unteren Ende desselben nach außen erstrecken, wobei eine Länge des Schlitzes (21) größer ist als eine Größe von jedem Haken (11), sodass, nachdem die Sohle (20) an dem unteren Ende des Körpers (10) fixiert und verklebt wurde, ein Spalt zwischen dem Schlitz (21) und den beiden Gruppen von Haken (11) ausgebildet ist, um eine hohe Flexibilität und Verformungsrate für die Sohle (20) zu erreichen, wobei die Sohle (20) außerdem mehrere V-förmige Ausschnitte (22) aufweist, die an einer Vorderfußposition derselben und einem Fersenabschnitt derselben so angeordnet sind, dass sie mit den zwei Gruppen von Haken (11) korrespondieren und diese festhalten, sodass ein Bewegungsspielraum und eine Verformungsrate der Sohle (20) vergrößert werden, wenn sich eine Krümmung des Körpers (10) beim Gehen oder Treten ändert.

2. Rutschfeste Sohlenstruktur für Angelschuhe nach Anspruch 1, bei welcher die beiden Gruppen von Haken (11) in unterschiedlichen Richtungen angeordnet sind.

3. Rutschfeste Sohlenstruktur für Angelschuhe nach Anspruch 1, bei welcher die beiden Gruppen von Haken (11) in einer Richtung angeordnet sind.

4. Rutschfeste Sohlenstruktur für Angelschuhe nach Anspruch 1, bei welcher die beiden Gruppen von Haken (11) regelmäßig an dem Körper (10) angeordnet sind.

5. Rutschfeste Sohlenstruktur für Angelschuhe nach Anspruch 1, bei welcher die beiden Gruppen von Haken (11) unregelmäßig an dem Körper (10) angeordnet sind.

6. Rutschfeste Sohlenstruktur für Angelschuhe nach Anspruch 1, bei welcher die beiden Gruppen von Haken (11) in verschiedenen Größen ausgeführt sind.

7. Rutschfeste Sohlenstruktur für Angelschuhe nach Anspruch 1, bei welcher jeder Haken (11) zwei Erstreckungsabschnitte aufweist, die sich von einem unteren Ende davon linear in zwei unterschiedliche Richtungen erstrecken.

8. Rutschfeste Sohlenstruktur für Angelschuhe nach Anspruch 1, bei welcher jeder Haken (11) zwei Erstreckungsabschnitte aufweist, die sich von einem unteren Ende davon bogenförmig in zwei unterschiedliche Richtungen erstrecken.

Revendications

1. Structure de semelle antidérapante de chaussures de pêche comprenant une semelle (20), dont un profil correspond à celui d'une extrémité inférieure d'un corps (10), le corps comprenant deux groupes de crochets (11), une pièce agencée sur une position d'avant-pied de celui-ci et une portion de talon de l'extrémité inférieure de celui-ci, la semelle (20) comprenant une fente (21) définie sur une section centrale de celle-ci pour espacer deux groupes de crochets (11),
caractérisée en ce que
chaque crochet (11) comporte deux sections d'extension s'étendant vers l'extérieur depuis une extrémité inférieure de celui-ci, et une longueur de la fente (21) est supérieure à une taille de chaque crochet (11), de sorte que, après la fixation et le collage de la semelle (20) sur l'extrémité inférieure du corps (10), un espacement se forme entre la fente (21) et les deux groupes de crochets (11) pour obtenir une grande souplesse et un taux de déformation élevé de la semelle (20),
la semelle (20) comprend également plusieurs coupures en forme de V (22) agencées sur une position d'avant-pied de celle-ci et une portion de talon de celle-ci pour correspondre aux deux groupes de crochets (11) et être fixée par ceux-ci, de sorte qu'une marge d'activité et un taux de déformation de la semelle (20) soient accrus lorsqu'une courbe du corps (10) change en marchant.

2. Structure de semelle antidérapante de chaussures de pêche selon la revendication 1, dans laquelle les deux groupes de crochets (11) sont agencés dans des sens différents.

3. Structure de semelle antidérapante de chaussures de pêche selon la revendication 1, dans laquelle les deux groupes de crochets (11) sont agencés dans un sens.

4. Structure de semelle antidérapante de chaussures de pêche selon la revendication 1, dans laquelle les deux groupes de crochets (11) sont agencés régulièrement sur le corps (10).

5. Structure de semelle antidérapante de chaussures de pêche selon la revendication 1, dans laquelle les deux groupes de crochets (11) sont agencés irrégulièrement sur le corps (10).

6. Structure de semelle antidérapante de chaussures de pêche selon la revendication 1, dans laquelle les deux groupes de crochets (11) sont de tailles différentes.

7. Structure de semelle antidérapante de chaussures de pêche selon la revendication 1, dans laquelle chaque crochet (11) comporte deux sections d'extension s'étendant linéairement dans deux sens différents depuis une extrémité inférieure de celui-ci.

8. Structure de semelle antidérapante de chaussures de pêche selon la revendication 1, dans laquelle chaque crochet (11) comporte deux sections d'extension s'étendant de manière arquée dans deux sens différents depuis une extrémité inférieure de celui-ci.

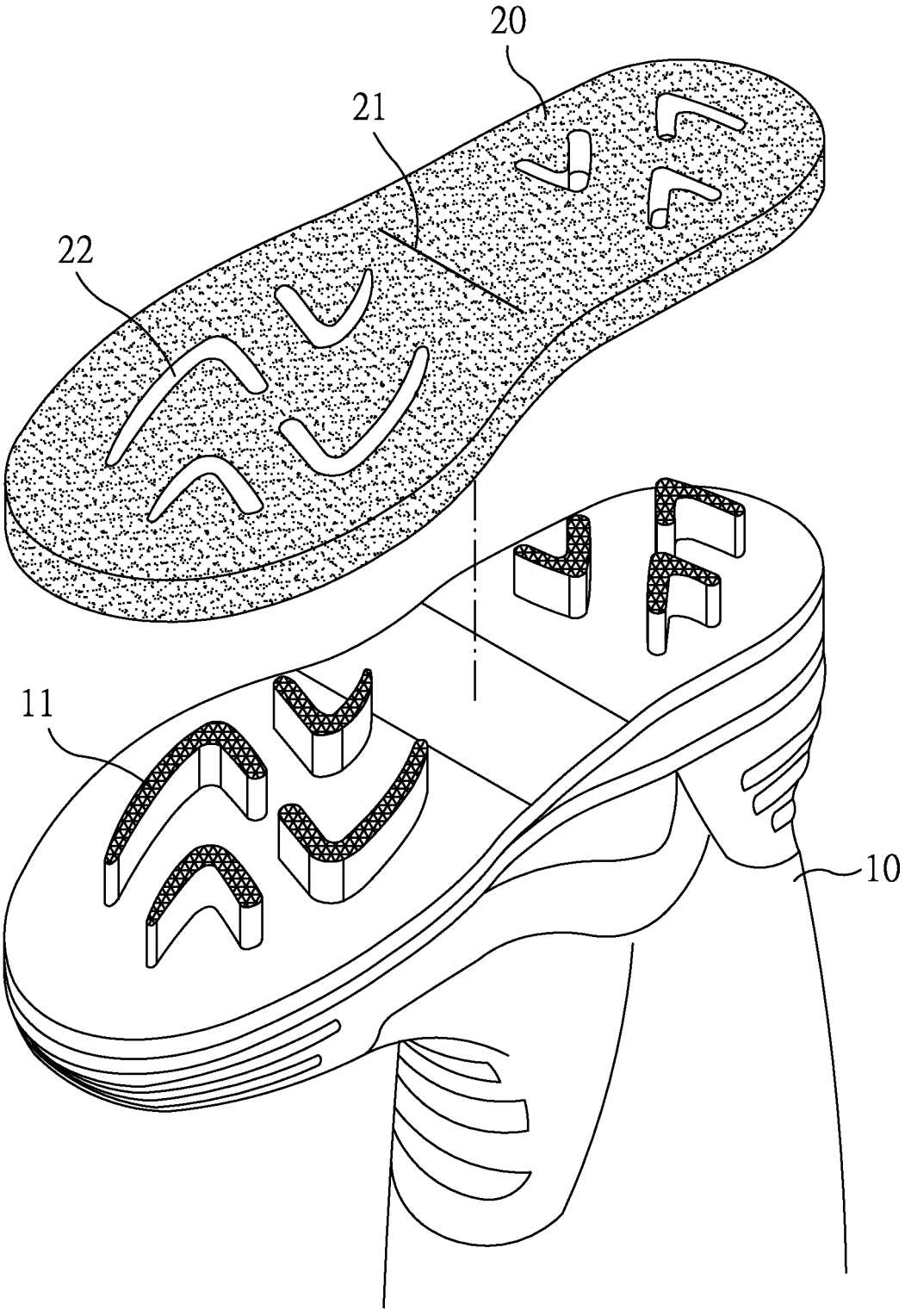


FIG. 1

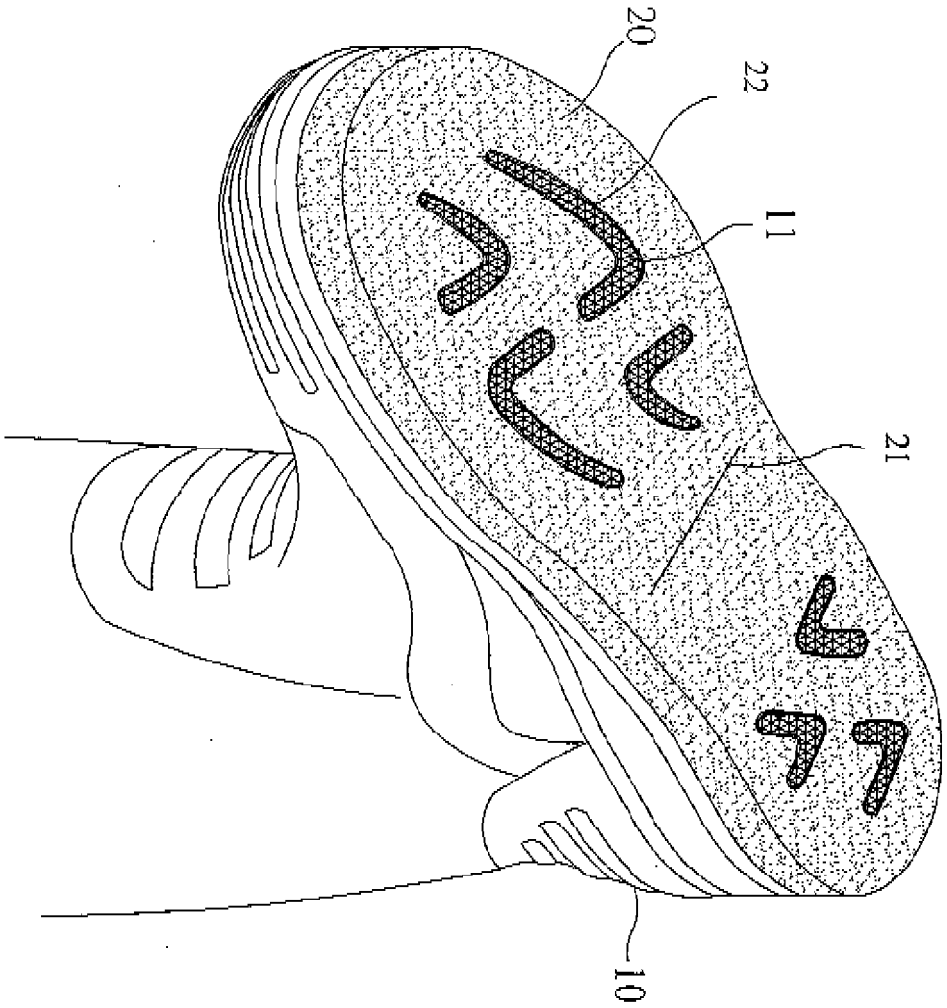


FIG. 2

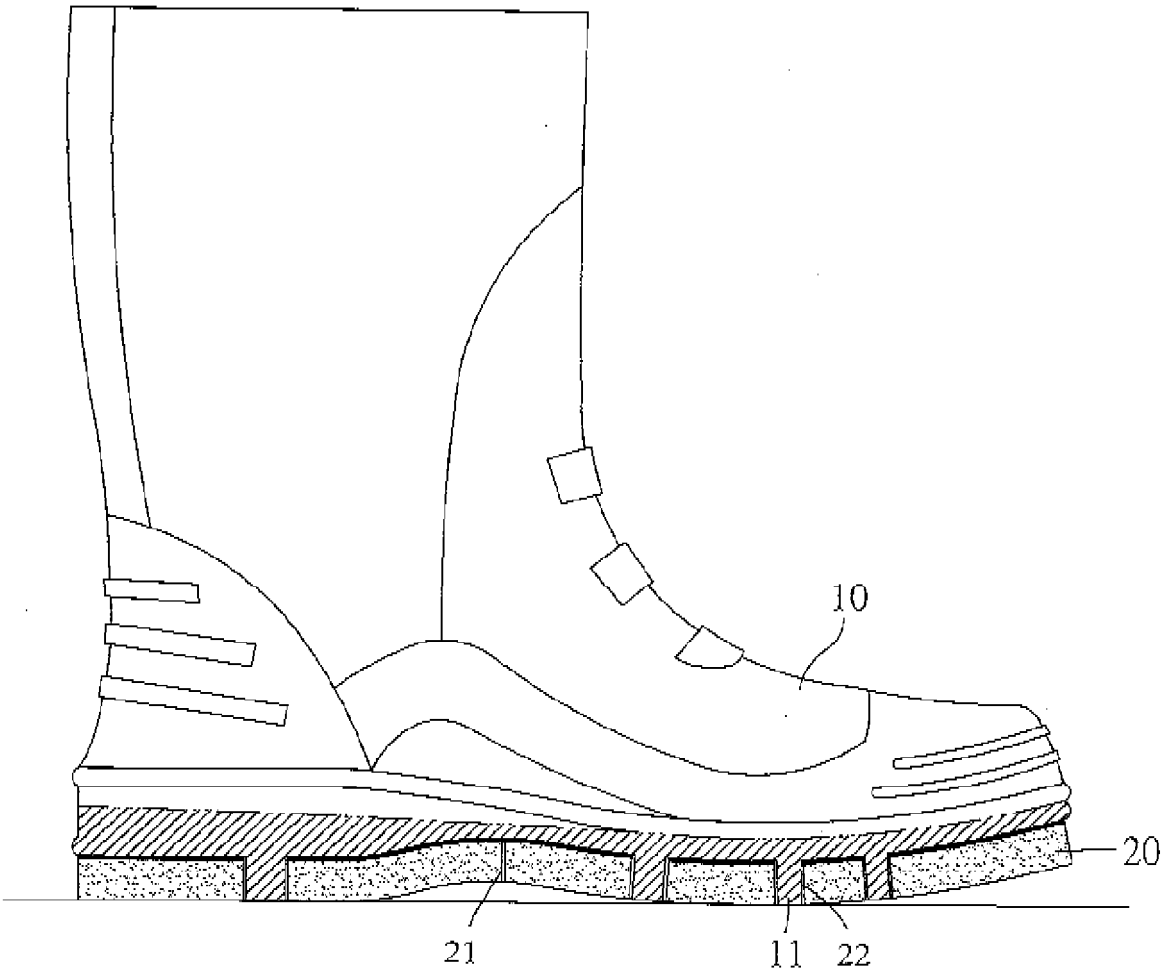


FIG. 4

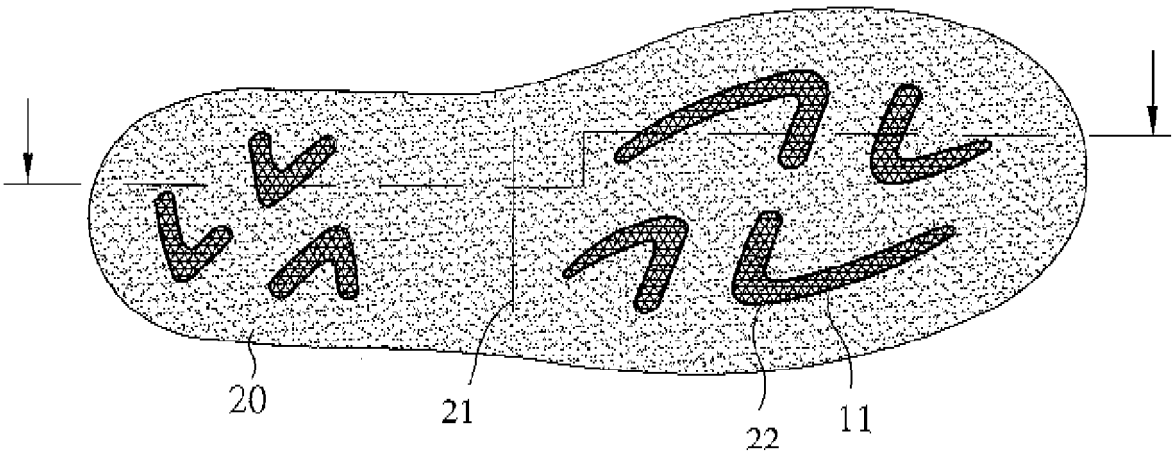


FIG. 3

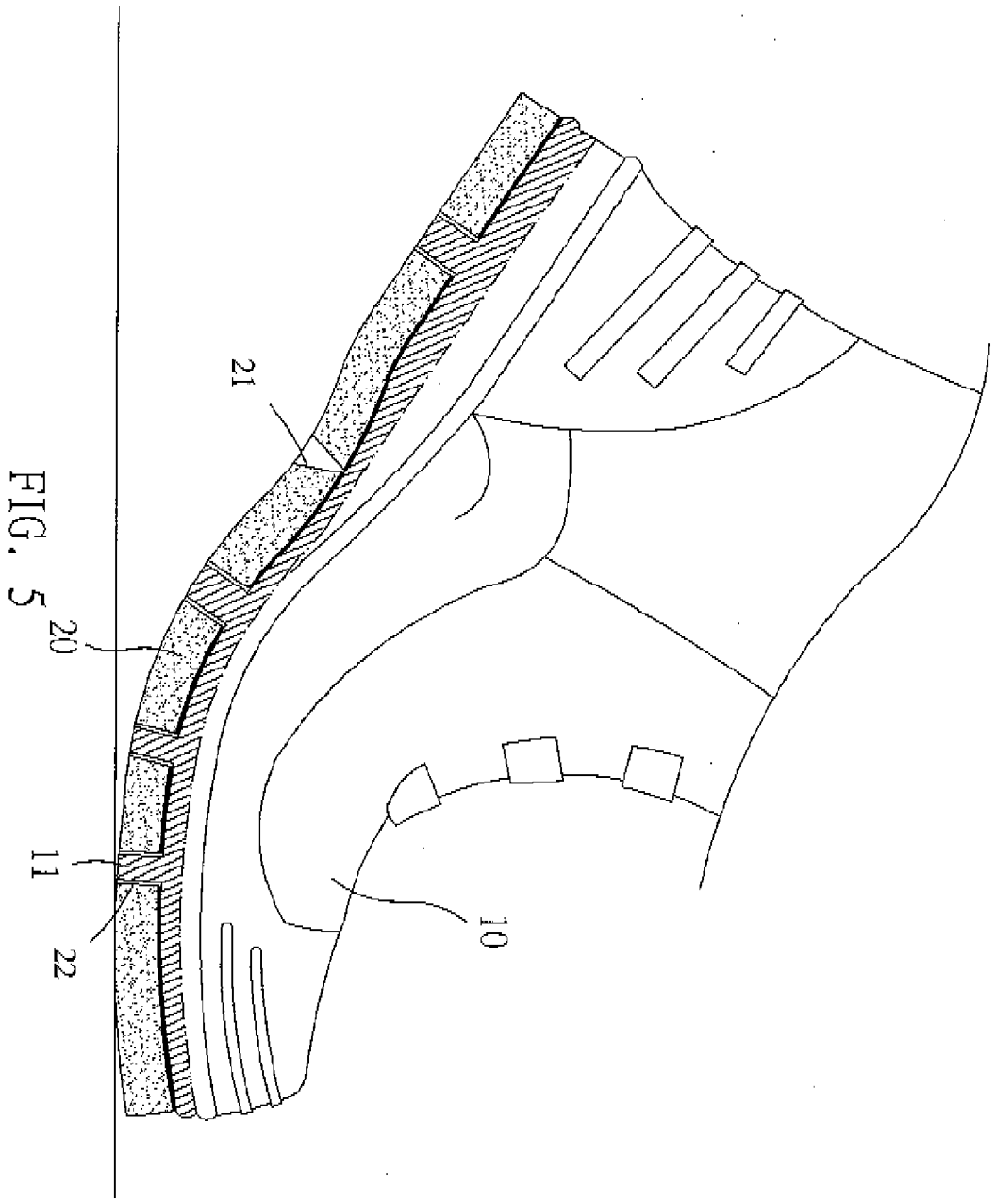


FIG. 5

REFERENCES CITED IN THE DESCRIPTION

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