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(71) Applicant: **Poesen Electronic Co., Ltd.**
Taipei City 11493 (TW)

(72) Inventor: **Tang, Li**
Taipei City 10560 (TW)

(74) Representative: **Chaillot, Geneviève et al**
Cabinet Chaillot
16-20 Avenue de l'Agent Sarre
B.P. 74
92703 Colombes Cedex (FR)

(54) Strap-on anti-slip device for shoes

(57) A strap-on shoe anti-slip device includes a ground-contacting belt-like main body connected at two lateral ends to two extension straps, and a fastening unit having a male and a female fastener separately assembled to outer ends of the two extension straps. The male fastener can be detachably connected to variable positions on the female fastener for the strap-on shoe anti-slip device to form a circumference-adjustable loop structure, which internally defines a size-adjustable opening for a front portion of a shoe to extend therethrough and be bound thereto. The fastening unit is operable to selectively open or close the loop structure. The belt-like main body is provided on an underside with an anti-slip element, which may be differently configured to provide different anti-slip effects. A user may conveniently change shoes to have a specific anti-slip effect by selecting a strap-on shoe anti-slip device with a suitably configured anti-slip element.

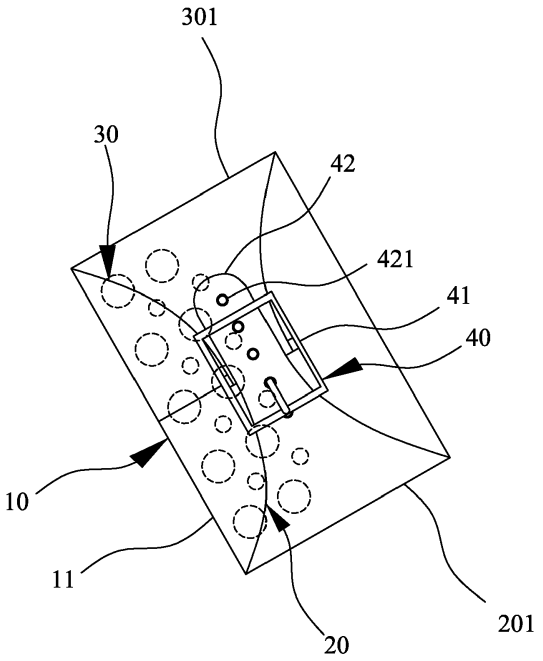

FIG. 1

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to a shoe anti-slip device in the form of an openable loop structure with adjustable circumference, and more particularly to a strap-on shoe anti-slip device that can be removably fastened around a shoe to conveniently change the anti-slip structure on an outsole of the shoe.

BACKGROUND OF THE INVENTION

[0002] Following the upgraded living standards, various leisure activities have become an important part of people's daily life, and different athletic tools are also developed for corresponding leisure activities. Shoes are some of a few athletic tools that are necessary for most leisure activities, and can be divided into different types according to their use, such as golf shoes, basketball shoes, football shoes, running shoes, mountaineering boots, snowshoes, and the like

[0003] The above-mentioned various types of shoes are different from one another mainly in their anti-slip elements. For example, sneakers and spike shoes are two types of shoes having completely different anti-slip structures. While there are some spike shoes that have specially designed removable spikes and can therefore be selectively used as sneakers or spike shoes, there are not many commercially available designs that allow the same shoes to change their anti-slip structures. That is, most shoes are designed to have one single function and one type of anti-slip structure. Even the above-mentioned spike shoes with removable spikes can provide only two different anti-slip effects.

[0004] High-heeled shoes generally do not have good anti-slip effect, which is almost zero when wearers walk down rain-wet, snowy or muddy roads. This is because the high-heeled shoe designers do not consider the influence of sudden environment changes on the shoe anti-slip effect, and also because most shoes could not have changeable anti-slip structures.

[0005] Further, many very common shoes have a plain appearance that lacks some esthetic design or ornament. A user might want to add some elements to the plain shoe designs by DIY (do it yourself). However, it is frequently time and energy consuming to do so. Since there are not esthetically designed ornaments available in the market allowing users to decorate their shoes in a convenient and changeful manner, the users can only passively wait for other new styles of shoes or try to search for favorite designs among a variety of shoes from different manufacturers.

[0006] It is therefore tried by the inventor to develop a novel and improved strap-on shoe anti-slip device, which can be removably fastened around a shoe by a user to provide the shoe with a specific anti-slip effect according to actual need and to give the shoe an esthetic or unique appearance in a quick and convenient DIY manner.

SUMMARY OF THE INVENTION

[0007] A primary obj ect of the present invention is to provide a size-adjustable strap-on shoe anti-slip device that can be removably fastened around differently sized and shaped shoes of different types to conveniently change the anti-slip structure on the outsoles of shoes without detriment to the original structure of shoes.

[0008] Another object of the present invention is to provide a strap-on shoe anti-slip device that may have an anti-slip element integrally formed thereon or a set of replaceable anti-slip elements removably attached thereto to meet consumers' different demands, and is therefore more practical and convenient for use.

[0009] A further object of the present invention is to provide a strap-on shoe anti-slip device that can have esthetic patterns provided on an outer surface thereof or have one or more ornaments additionally attached thereto to thereby give shoes beautiful or unique appearances.

[0010] To achieve the above and other objects, the strap-on shoe anti-slip device according to a first preferred embodiment of the present invention includes a belt-like main body, a left extension strap, a right extension strap, and a fastening unit. The belt-like main body includes a thin strip of pad having a predetermined length matching a width of a shoe, and an anti-slip element integrally formed on an underside of the pad. The thin strip of pad has a left end defining a first end line and a right end defining a second end line. The left extension strap defines a first inner end line and a first outer end line, and is connected at the first inner end line to the first end line of the pad. The right extension strap defines a second inner end line and a second outer end line, and is connected at the second inner end line to the second end line of the pad. The right extension strap is adapted to connect at the second outer end line to the first outer end line of the left extension strap for the strap-on shoe anti-slip device to form a loop structure, which internally defines an opening for a front portion of a shoe to extend therethrough and be bound thereto. The fastening unit is assembled to the first outer end line of the left extension strap and the second outer end line of the right extension strap, and is operable to selectively open or close the loop structure.

[0011] In the present invention, the thin strip of pad may be made of a wear-resistant material, so that the present invention would not become worn out quickly and has prolonged service life.

[0012] The anti-slip element is formed on an underside of the thin strip of pad. The anti-slip element may preferably include a plurality of round recessed areas sunken into the underside of the pad to function as suction cups. The round recessed areas may have different diameters to form a plurality of larger suction cups and a plurality of smaller suction cups. The suction cups advantageously help the belt-like main body to adhere to the ground

surface, and provide increased coefficient of friction between the shoe and the ground. The anti-slip element may also include preferably a plurality of grooves sunken into an underside of the thin strip of pad, the grooves forming shoe tread patterns. In another embodiment, the anti-slip element may include a plurality of sawtooth-like grooves suitable for sneakers, so as to change the shoe's anti-slip structure.

[0013] The thin strip of pad may have a front portion with a predetermined thickness sufficient for effectively forming the round recessed areas thereat without extending through the pad. The thickness of the pad gradually reduces from the front portion toward a rear portion of the pad, such that the strap-on shoe anti-slip device can more fitly contact with the ground surface with the thicker front portion of the pad forming a location of center of gravity while a user walks.

[0014] To achieve the above and other objects, the strap-on shoe anti-slip device according to a second preferred embodiment of the present invention includes a belt-like main body, a left extension strap, a right extension strap, and a fastening unit. This second preferred embodiment is different from the first preferred embodiment in that it further includes a set of replaceable anti-slip elements removably attached to the thin strip of pad.

[0015] For the two above-mentioned preferred embodiments, the fastening unit may include a male fastener and a female fastener, and the male fastener is adapted to engage with the female fastener at variable positions thereon, so that a circumference of the loop structure and a size of the opening can be adjusted via the male and female fasteners, enabling a user to conveniently fasten the strap-on shoe anti-slip device around a proper position on the front portion of the shoe.

[0016] Alternatively, for the two above-mentioned preferred embodiments, the fastening unit may include a male fastener and a female fastener, the male fastener being adapted to engage with the female fastener at an invariable position thereon; and the left extension strap and the right extension strap are made of an elastic and extensible material to allow elastic adjustment of the loop structure to different circumferences and accordingly adjustment of the opening thereof to different sizes.

[0017] In the second preferred embodiment, the thin strip of pad may be provided with a plurality of through holes corresponding to the set of replaceable anti-slip elements. Each of the replaceable anti-slip elements may include a forward protruded anti-slip body and a stop flange located around a bottom of the anti-slip body, the stop flange having an overall diameter larger than a diameter of the through hole, and the anti-slip body has a predetermined height sufficient for the anti-slip body to extend through the through hole and project from the thin strip of pad by a desired distance.

[0018] The anti-slip bodies may be downward extended from an upper side of the thin strip of pad through the through holes to project from an underside of the pad, so that, when the strap-on shoe anti-slip device is fastened around a front portion of a shoe for use, the stop flanges are abutted on the upper side of the pad around the through holes and fixedly clamped in place between the upper side of the pad and an outsole of the shoe, preventing the replaceable anti-slip elements from moving relative to the through holes or separating from the thin strip of pad while giving a specific anti-slip structure to the shoe. The anti-slip body may have a tip with a predetermined width, which is selectable according to different environment requirements.

[0019] According to the two preferred embodiment of the present invention, the strap-on shoe anti-slip device may further comprise at least one ornament connected to an outer surface of one or more of the left and right extension straps and the fastening unit. A user may select the ornament matching the color, shape or design of the shoe. Therefore, the present invention not only provides a shoe with increased anti-slip effect but also an esthetic or unique appearance.

[0020] In brief, the present invention is **characterized in that** it can be fastened around a front portion of a shoe to provide the shoe with increased or specific anti-slip effect without detriment to an original structure of the shoe; and that the anti-slip element may be integrally formed with the thin strip of pad or be replaceable and removably attached to the thin strip of pad to provide increased usability; and that ornaments may be provided on the outer surface of the shoe anti-slip device to give the shoe a beautiful or unique appearance.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] The structure and the technical means adopted by the present invention to achieve the above and other obj ects can be best understood by referring to the following detailed description of the preferred embodiments and the accompanying drawings, wherein

Fig. 1 is a top perspective view of a strap-on shoe anti-slip device according to a first preferred embodiment of the present invention;

Fig. 2 is an exploded top plan view of Fig. 1;

Fig. 3 is a sectional side view showing an anti-slip element formed on an underside of the strap-on shoe anti-slip device according to the first embodiment of the present invention;

Fig. 4 is a top plan view of a strap-on shoe anti-slip device according to a second preferred embodiment of the present invention in a stretched state;

Fig. 5 is a top plan view of a strap-on shoe anti-slip device according to a third preferred embodiment of the present invention in a stretched state;

Fig. 6 is a sectional side view showing an anti-slip

element formed on an underside of the strap-on shoe anti-slip device according to the third embodiment of the present invention;

Figs. 7a and 7b are side and bottom perspective views, respectively, of a high-heeled shoe with the strap-on shoe anti-slip device of the present invention fastened thereto;

Figs. 8a and 8b are top and side perspective views, respectively, of a high-heeled shoe with the strap-on shoe anti-slip device of the present invention fastened thereto and an ornament attached to an upper side of the strap-on shoe anti-slip device;

Fig. 9 is a top plan view of a strap-on shoe anti-slip device according to a fourth preferred embodiment of the present invention in a stretched state;

Fig. 10 is an exploded sectional side view showing replaceable anti-slip elements for removably attaching to the strap-on shoe anti-slip device according to the fourth embodiment of the present invention;

Figs. 11a and 11b are top perspective views of two differently sized replaceable anti-slip elements for use with the strap-on shoe anti-slip device according to the fourth embodiment of the present invention;

Figs. 12a and 12b are side and bottom perspective views, respectively, of a sneaker with the strap-on shoe anti-slip device according to the fourth embodiment of the present invention fastened thereto;

Fig. 13a is a side perspective view of a sneaker with a strap-on shoe anti-slip device according to a fifth embodiment of the present invention fastened thereto; and

Fig. 13b is a side perspective view of a high-heeled shoe with a strap-on shoe anti-slip device according to a sixth embodiment of the present invention fastened thereto.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] The present invention will now be described with some preferred embodiments thereof and with reference to the accompanying drawings. For the purpose of easy to understand, elements that are the same in the preferred embodiments are denoted by the same reference numerals.

[0023] Please refer to Figs. 1 to 3. A strap-on shoe anti-slip device according to a first preferred embodiment of the present invention mainly includes a belt-like main body 10, a left extension strap 20, a right extension strap 30, and a fastening unit 40.

[0024] The belt-like main body 10 includes a thin strip of pad 11 and an anti-slip element 50 integrally formed on an underside of the pad 11. In the first preferred embodiment, the thin strip of pad 11 is made of a wear-resistant material and can therefore have prolonged service life without becoming worn off quickly.

[0025] The thin strip of pad 11 has a left end defining a first end line 111 and a right end defining a second end line 112. The left extension strap 20 defines a first inner end line 201 and a first outer end line 202, and is connected at the first inner end line 201 to the first end line 111 of the pad 11. The right extension strap 30 defines a second inner end line 301 and a second outer end line 302, and is connected at the second inner end line 301 to the second end line 112 of the pad 11. The left extension strap 20 and the right extension strap 30 can be connected to each other at the first outer end line 202 and the second outer end line 302, bringing the strap-on shoe anti-slip device to form a loop structure, which internally defines an opening for a front portion of a shoe to extend therethrough and be bound thereto.

[0026] In the illustrated first preferred embodiment, the fastening unit 40 includes a male fastener 41 and a female fastener 42. The male fastener 41 is assembled to the second outer end line 302 of the right extension strap 30. The female fastener 42 is extended from the first outer end line 202 of the left extension strap 20 by a predetermined length and is provided with a row of holes 421, so that the male fastener 41 can be engaged with the female fastener 42 at one of the holes 421 to adjust a circumference of the loop structure formed by the strap-on shoe anti-slip device of the present invention and accordingly a size of the opening of the loop structure. That is, the fastening unit 40 in the first preferred embodiment is a fastening unit with variable engaging positions. The fastening unit is operable to selectively open or close the loop structure, enabling a user to conveniently fasten the strap-on shoe anti-slip device of the present invention around a proper position on the front portion of the shoe.

[0027] Fig. 4 shows a second preferred embodiment of the present invention. In the second preferred embodiment, the male and the female fastener 41, 42 of the fastening unit 40 are a hook tape and a loop tape, respectively, of a hook-and-loop fastener tape. However, it is understood the fastening unit 40 provided in the first and second preferred embodiments of the present invention are only illustrative to enable convenient explanation of the present invention and not intended to restrict the present invention in any way. That is, the present invention may also be implemented with other types of connecting members to form other male and female fasteners enabling variable engaging positions.

[0028] Please refer to Fig. 3 that is a sectional side view of the belt-like main body 10. As shown, the anti-slip element 50 is integrally formed on the underside of the thin strip of pad 11. The anti-slip element 50 includes a plurality of recessed areas 12 sunken into the underside of the thin strip of pad 11. The recessed areas 12 are

round in shape to thereby function as suction cups. The round-shaped recessed areas 12 include a plurality of larger suction cups 121 and a plurality of smaller suction cups 122. The suction cups advantageously help the belt-like main body 10 to adhere to the ground surface, provide increased coefficient of friction between the shoe and the ground, and give the shoe a specific anti-slip structure.

[0029] Please refer to Figs. 5 and 6, in which a strap-on shoe anti-slip device according to a third preferred embodiment of the present invention is shown. In the third preferred embodiment, the recessed areas 12 are sawtooth-shaped grooves that are commonly seen on an outsole of a sneaker. When the strap-on shoe anti-slip device according to the third preferred embodiment of the present invention is fastened to a shoe having a smooth outsole, the shoe can be changed to have an anti-slip structure like that for a sneaker. The sawtooth-shaped grooves on the outsole also form an esthetic design for the shoe. It is understood the recessed areas 12 in the shape of sawtooth-shaped grooves are also illustrative and not intended to restrict the present invention in any way.

[0030] Figs. 7a and 7b are side and bottom perspective views, respectively, of a high-heeled shoe with the strap-on shoe anti-slip device of the present invention fastened thereto.

[0031] As can be seen from Figs. 3 and 6, the thin strip of pad 11 has a front portion with a predetermined thickness sufficient for effectively forming the recessed areas 12 thereat without extending through the pad 11. The thickness of the pad 11 gradually reduces from the front portion toward a rear portion of the pad 11, such that a user would not feel uncomfortable when wearing shoes with the strap-on shoe anti-slip device of the present invention fastened thereto. With the pad 11 having rearward gradually reduced thickness, the strap-on shoe anti-slip device can more fitly contact with the ground surface. Further, with the increased thickness thereof, the front portion of the pad 11 naturally forms a location of center of gravity of the strap-on shoe anti-slip device of the present invention.

[0032] Please refer to Figs. 8a and 8b. An ornament 70 can be additionally connected to an outer side of the fastening unit 40. The ornament 70 can be selected according to the color, configuration, or design of the shoe having the strap-on shoe anti-slip device fastened thereto, so that the present invention not only provides the shoe with an increased anti-slip effect, but also gives the shoe a beautiful or unique appearance.

[0033] Please refer to Figs. 9 to 12, in which a strap-on shoe anti-slip device according to a fourth preferred embodiment of the present invention is shown. The strap-on shoe anti-slip device in the fourth preferred embodiment includes a belt-like main body 10, a left extension strap 20, a right extension strap 30, and a fastening unit 40. The belt-like main body 10 includes a thin strip of pad 11 having a predetermined length substantially matching a width of a shoe, and a set of replaceable anti-slip elements 60 removably attached to the thin strip of pad 11. The thin strip of pad 11 has a left end defining a first end line 111 and a right end defining a second end line 112. The left extension strap 20 defines a first inner end line 201 and a first outer end line 202, and is connected at the first inner end line 201 to the first end line 111 of the pad 11. The right extension strap 30 defines a second inner end line 301 and a second outer end line 302, and is connected at the second inner end line 301 to the second end line 112 of the pad 11. The left extension strap 20 and the right extension strap 30 can be connected to each other at the first outer end line 202 and the second outer end line 302, bringing the strap-on shoe anti-slip device to form a loop structure, which internally defines an opening for a front portion of a shoe to extend therethrough and be bound thereto.

[0034] In the fourth preferred embodiment, the fastening unit 40 includes a male fastener 41 and a female fastener 42. The female fastener 42 is assembled to the first outer end line 202 of the left extension strap 20. The male fastener 41 is assembled to the second outer end line 302 of the right extension strap 30. While the fastening unit 40 in the fourth preferred embodiment provides an invariable engaging position, the left extension strap 20 and the right extension strap 30 are made of an elastic and extensible material, so that it is still possible to adjust a circumference of the loop structure formed by the strap-on shoe anti-slip device of the present invention and accordingly a size of the opening. The fastening unit is operable to selectively open or close the loop structure, so that a user may conveniently fasten the strap-on shoe anti-slip device of the present invention around a proper position on the front portion of the shoe.

[0035] The thin strip of pad 11 and the replaceable anti-slip elements 60 are made of wear-resistant materials. Further, the thin strip of pad 11 is provided with a plurality of through holes 13 corresponding to the set of replaceable anti-slip elements 60. Each of the replaceable anti-slip elements 60 includes a stop flange 61 and an anti-slip body 62, as shown in Figs. 11a, 11b.

[0036] In the illustrated fourth preferred embodiment, the replaceable anti-slip elements 60 are spikes like those on spike shoes. The anti-slip body 62 is a forward protruded spike body, and the stop flange 61 is round in shape and located around a bottom of the anti-slip body 62 to serve as a base. The bottom of the anti-slip body 62 has circumference and diameter 621 the same as those of the through holes 13, and has a predetermined height 622 sufficient for the anti-slip body 62 to downward extend from an upper side of the pad 11 through the through hole 13 and project from an underside of the pad 11 by a desired distance when the stop flange 61 is abutted on the upper side of the pad 11 around the through hole 13. When the strap-on shoe anti-slip device according to the fourth preferred embodiment of the present invention has been fastened around the front portion of a shoe, the stop flanges 61 of the anti-slip elements 60

are fixedly clamped in place between the upper side of the pad 11 and the outsole of the shoe, preventing the replaceable anti-slip elements 60 from moving relative to the through holes 13 or separating from the thin strip of pad 11. The anti-slip body 62 has a tip with a predetermined width. In Fig. 11a, the illustrated anti-slip body 62 has a smaller width 623 at the tip, as indicated by L1; and in Fig. 11b, the illustrated anti-slip body 62 has a larger width 624 at the tip, as indicated by L2. A user may select differently sized anti-slip elements 60 and change an original anti-slip structure of the shoes into the spikes for spike shoes according to actual need.

[0037] It is understood the above described spike-like replaceable anti-slip elements 60 are only illustrative and not intended to restrict the present invention in any way. Many other differently shaped anti-slip bodies 62 may be adopted for use, so as to obtain different anti-slip effects, anti-slip structures, or esthetic appearances. Any simple variants and modifications of the replaceable anti-slip elements 60 should also be included in the scope of the present invention.

[0038] Fig. 13a is a side perspective view of a sneaker with a strap-on shoe anti-slip device according to a fifth embodiment of the present invention fastened thereto. The fifth preferred embodiment combines the fastening unit 40 with variable engaging positions in the first preferred embodiment as shown in Fig. 2 with the replaceable anti-slip elements 60 in the fourth preferred embodiment as shown in Figs. 11a and 11b.

[0039] Fig. 13b is a side perspective view of a high-heeled shoe with a strap-on shoe anti-slip device according to a sixth embodiment of the present invention fastened thereto. The sixth preferred embodiment combines the anti-slip element 50 in the first preferred embodiment as shown in Fig. 3 with the fastening unit 40 having invariable engaging position and the elastic and extensible left and right extension straps 20, 30 in the fourth preferred embodiment as shown in Fig. 9.

[0040] The present invention has been described with some preferred embodiments thereof and it is understood that many changes and modifications in the described embodiments can be carried out without departing from the scope and the spirit of the invention that is intended to be limited only by the appended claims.

Claims

1. A strap-on shoe anti-slip device, comprising:

a belt-like main body (10) including a thin strip of pad (11) matching a width of a shoe and an anti-slip element (50) integrally formed on an underside of the pad (11); and the thin strip of pad (11) having a left end defining a first end line (111) and a right end defining a second end line (112);

a left extension strap (20) defining a first inner end line (201) and a first outer end line (202), and being connected at the first inner end line (201) to the first end line (111) of the pad (11);

a right extension strap (30) defining a second inner end line (301) and a second outer end line (302), and being connected at the second inner end line (301) to the second end line (112) of the pad (11); the right extension strap (30) being adapted to connect at the second outer end line (302) to the first outer end line (202) of the left extension strap (20) for the strap-on shoe anti-slip device to form a loop structure, which internally defining an opening for a front portion of a shoe to extend therethrough and be bound thereto; and

a fastening unit (40) being assembled to the first outer end line (202) of the left extension strap (20) and the second outer end line (302) of the right extension strap (30), and being operable to selectively open or close the loop structure.

2. The strap-on shoe anti-slip device as claimed in claim 1, wherein the fastening unit (40) includes a male fastener (41) and a female fastener (42), and the male fastener (41) being adapted to engage with the female fastener (42) at variable positions thereon, whereby a circumference of the loop structure and a size of the opening can be adjusted via the male and female fasteners (41, 42).

3. The strap-on shoe anti-slip device as claimed in claim 1, wherein the fastening unit (40) includes a male fastener (41) and a female fastener (42), the male fastener (41) being adapted to engage with the female fastener (42) at an invariable position thereon; and the left extension strap (20) and the right extension strap (30) being made of an elastic and extensible material to allow elastic adjustment of the loop structure to different circumferences and accordingly adjustment of the opening thereof to different sizes.

4. The strap-on shoe anti-slip device as claimed in claim 1, wherein the anti-slip element (50) includes a plurality of round recessed areas (12) sunken into an underside of the thin strip of pad (11); and the round recessed areas (12) functioning like suction cups and having different diameters (621) to thereby include a plurality of larger suction cups (121) and a plurality of smaller suction cups (122).

5. The strap-on shoe anti-slip device as claimed in claim 1, wherein the anti-slip element (50) includes a plurality of grooves sunken into an underside of the thin strip of pad (11); and the grooves forming shoe tread patterns.

6. The strap-on shoe anti-slip device as claimed in

claim 4, wherein the thin strip of pad (11) has a front portion with a predetermined thickness sufficient for effectively forming the round recessed areas thereat without extending through the pad (11), and the thickness at the front portion of the pad (11) gradually reducing toward a rear portion of the pad (11).

7. The strap-on shoe anti-slip device as claimed in claim 1, further comprising at least one ornament (70) connected to an outer surface of one or more of the left extension strap (20), the right extension strap (30) and the fastening unit (40).

8. A strap-on shoe anti-slip device, comprising:

a belt-like main body (10) including a thin strip of pad (11) matching a width of a shoe, and a set of replaceable anti-slip elements (60) removably attached to the thin strip of pad (11); and the thin strip of pad (11) having a left end defining a first end line (111) and a right end defining a second end line (112);

a left extension strap (20) defining a first inner end line (201) and a first outer end line (202), and being connected at the first inner end line (201) to the first end line (111) of the pad (11);

a right extension strap (30) defining a second inner end line (301) and a second outer end line (302), and being connected at the second inner end line (301) to the second end line (112) of the pad (11); the right extension strap (30) being adapted to connect at the second outer end line (302) to the first outer end line (202) of the left extension strap (20) for the strap-on shoe anti-slip device to form a loop structure, which internally defining an opening for a front portion of a shoe to extend therethrough and be bound thereto; and

a fastening unit (40) being assembled to the first outer end line (202) of the left extension strap (20) and the second outer end line (302) of the right extension strap (30), and being operable to selectively open or close the loop structure.

9. The strap-on shoe anti-slip device as claimed in claim 8, wherein the fastening unit (40) includes a male fastener (41) and a female fastener (42), and the male fastener (41) being adapted to engage with the female fastener (42) at variable positions thereon, whereby a circumference of the loop structure and a size of the opening can be adjusted via the male and female fasteners (41, 42).

10. The strap-on shoe anti-slip device as claimed in claim 8, wherein the fastening unit (40) includes a male fastener (41) and a female fastener (42), the male fastener (41) being adapted to engage with the female fastener (42) at an invariable position thereon; and the left extension strap (20) and the right extension strap (30) being made of an elastic and extensible material to allow elastic adjustment of the loop structure to different circumferences and accordingly adjustment of the opening thereof to different sizes.

11. The strap-on shoe anti-slip device as claimed in claim 8, wherein the thin strip of pad (11) is provided with a plurality of through holes (13) corresponding to the set of replaceable anti-slip elements (60), and each of the replaceable anti-slip elements (60) includes a forward protruded anti-slip body (62) and a stop flange (61) located around a bottom of the anti-slip body (62); the stop flange (61) having an overall diameter larger than a diameter of the through hole (13), and the anti-slip body (62) having a predetermined height (622) sufficient for the anti-slip body (62) to extend through the through hole (13) and project from the thin strip of pad (11) by a desired distance.

12. The strap-on shoe anti-slip device as claimed in claim 11, wherein the anti-slip body (62) has a tip with a predetermined width (623 or 624), which is selectable according to different environment requirements.

13. The strap-on shoe anti-slip device as claimed in claim 1l, wherein the anti-slip bodies (62) are downward extended from an upper side of the thin strip of pad (11) through the through holes (13) to project from an underside of the pad (11), while the stop flanges (61) are abutted on the upper side of the pad (11) around the through holes (13) and fixedly clamped in place between the upper side of the pad (11) and an outsole of the shoe, preventing the replaceable anti-slip elements (60) from moving relative to the through holes (13) or separating from the thin strip of pad (11).

14. The strap-on shoe anti-slip device as claimed in claim 8, further comprising at least one ornament (70) connected to an outer surface of one or more of the left extension strap (20), the right extension strap (30) and the fastening unit (40).

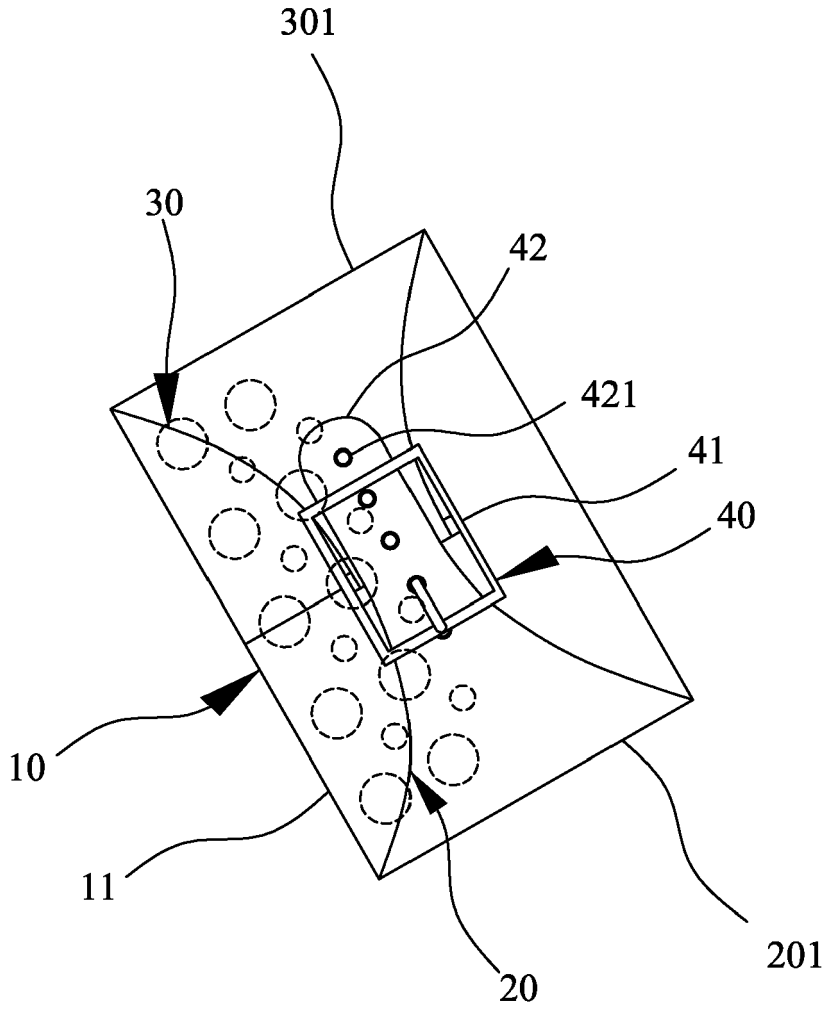

FIG. 1

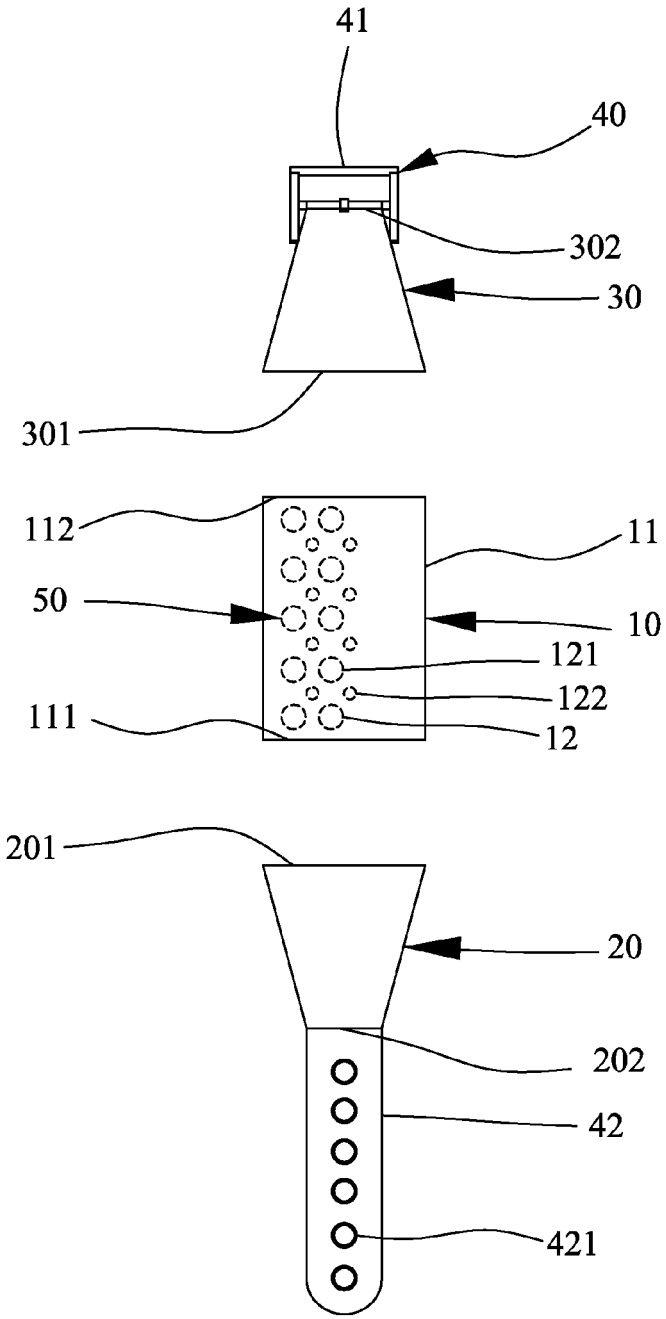

FIG. 2

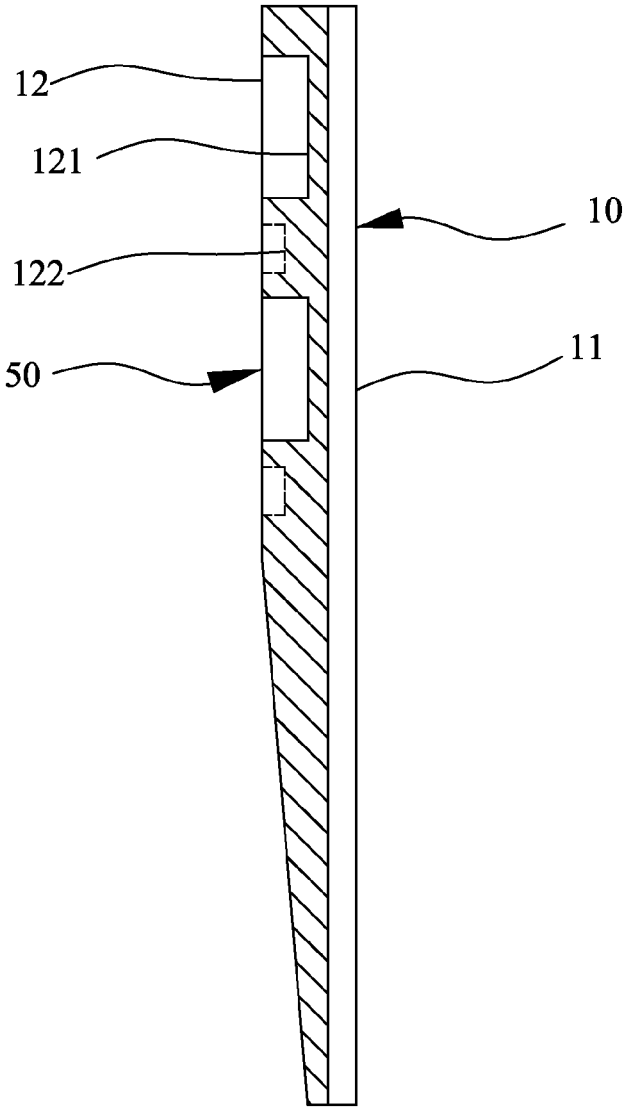

FIG. 3

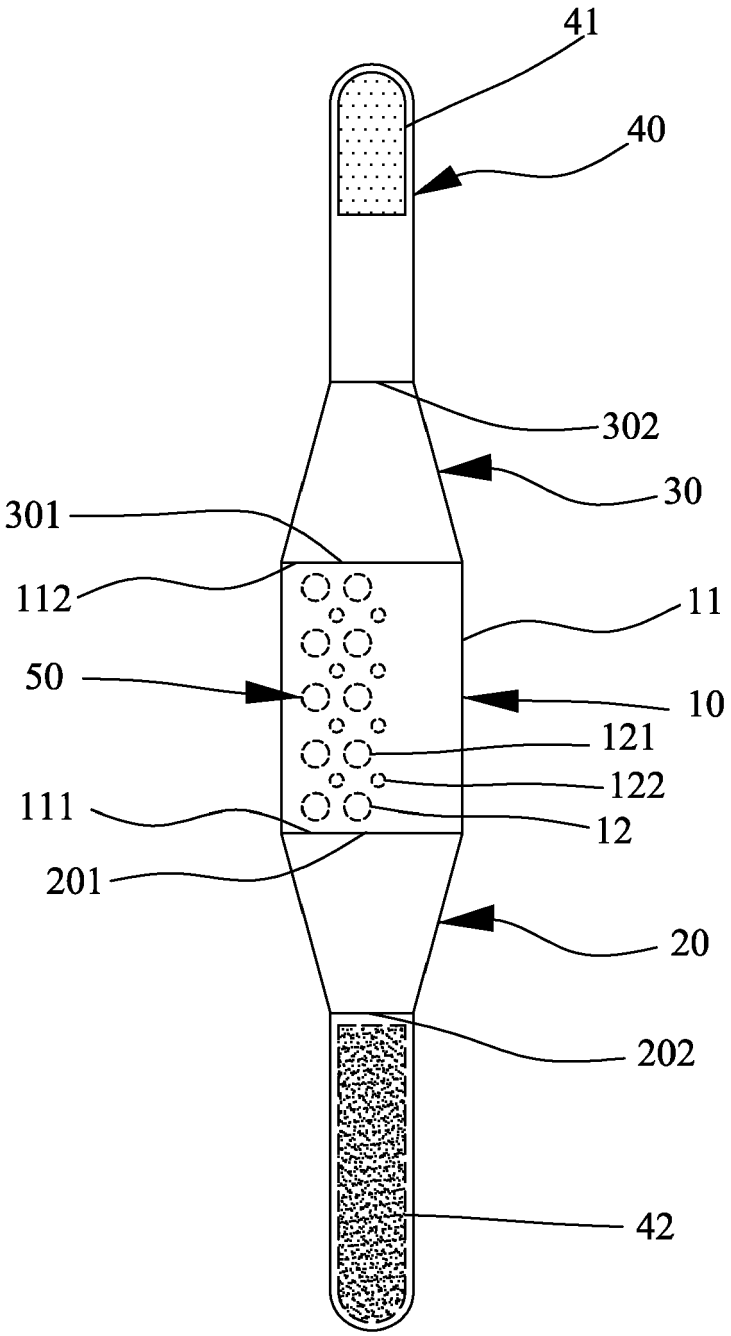

FIG. 4

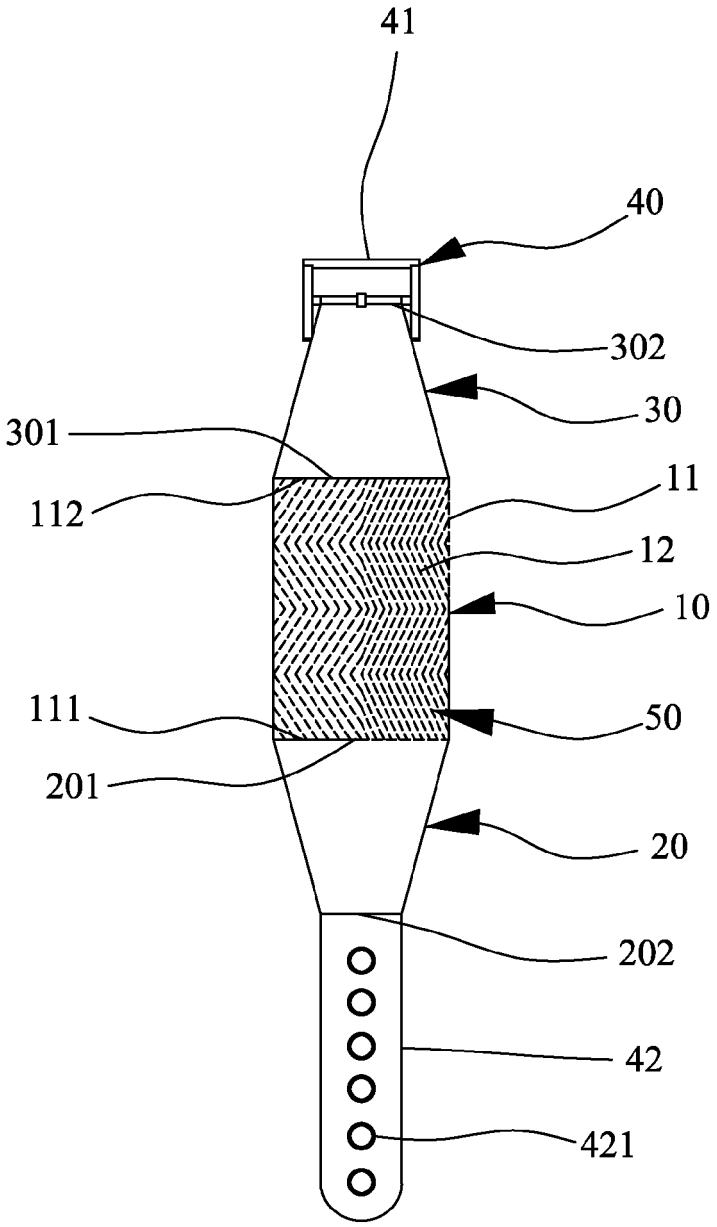

FIG. 5

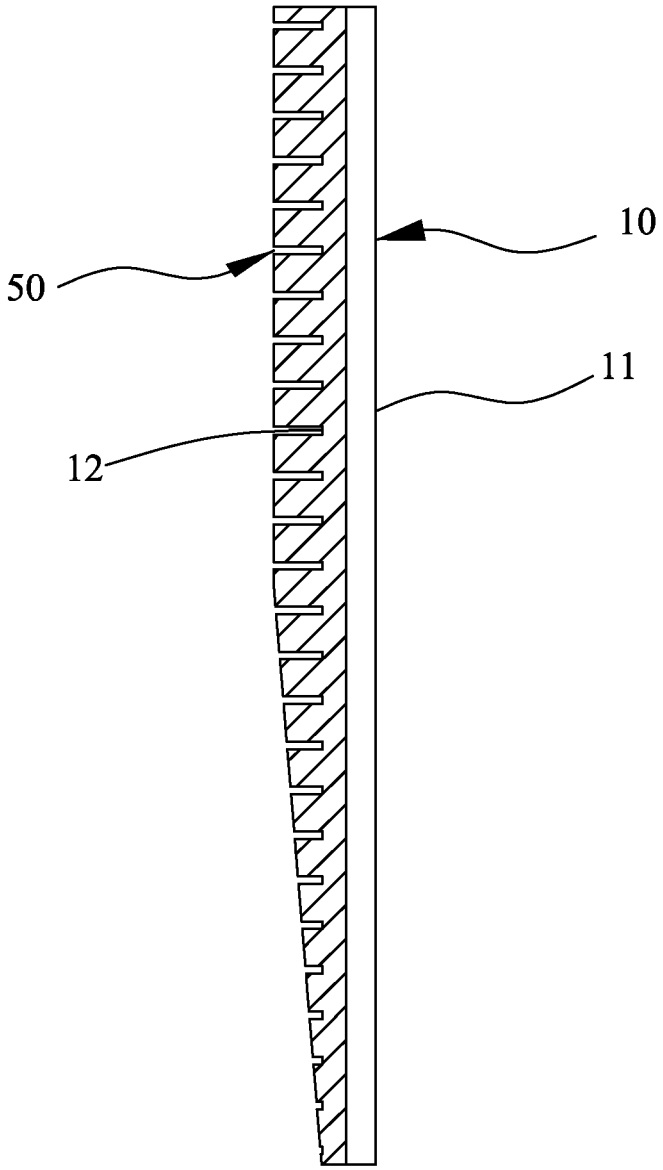

FIG. 6

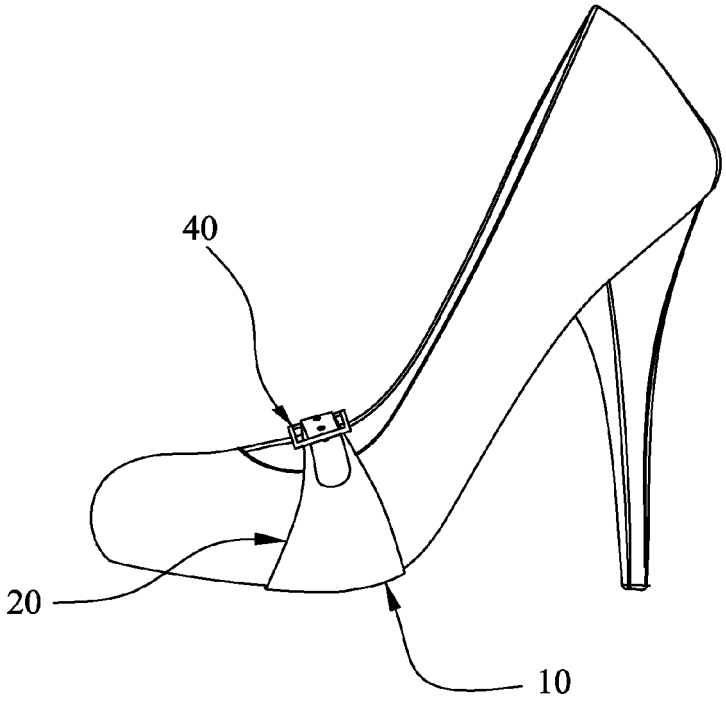

FIG. 7a

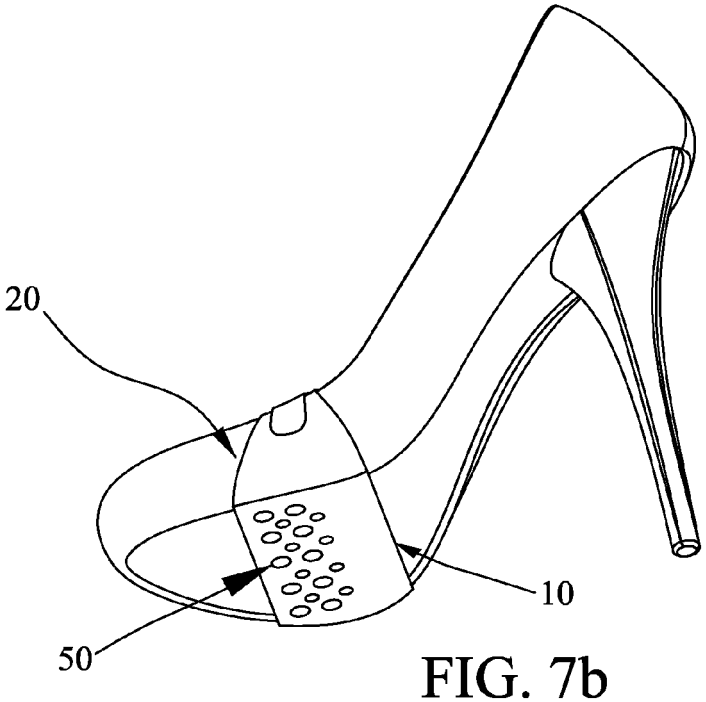

FIG. 7b

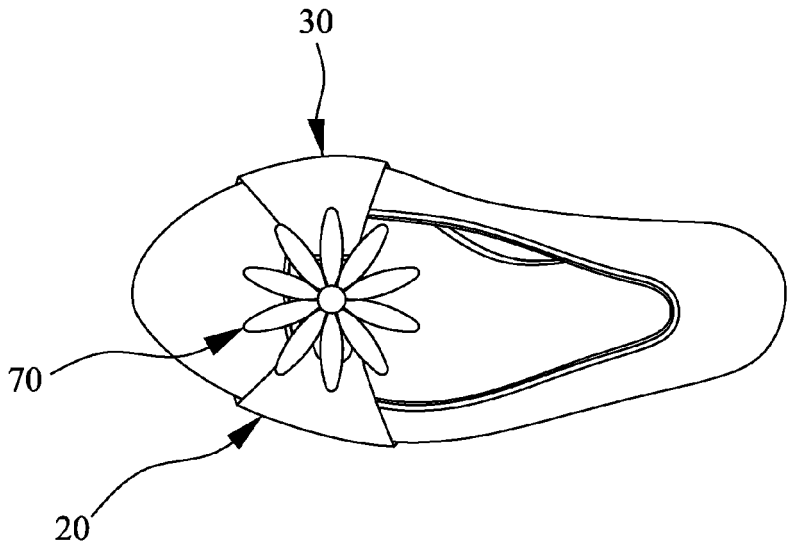

FIG. 8a

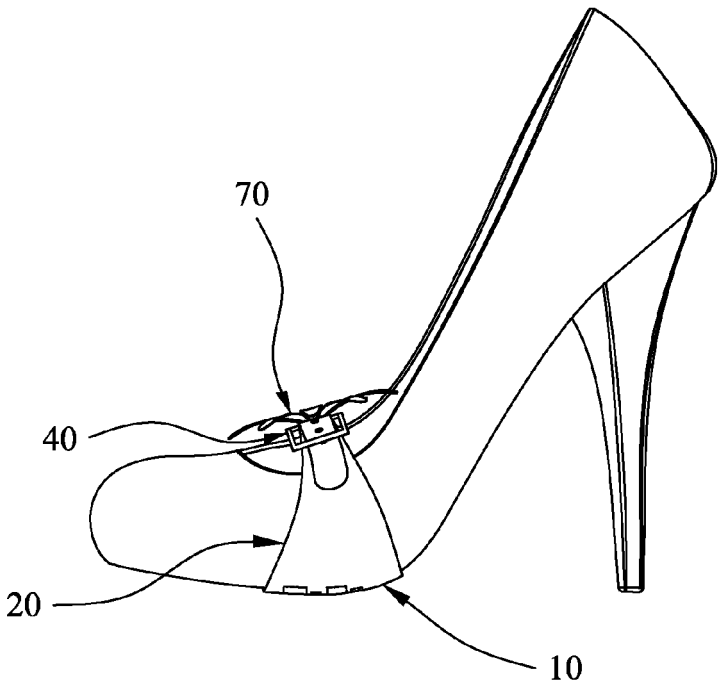

FIG. 8b

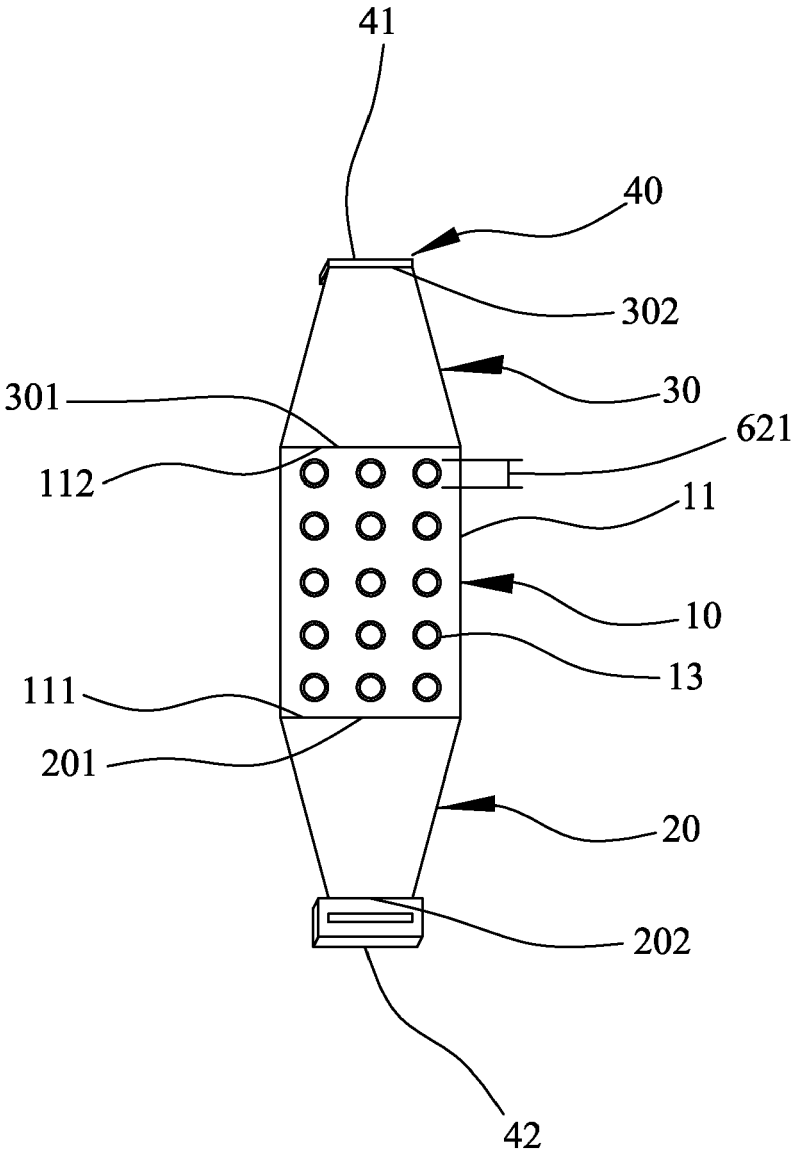

FIG. 9

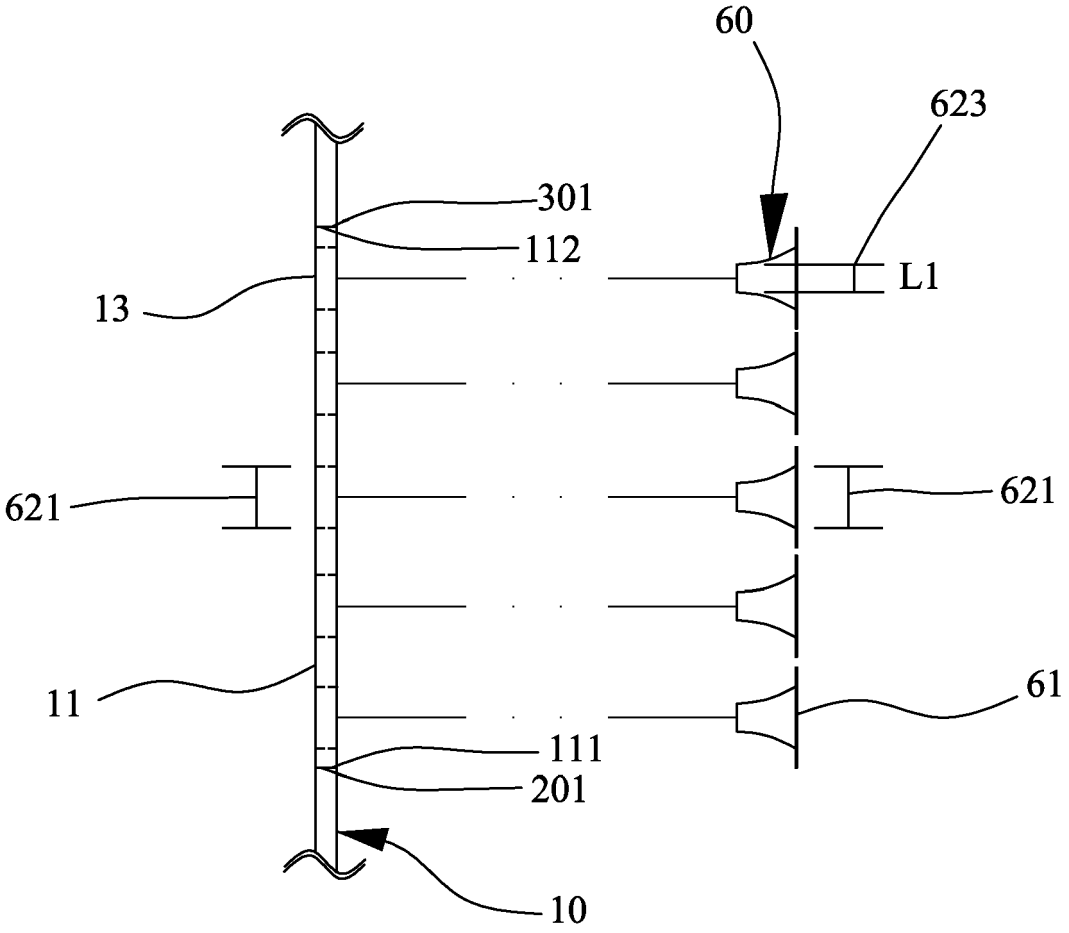

FIG. 10

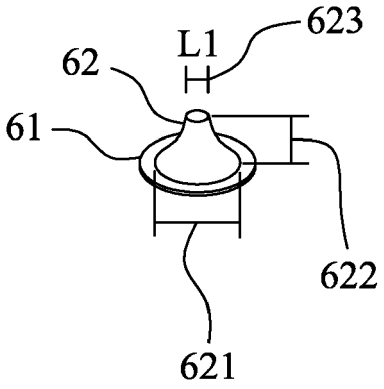

FIG. 11a

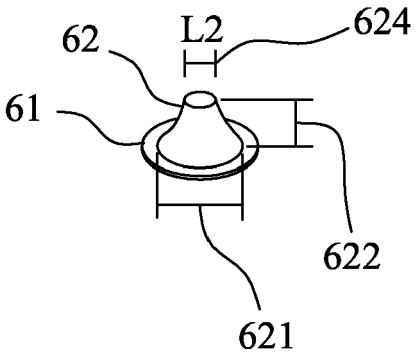

FIG. 11b

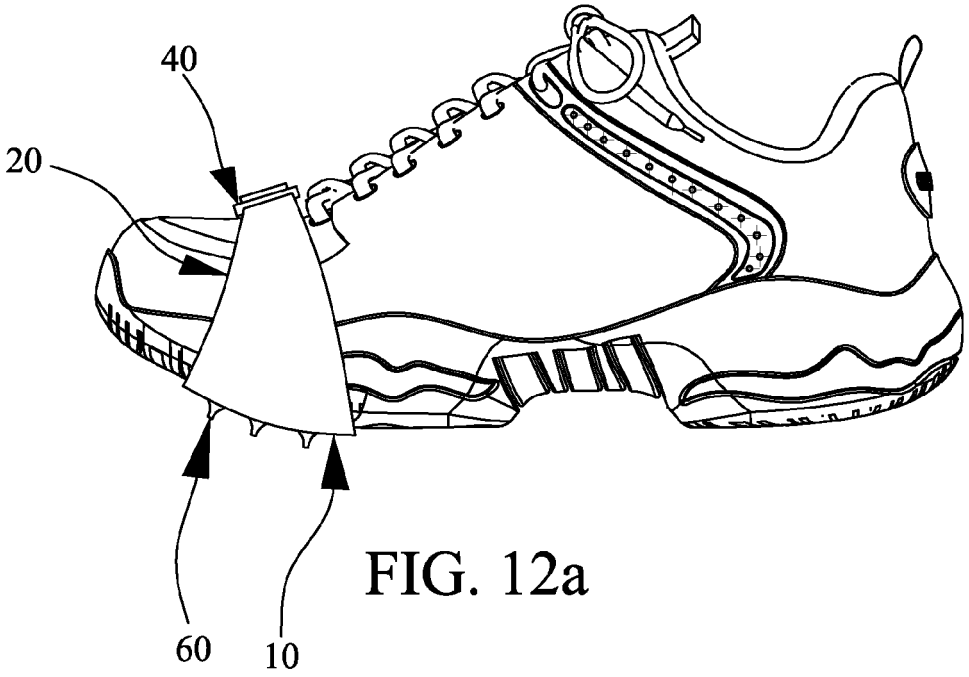

FIG. 12a

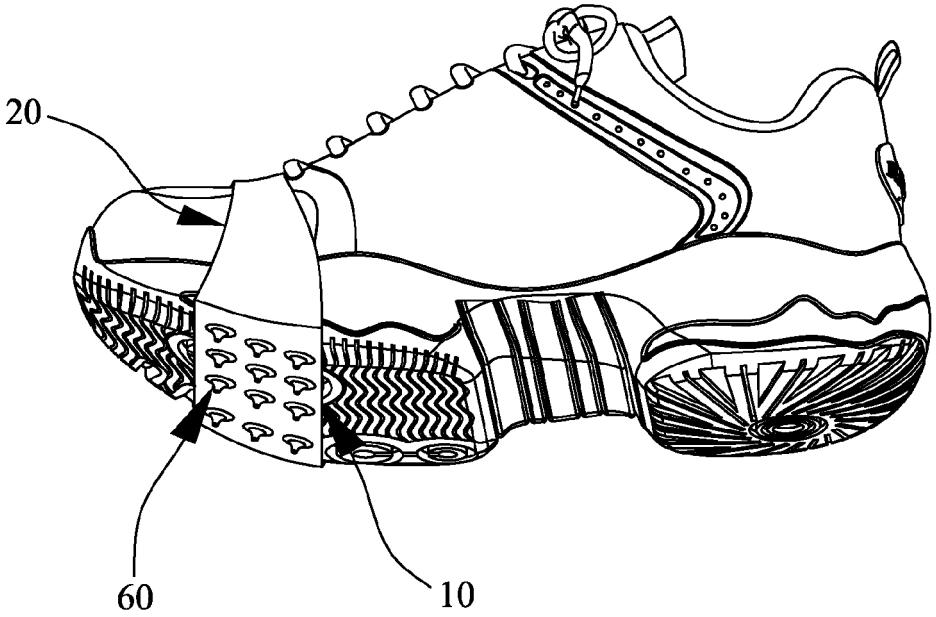

FIG. 12b

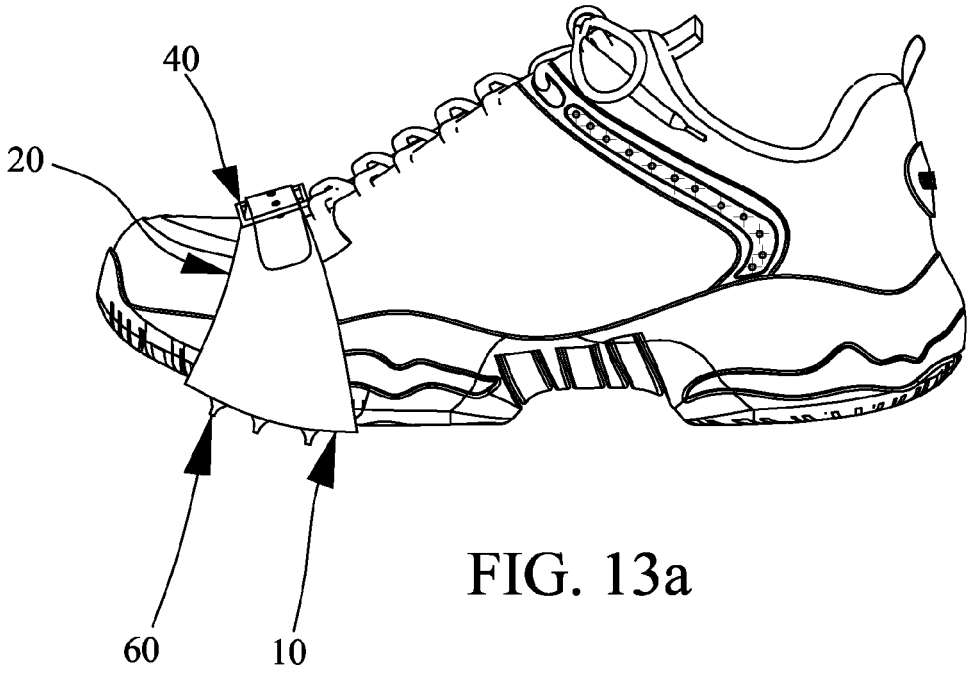

FIG. 13a

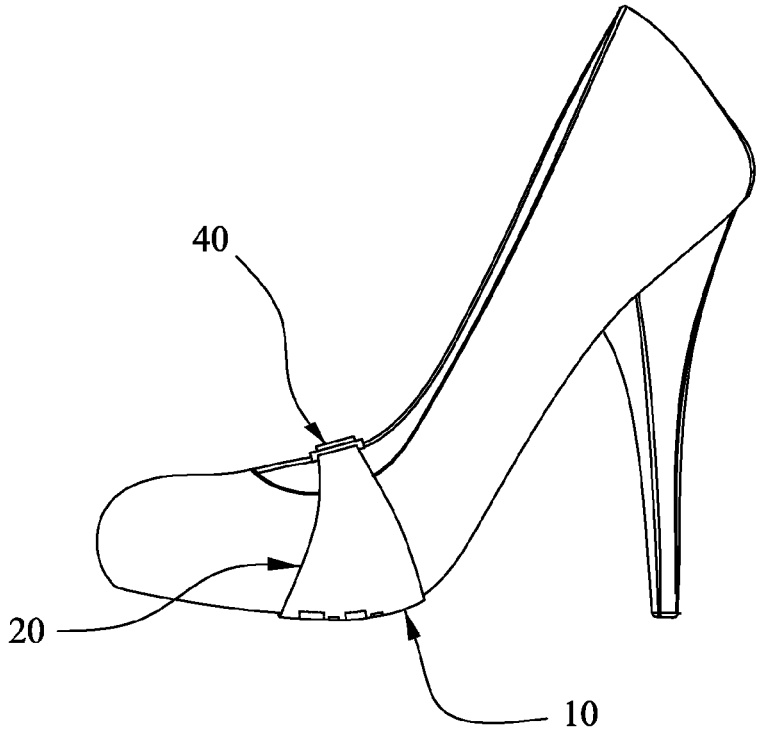

FIG. 13b

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EUROPEAN SEARCH REPORT

Application Number
EP 12 17 1885

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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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	12 December 2012	Millward, Richard

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