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(72) Inventor: **KO, Meng-Lin**

Puyan Township, Changhua County (TW)

(74) Representative: **Lang, Christian**

LangPatent Anwaltskanzlei IP Law Firm

Ingolstädter Straße 5

80807 München (DE)

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(71) Applicant: **Jia Hao Plastics Factory Co., Ltd.**
Puyan Township, Changhua County (TW)

(54) **NON-SLIPPERY OUTSOLE ARTICLE**

(57) A non-slippery outsole article comprises a first sole (10) and a plurality of slip-resistant blocks (20). The first sole (10) has two opposite sections, a top section in contact with a shoe body and a bottom section in contact with ground. The slip-resistant blocks (20) are mounted

in partition at the bottom section of the first sole (10), a plurality of protrusions (11) being mounted on the top section of the first sole (10). The slip-resistant blocks (20) are made of rubber and have a rough surface capable of slip resistance.

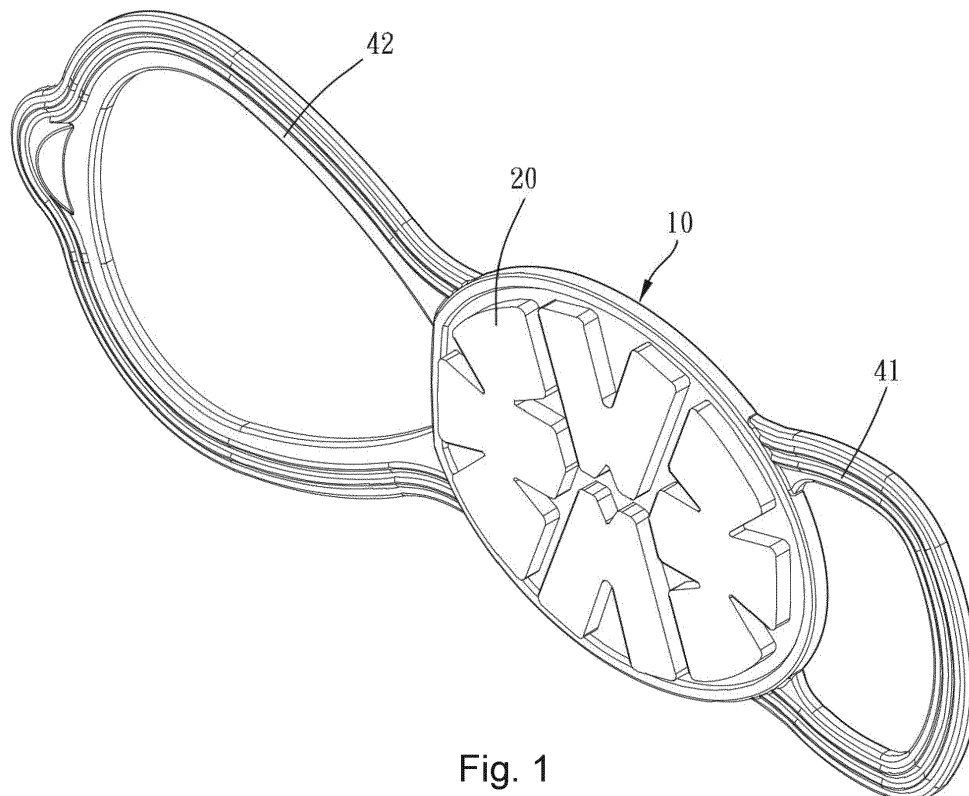


Fig. 1

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Description

BACKGROUND

Technical Field

[0001] The present disclosure relates to an outsole for footwear, and more particularly, to a non-slippery outsole article.

Related Art

[0002] Non-slippery article deployed with cleats at the outsole capable of slip resistance is commonly used in the icefield and snowfield. However, the exposed cleats of the non-slippery outsole are easily hurt the others or the user themselves. Besides, the friction happens between the outsole and the ice field tend to wear off the cleats, for this reason, a frequent replacement of the outsole article is necessary.

SUMMARY

[0003] In view of the shortcomings and defects of the existing non-slippery outsole article, the present disclosure is directed to a safe, durable, and slip-resistant outsole article and features in various aspects to solve the above problems.

[0004] The present disclosure provides a non-slippery outsole article, comprising a first sole and a plurality of slip-resistant blocks. The first sole has two opposite sections, a top section in contact with a shoe body and a bottom section in contact with ground. The slip-resistant blocks are mounted in partition at the bottom section of the first sole. A plurality of protrusions are mounted on the top section of the first sole. The slip-resistant blocks have a rough surface capable of slip resistance and durability. The first sole and the slip-resistant blocks are made of rubber. The hardness of the slip-resistant blocks is greater than the hardness of the first sole.

[0005] In some embodiments, an elastic front strip and an elastic rear strip are deployed at the opposite ends of the first sole forming the non-slippery outsole article.

[0006] In some embodiments, a stopper and slip-resistant blocks are mounted in partition of the first sole. A limit portion is mounted in a circumferential direction around the edge of the first sole. When the first sole is being forced, the stopper avoids the slip-resistant blocks being deviated and deformed, and the limit portion impedes the first sole being influenced from the pressure generated by the force. The stopper and the limit portion are made of plastic. The hardness of the stopper is greater than the hardness of the slip-resistant blocks. The hardness of the limit portion is greater than the hardness of the slip-resistant blocks.

[0007] In some embodiments, the elastic strip is attached to the first sole to form the non-slippery outsole article.

[0008] In some embodiments, the non-slippery outsole article comprises a second sole deployed with a plurality of elastic strips. The elastic strips are attached to the first sole and the second sole respectively to form the non-slippery outsole article. A plurality of protrusions are mounted on the top section of the second sole. A plurality of slip-resistant blocks and the stopper are mounted in partition to the bottom section of the second sole. The slip-resistant blocks are made of rubber and have a rough surface. A limit portion is mounted in a circumferential direction around the edge of the second sole. The stopper and the limit portion serve to avoid the slip-resistant blocks being deviated and deformed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

FIG 1. illustrates a bottom view according to the first embodiment of the instant disclosure;

FIG 2. illustrates a top view according to the first embodiment of the instant disclosure;

FIG 3. illustrates a bottom view according to the second embodiment of the instant disclosure;

FIG 4. illustrates a side view according to the second embodiment of the instant disclosure;

FIG 5. illustrates a top view according to the second embodiment of the instant disclosure;

FIG 6. illustrates a bottom view according to the third embodiment of the instant disclosure;

FIG 7. illustrates a top view according to the third embodiment of the instant disclosure;

FIG 8. illustrates a side view according to the third embodiment of the instant disclosure.

DETAILED DESCRIPTION

[0010] In order to better understand the present disclosure, the present disclosure will be described more fully with reference to the accompanying drawings. The drawings show a preferred embodiment of the disclosure. However, the present disclosure is implemented in many different forms and is not limited to the embodiments described below.

[0011] Please refer to FIG. 1 and FIG. 2, a non-slippery outsole article comprises a first sole (10) and a plurality of slip-resistant blocks (20). The first sole (10) has two opposite sections, a top section in contact with a shoe body and a bottom section in contact with ground. The slip-resistant blocks (20) are mounted in partition to the bottom section of the first sole (10). A plurality of protrusions (11) are mounted on the top section of the first sole (10). The first sole (10) and the slip-resistant blocks (20) are made of rubber. The hardness of the slip-resistant blocks (20) is greater than the hardness of the first sole (10).

[0012] When the shoe body contacts the top section of the first sole (10), a plurality of protrusions (11) touch

against the shoe body to provide slip resistance in help of shoe positioning on the ground. The slip-resistant blocks (20) are made of rubber and have a rough surface. Compared to the cleats, the slip-resistant blocks made of rubber are comparatively safer than the slip-resistant anchored by cleats to the wearers. In addition, the rubber material has characteristics of low temperature, durability, slip resistance, and anti-friction. The non-slippery outsole article provides slip resistance against the ground covered by ice or snow.

[0013] An elastic front strip (41) and an elastic rear strip (42) are deployed at the opposite ends of the first sole (10) forming the non-slippery outsole article. The elastic front strip (41) and the elastic rear strip (42) serve to position the non-slippery outsole article onto the shoe body by way of sleeving the elastic front strip (41) to the front end of shoe and the elastic rear strip (42) at the rear end of shoe.

[0014] Please refer to FIG. 3 to FIG. 5, the second embodiment of the present disclosure, an elastic strip (51) is attached to the first sole (10) to form the non-slippery outsole article. The operation of the non-slippery outsole article is to sleeve the opposite ends of the elastic strip (51) at the front end of shoe and the rear end of the shoe respectively. The first sole (10) has a limit portion (52) mounted in a circumferential direction around the edge of the slip-resistant blocks (20), thus, the top section of the first sole (10) has convex radians in edge-to-center formation protruding from the bottom section of the first sole (10). When the first sole (10) touches the ground, the first sole (10) deforms into a flat shape when under pressure of the body weight. The limit portion (52), defining the shape of the first sole (10), lessens the deformation of the pressure generated by the body weight.

[0015] In the second embodiment of the present disclosure, a stopper (30) and the slip-resistant blocks (20) are mounted on the middle section of the first sole (10). When the first sole (10) is being forced, the stopper (30) avoids the slip-resistant blocks (20) being deviated and deformed in help of positioning. The stopper (30) and the limit portion (52) are made of plastic. The hardness of the stopper (30) is greater than the hardness of the slip-resistant blocks (20). The hardness of the limit portion (52) is greater than the hardness of the slip-resistant blocks (20).

[0016] Please refer to FIG. 6 to FIG. 8, the third embodiment of the present disclosure, the non-slippery outsole article comprises a second sole (60) deployed with a plurality of elastic strips (61). The elastic strips (61) are attached to the first sole (10) and the second sole (20) respectively to form the non-slippery outsole article. The second sole (60) has two opposite sections, a top section in contact with a shoe body and a bottom section in contact with the ground. The top section of the second sole (60) has convex radians in edge-to-center formation and the bottom section has a plurality of protrusions (64) distribution. When the shoe body contacts the top section of the second sole (60), a plurality of protrusions (64)

touch against the shoe body for slip resistance and positioning concerns. A plurality of slip-resistant blocks (65) and a stopper (63) are mounted in partition on the bottom section of the second sole (60). The stopper (63) is mounted on the middle section of the second sole (60). A limit portion (62) is mounted in a circumferential direction around the edge of the second sole (60). When the second sole (60) touches the ground, pressure generated by the body weight forces the second sole (60) to deform into a flat shape. The limit portion (62) defines the shape of the second sole (60) lessening the deformation generated from the pressure. The stopper (63) avoids the slip-resistant blocks (65) being deviated and deformed in help of positioning. The slip-resistant blocks (65) are made of rubber and have a rough surface. Compared to the cleats, the slip-resistant blocks made of rubber are comparatively safer than the slip-resistant anchored by cleats to the wearers. The non-slippery outsole article provides slip resistance against the ground covered by ice or snow.

[0017] In the third embodiment of the present disclosure, the non-slippery outsole article comprises a front sleeve and a rear sleeve. The front sleeve is deployed at the front end of the top section of the second sole (60). The rear sleeve is deployed at the rear end of the top section of the first sole (10). The first sole (10) and the second sole (60) are deployed with a plurality of cutouts therebetween. The front sheath and the rear sheath are respectively sleeved at the front end and the rear end of shoe, and are arranged with a plurality of cutouts in an anatomical distribution for fitting consideration. The arrangement of cutouts enables the non-slippery outsole article to couple onto the wearer's shoe in an unshakable but detachable manners.

Claims

1. A non-slippery outsole article, comprising:

a first sole (10) and a plurality of slip-resistant blocks (20);
wherein the first sole (10) has two opposite sections, a top section and a bottom section;
wherein the slip-resistant blocks (20) are mounted in partition on the bottom section of the first sole (10);
wherein the slip-resistant blocks (20) have a rough surface.

2. The non-slippery outsole article according to claim 1, wherein the first sole (20) and the slip-resistant blocks (20) are made of rubber, wherein the hardness of the slip-resistant blocks (20) is greater than the hardness of the first sole (10).

3. The non-slippery outsole article according to claim 1, wherein a plurality of protrusions (11) are mounted

on the top section of the first sole (10).

4. The non-slippery outsole article according to claim 1, wherein a stopper (30) and the slip-resistant blocks (20) are mounted in partition on the first sole (10).
5. The non-slippery outsole article according to claim 1, wherein a limit portion (52) is mounted in a circumferential direction around the edge of the first sole (10).
6. The non-slippery outsole article according to claims 4, wherein the stopper (30) and the limit portion (52) are made of plastic, wherein the hardness of the stopper (30) is greater than the hardness of the slip-resistant blocks (20), wherein the hardness of the limit portion (52) is greater than the hardness of the slip-resistant blocks (20).
7. The non-slippery outsole article according to claim 1, wherein an elastic front strip (41) and an elastic rear strip (42) are deployed at the opposite ends of the first sole (10).
8. The non-slippery outsole article according to claim 1, wherein the first sole (10) is deployed with an annular elastic strip (51).
9. The non-slippery outsole article according to claim 1, wherein the non-slippery outsole article comprises a second sole (60), wherein the second sole (60) has two opposite sections, a top section and a bottom section, wherein a plurality of slip-resistant blocks (65) and a stopper (63) mounted in partition on the bottom section of the second sole (60), wherein the slip-resistant blocks (65) are made of rubber and have a rough surface.
10. The non-slippery outsole article according to claim 9, wherein a plurality of elastic strips (51, 61) are respectively attached to the first sole (10) and the second sole (60) in help of forming the non-slippery outsole article.

Amended claims in accordance with Rule 137(2) EPC.

1. A non-slippery outsole article, comprising:
a first sole (10) and a plurality of slip-resistant blocks (20);
wherein the first sole (10) has two opposite sections, a top section and a bottom section;
wherein the slip-resistant blocks (20) are mounted in partition on the bottom section of the first sole (10);
wherein the slip-resistant blocks (20) have a rough surface;

characterized in that

a plurality of protrusions (11) are mounted on the top section of the first sole (10).

2. The non-slippery outsole article according to claim 1, wherein the first sole (20) and the slip-resistant blocks (20) are made of rubber, wherein the hardness of the slip-resistant blocks (20) is greater than the hardness of the first sole (10).
3. The non-slippery outsole article according to claim 1, wherein a stopper (30) and the slip-resistant blocks (20) are mounted in partition on the first sole (10).
4. The non-slippery outsole article according to claim 1, wherein a limit portion (52) is mounted in a circumferential direction around the edge of the first sole (10).
5. The non-slippery outsole article according to claims 3 or 4, wherein the stopper (30) and the limit portion (52) are made of plastic, wherein the hardness of the stopper (30) is greater than the hardness of the slip-resistant blocks (20), wherein the hardness of the limit portion (52) is greater than the hardness of the slip-resistant blocks (20).
6. The non-slippery outsole article according to claim 1, wherein an elastic front strip (41) and an elastic rear strip (42) are deployed at the opposite ends of the first sole (10).
7. The non-slippery outsole article according to claim 1, wherein the first sole (10) is deployed with an annular elastic strip (51).
8. The non-slippery outsole article according to claim 1, wherein the non-slippery outsole article comprises a second sole (60), wherein the second sole (60) has two opposite sections, a top section and a bottom section, wherein a plurality of slip-resistant blocks (65) and a stopper (63) mounted in partition on the bottom section of the second sole (60), wherein the slip-resistant blocks (65) are made of rubber and have a rough surface.
9. The non-slippery outsole article according to claim 8, wherein a plurality of elastic strips (51, 61) are respectively attached to the first sole (10) and the second sole (60) in help of forming the non-slippery outsole article.

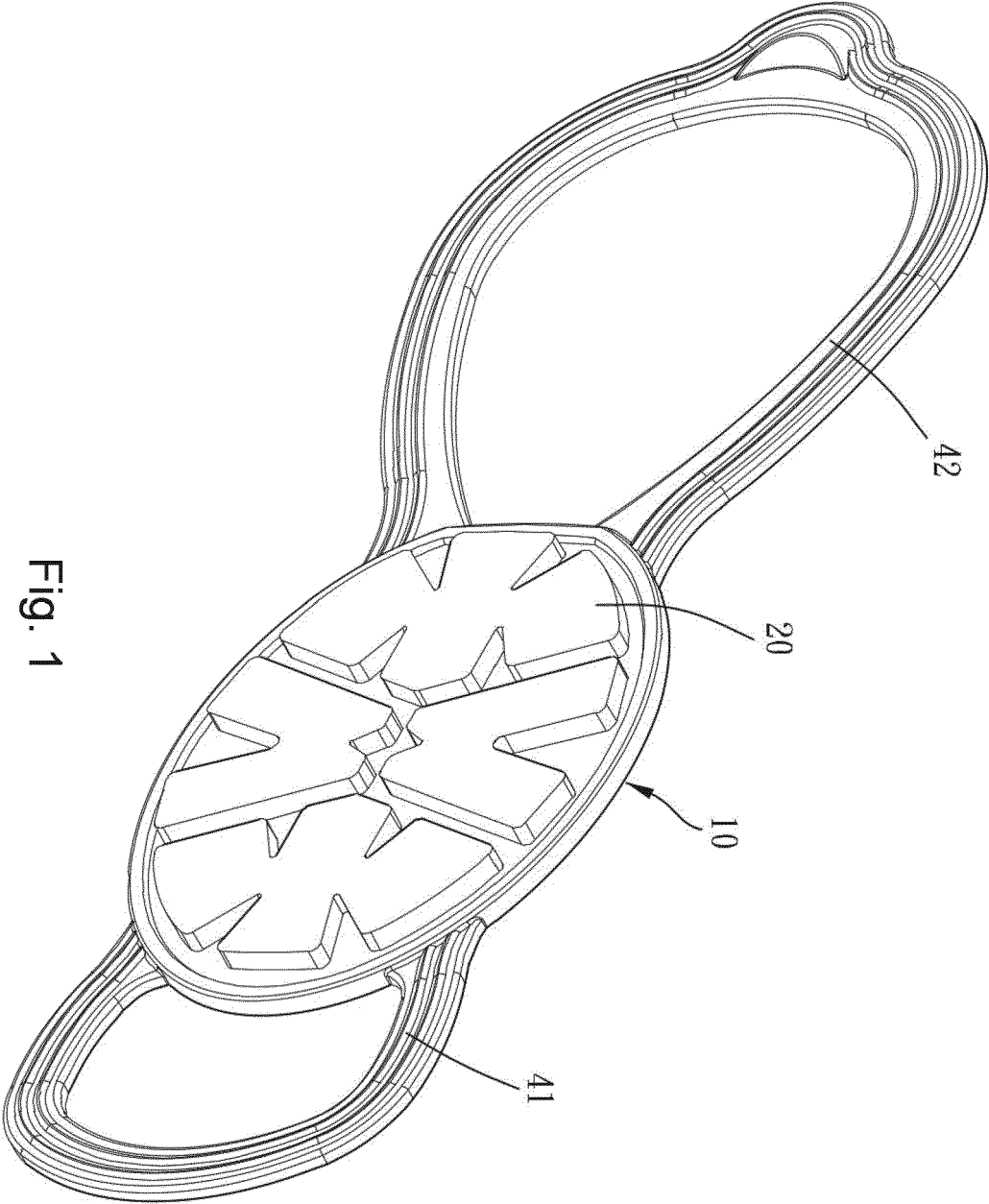


Fig. 1

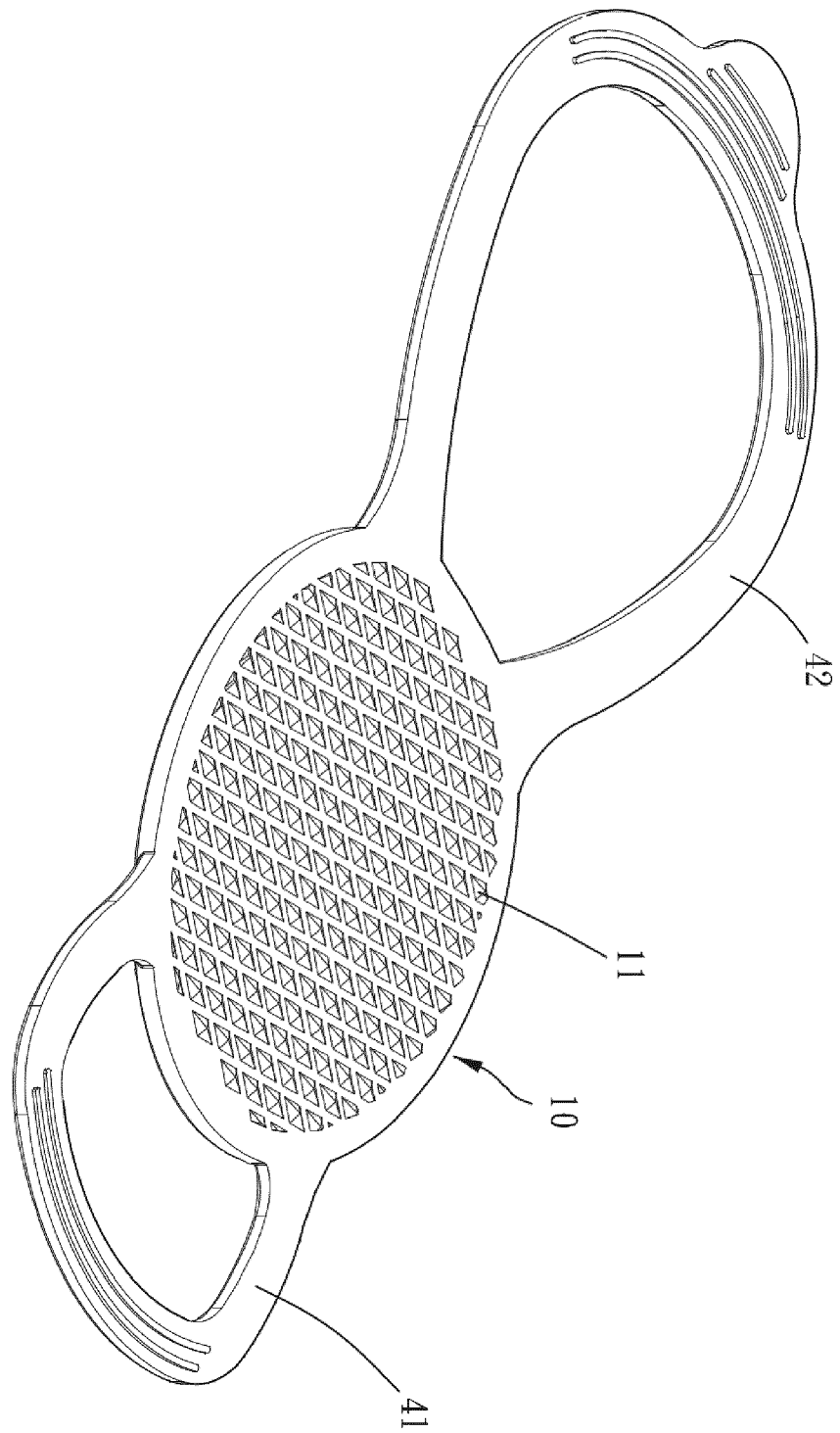
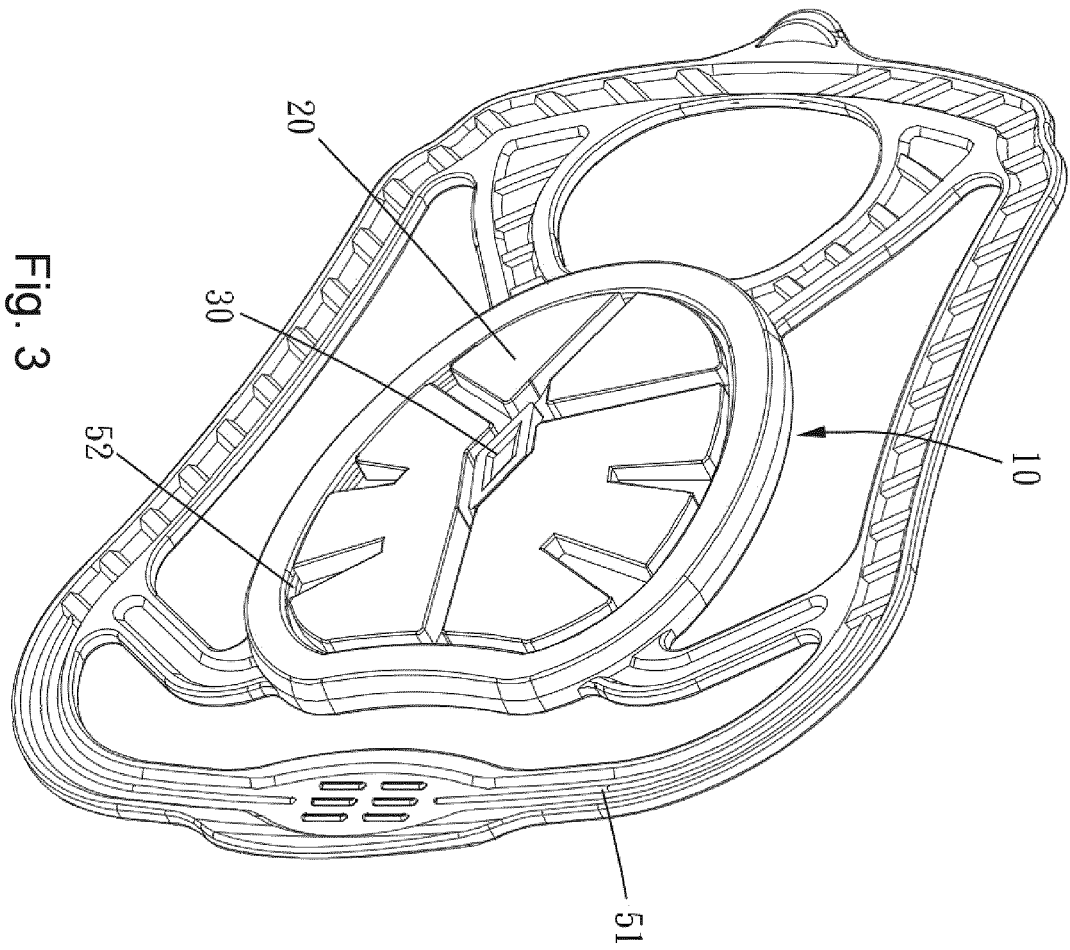


Fig. 2



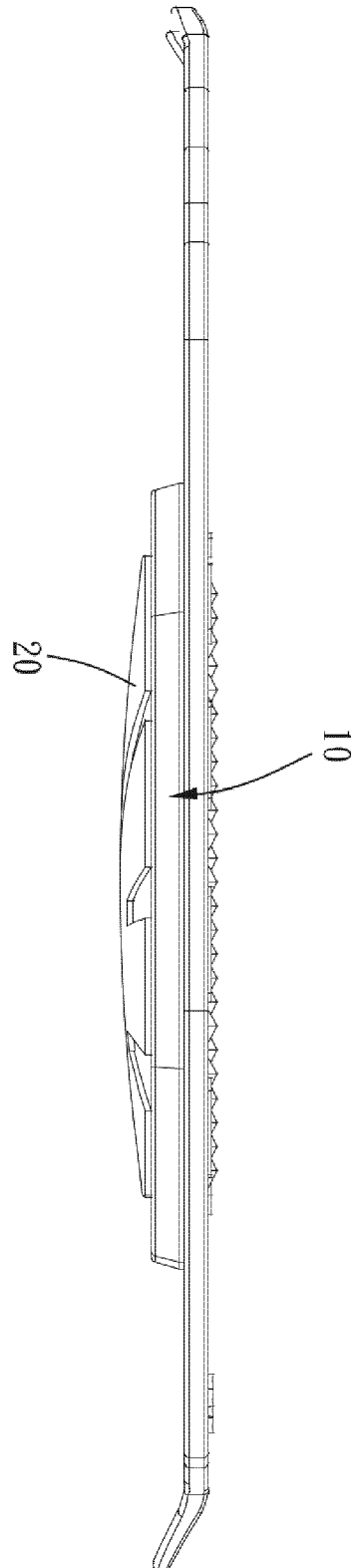


Fig. 4

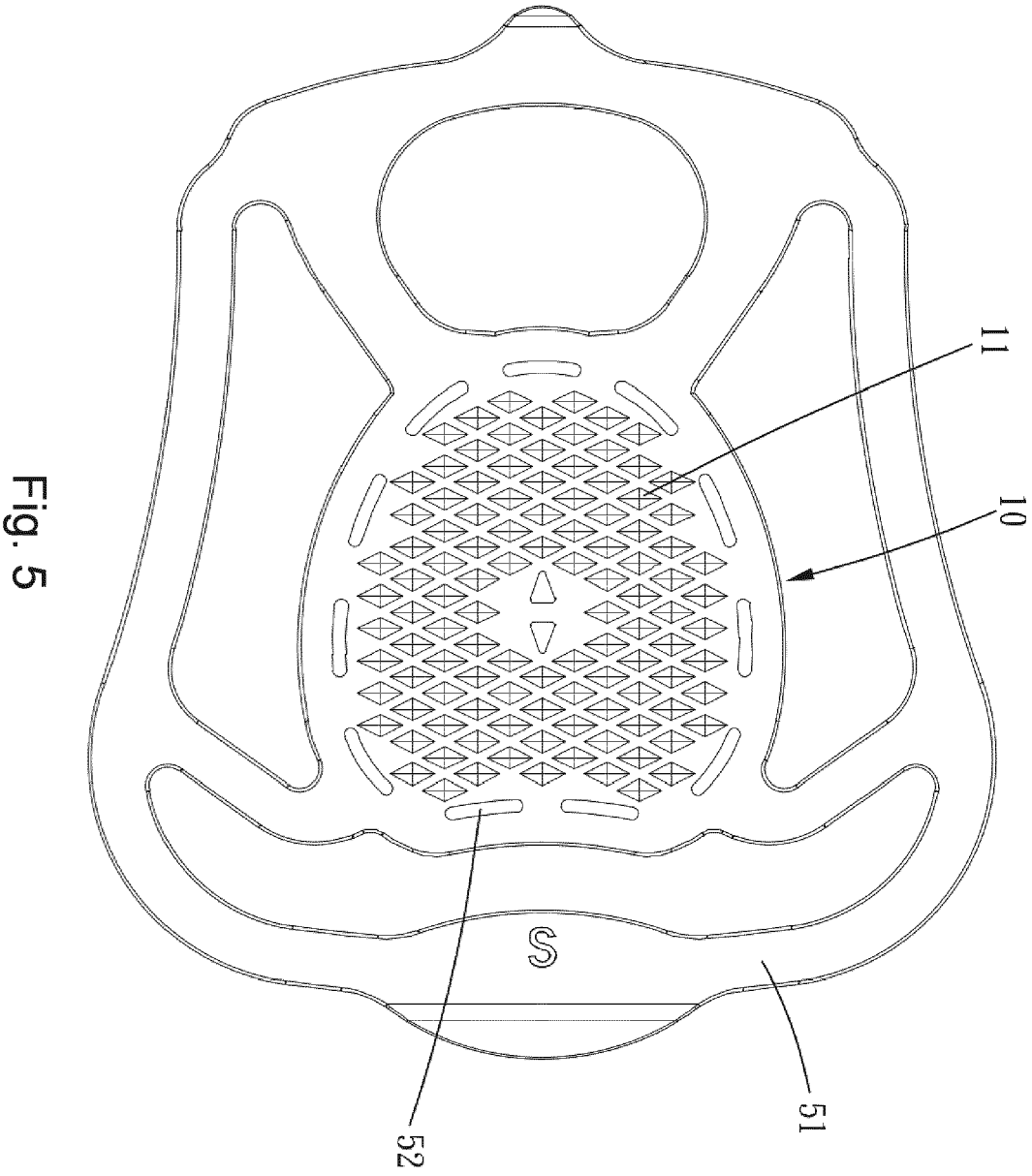


Fig. 5

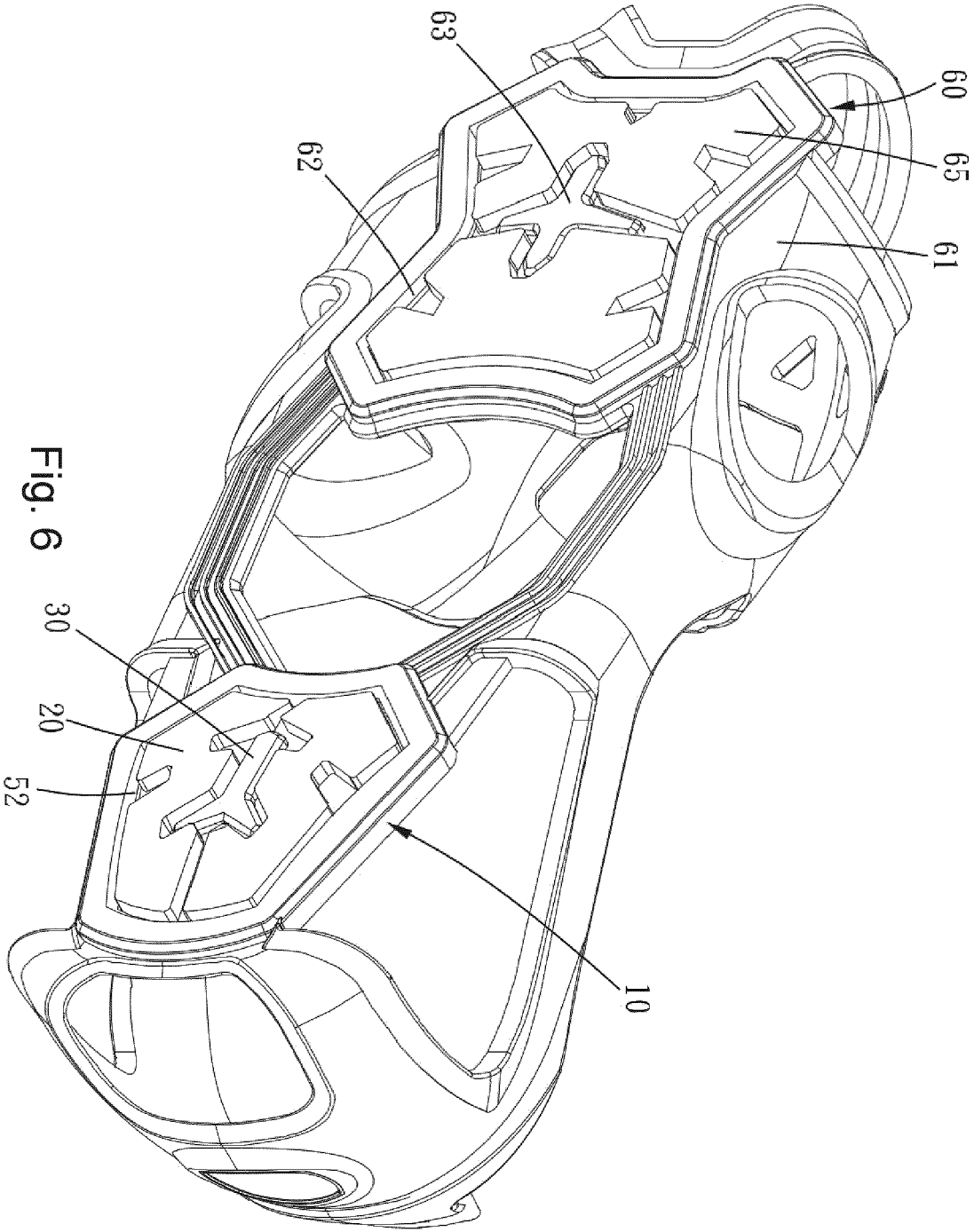


Fig. 6

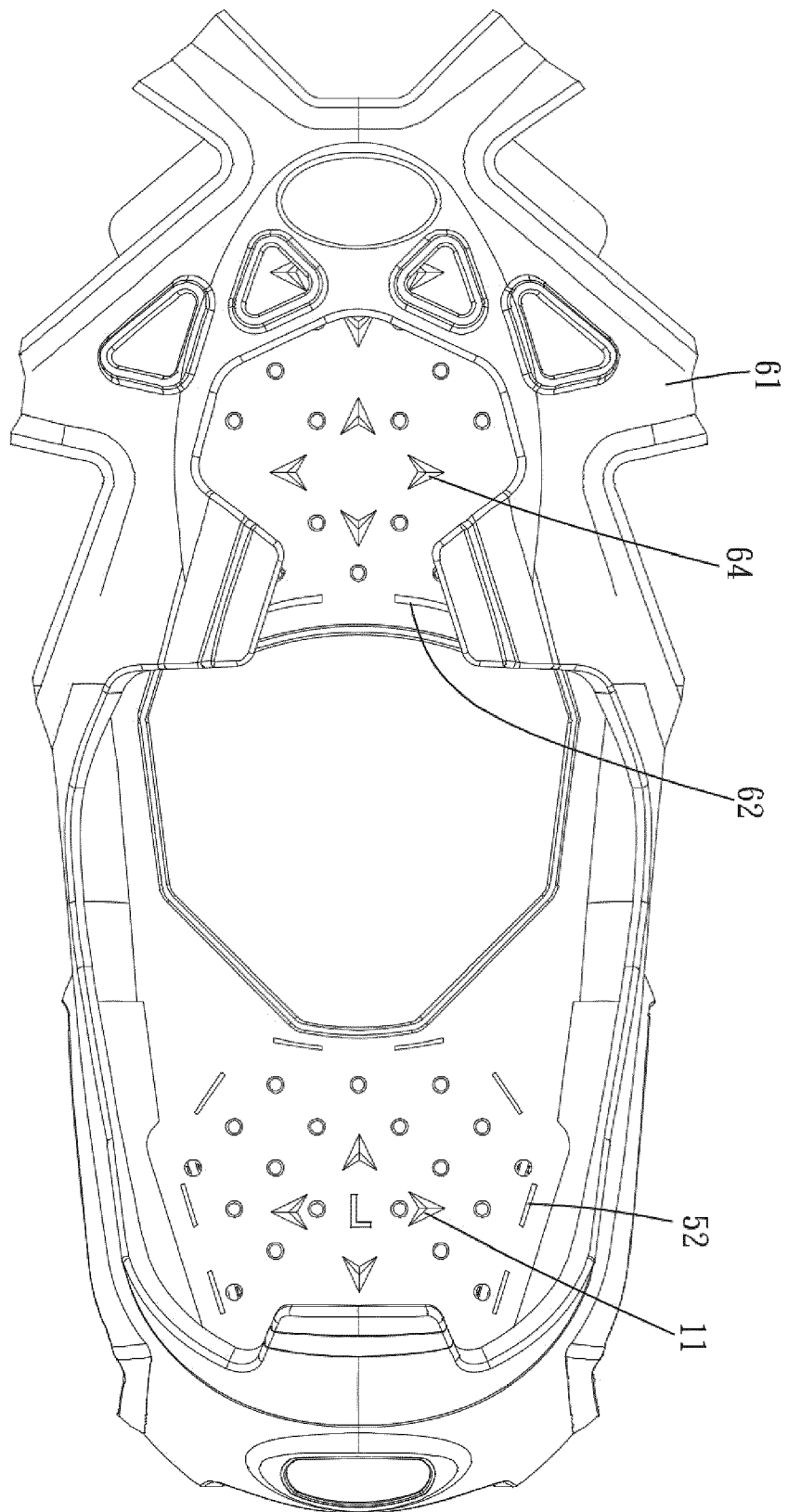


Fig. 7

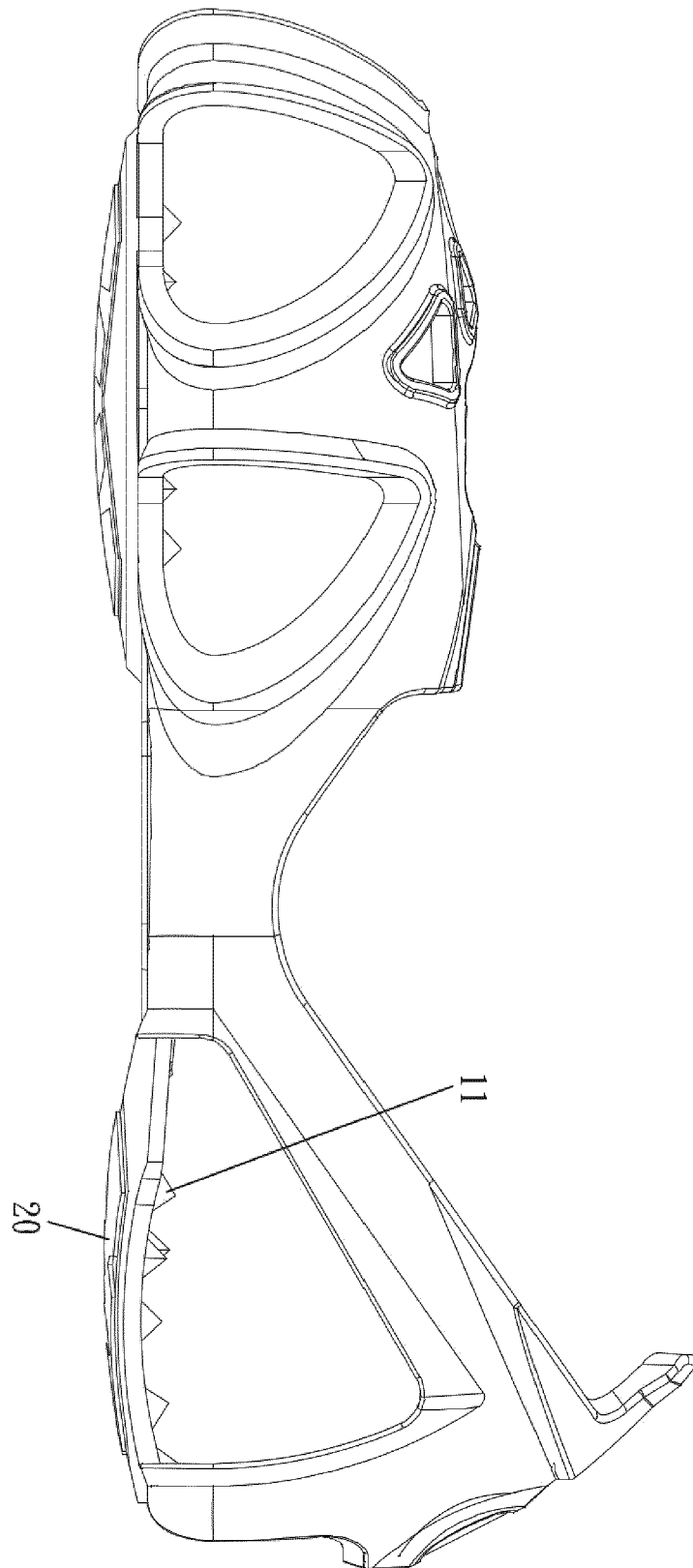


Fig. 8



EUROPEAN SEARCH REPORT

Application Number
EP 20 17 8392

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	TW 201 129 330 A (GLOBERIDE INC [JP]) 1 September 2011 (2011-09-01) * paragraph [0025]; figures *	1,2,4,5	INV. A43B13/12 A43B13/22
X	US 2016/058107 A1 (WALKER JEREMY D [US] ET AL) 3 March 2016 (2016-03-03) * figures *	1	
A	EP 2 177 125 A1 (COMOLI SRL ING [IT]) 21 April 2010 (2010-04-21) * figures *	1-10	
			TECHNICAL FIELDS SEARCHED (IPC)
			A43B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 25 September 2020	Examiner Gkionaki, Angeliki
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			

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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25-09-2020

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Patent document
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Publication
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