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(54) **Anti-slip device**

(57) The invention relates to an anti-slip device for a shoe comprising:
- a body having a plurality of protrusions projecting from one side of the body; and
- attachment means for attaching the body to the waist of a shoe, such that the protrusions are directed away from the waist of the shoe.

The invention further relates to a combination of an anti-slip device according to the invention, and a shoe with a sole and a heel, wherein the anti-slip device is arranged to the waist of the shoe adjacent the heel.

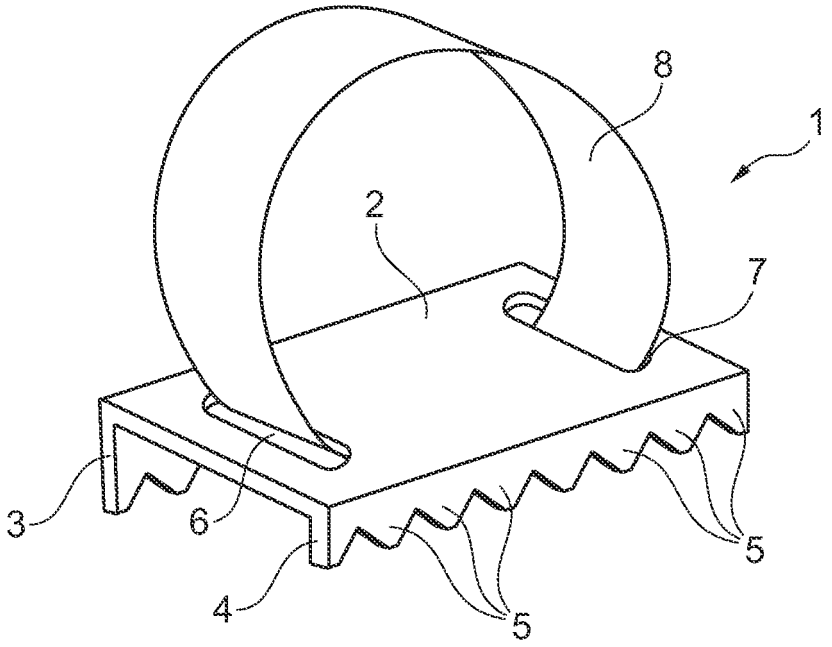

Fig. 1

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Description

[0001] The invention relates to an anti-slip device for a shoe.

[0002] During the winter it can be slippery as a result of snow and glaze. This provides an increased chance on a fall and injuries, especially for elderly. Elderly even stop from going outside during such slippery periods, which could last several weeks.

[0003] To provide additional grip for people, a number of anti-slip devices are known in the prior art. These anti-slip devices generally are plates with protrusions which extend along the full length of the shoe and are worn like skates. This has an adverse impact on the flexibility of the shoe, which hinders normal walking. The device according to the prior art is generally strapped to the toe of the shoe and around the ankle of the wearer. If such an anti-slip device is not strapped firmly to ones shoe, the shoe could move within the anti-slip device, causing unbalance of the wearer and risk on a fall.

[0004] Another possibility is to wear special snow boots, which are designed to have an increased grip on a slippery bottom. Such snow boots are comfortable outside, but are very impractical inside and not elegant. It would require to carry an additional pair of shoes for inside.

[0005] It is now an object of the invention to reduce the above disadvantages.

[0006] This object is achieved with an anti-slip device for a shoe comprising:

- a body having a plurality of protrusions projecting from one side of the body; and
- attachment means for attaching the body to the waist of a shoe, such that the protrusions are directed away from the waist of the shoe.

[0007] The anti-slip device according to the invention is arranged at the waist of the shoe. The waist is the narrowing part of the sole between the toe of the shoe and the heel. When walking, the device is prevented from shifting to the back of the shoe by the heel of the shoe. The protrusions will provide the necessary grip on the bottom and this grip will be transferred via the anti-slip device to the heel of the shoe. So, if the shoe itself has insufficient grip on a bottom, the protrusions of the anti-slip device will provide for additional grip. As the device according to the invention is arranged at the waist of the shoe, the wearer will experience the added grip, as if the grip is provided by the shoe itself. Also the flexibility of the shoe is maintained as the toe of the shoe is kept free by the device.

[0008] Furthermore the device according to the invention is only a part of the size of a shoe, as it is only arranged at the waist of a shoe, and can therefore easily be carried along. It can also be worn when for example driving a car.

[0009] In a preferred embodiment of the anti-slip device according to the invention the body comprises a bracket having an U-shaped cross-section with a base part and two flanges arranged on either side of the base part. Preferably, the protrusions are arranged on the free edge of the flanges.

[0010] An U-shaped bracket can be made cost effectively. The flanges with the protrusions are dimensioned such, that they extend just beyond the contact surface of the sole of the shoe.

[0011] In another preferred embodiment of the anti-slip device according to the invention the free edge of the flanges is a serrated edge. A serrated edge is easily made and provides a firm grip on slippery surfaces, such as snow and glaze. The tips of the serrated edge easily dig into the slippery surface providing the desired grip.

[0012] In yet another embodiment of the anti-slip device according to the invention, the body comprises a second side opposite of the first side, which second side is tilted in respect of the first side and wherein the second side is for abutment with the waist of the shoe.

[0013] By tilting the opposing first and second side, the device can be arranged comfortably in the space between the toe and heel of the shoe, which is generally a tapered space.

[0014] With a U-shaped bracket, the tilting configuration is easily obtained by providing both flanges with a different height.

[0015] In still another embodiment the anti-slip device according to the invention comprises a strap to be arranged around the instep of the shoe. This strap could be provided with velcro with enables a quick attachment and detachment of the device to a shoe.

[0016] The invention further relates to a combination of an anti-slip device according to the invention and a shoe with a sole and a heel, wherein the anti-slip device is arranged to the waist of the shoe adjacent the heel.

[0017] Preferably the protrusions extend beyond the contact surface of the heel and sole. In this embodiment the protrusions always contribute to additional grip.

[0018] These and other features of the invention will be elucidated in conjunction with the accompanying drawings.

Figure 1 shows a first embodiment of a anti-slip device according to the invention.

Figure 2 shows the device according to figure 1 attached to the waist of a shoe.

Figure 3 shows a second embodiment of an anti-slip device according to the invention.

Figure 4 shows a third embodiment of an anti-slip device according to the invention.

[0019] Figure 1 shows a first embodiment 1 of an anti-slip device according to the invention. The device 1 has a U-shaped cross-section with a base part 2 and two flanges 3, 4 arranged on either side of the base part 2. The two flanges 3, 4 are provided with protrusions 5 and form a serrated edge.

[0020] The flange 3 is higher than the flange 2, such that when the protrusions 5 contact a flat surface, the base part 2 will be tilted relative to said flat surface.

[0021] The base part 2 comprises two slots 6, 7 through which a strap 8 is arranged. With this strap 8 the device 1 can be attached to the waist of a shoe. The strap 8 can be two parts of velcro or an elastic band.

[0022] Figure 2 shows a shoe 9 with a sole 10, a heel 11 and an instep 12. The part between the front of the sole 10 and the heel 11 is the waist 13. Below the waist 13 a device 1 according to figure 1 is arranged. The device 1 is attached to the shoe 9 with a strap 8 around the instep 12.

[0023] When the shoe 9 is placed on a slippery bottom 14, the sole 10 and the heel 11 will contact the bottom 14. Also the projections 5 of the device 1 will contact the bottom 14 and provide additional grip. As the device 1 is kept in place at the waist 13 of the shoe by the strap 8 and the heel 11, a firm grip will be provided to the otherwise slippery bottom 14.

[0024] Figure 3 shows a second embodiment 20. This embodiment 20 has a body 21 with a first bottom surface 22. On this first surface 22 a number of cone-shaped projections 23 are arranged. The body 21 can be attached to a shoe with the strap 24.

[0025] Figure 4 shows a third embodiment 30 of an anti-slip device according to the invention. This device 30 has a body 31 with a top surface 32 and a bottom surface 33, which is provided with a number of parallel ridges 34. The bottom surface 33 is tilted relative to the top surface 32 to correspond with the tapered space between the waist and heel of a shoe and the slippery bottom.

[0026] The body 31 is attachable to a shoe with a strap 35, which is provided with a buckle 36.

Claims

1. Anti-slip device for a shoe comprising:

   - a body having a plurality of protrusions projecting from one side of the body; and
   - attachment means for attaching the body to the waist of a shoe, such that the protrusions are directed away from the waist of the shoe.

2. Anti-slip device according to claim 1, wherein the body comprises a bracket having an U-shaped cross-section with a base part and two flanges arranged on either side of the base part.

3. Anti-slip device according to claim 2, wherein the protrusions are arranged on the free edge of the flanges.

4. Anti-slip device according to claim 3, wherein the free edge of the flanges is a serrated edge.

5. Anti-slip device according to any of the preceding claims, wherein the body comprises a second side opposite of the first side, which second side is tilted in respect of the first side and wherein the second side is for abutment with the waist of the shoe.

6. Anti-slip device according to claim 5 and claim 2, wherein both flanges have a different height.

7. Anti-slip device according to any of the preceding claims, wherein the attachment means comprise a strap to be arranged around the instep of the shoe.

8. Combination of an anti-slip device according to any of the preceding claims, and a shoe with a sole and a heel, wherein the anti-slip device is arranged to the waist of the shoe adjacent the heel.

9. Combination according to claim 8, wherein the protrusions extend beyond the contact surface of the heel and sole.

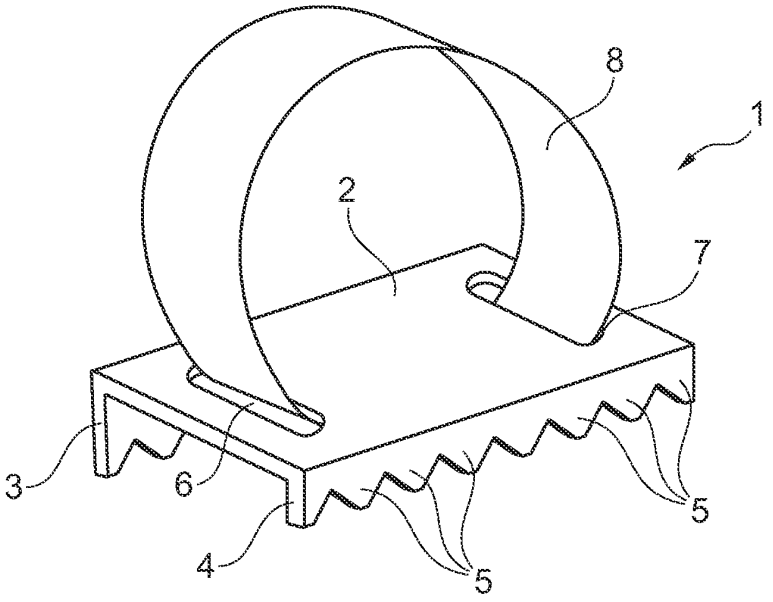

Fig. 1

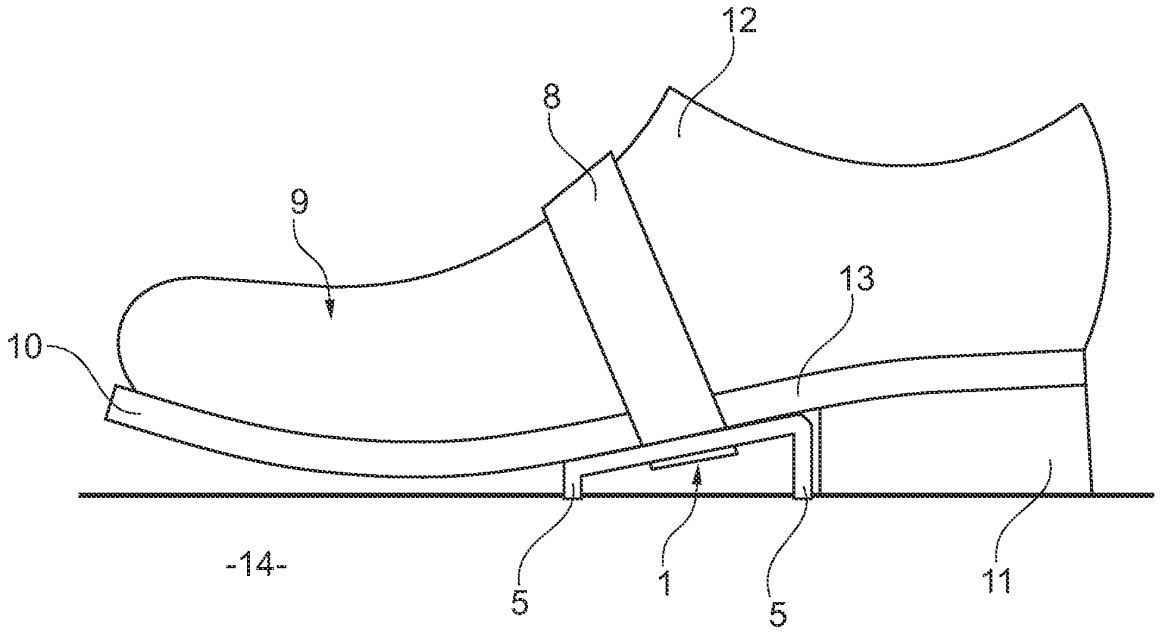

Fig. 2

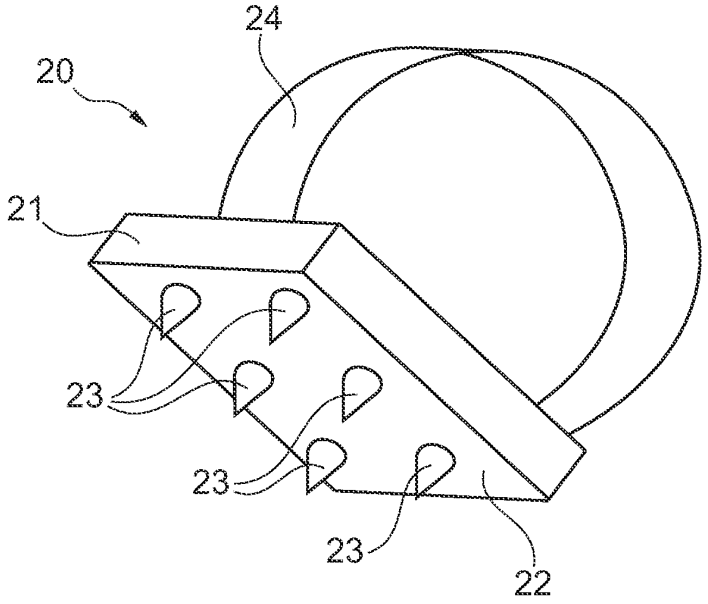

Fig. 3

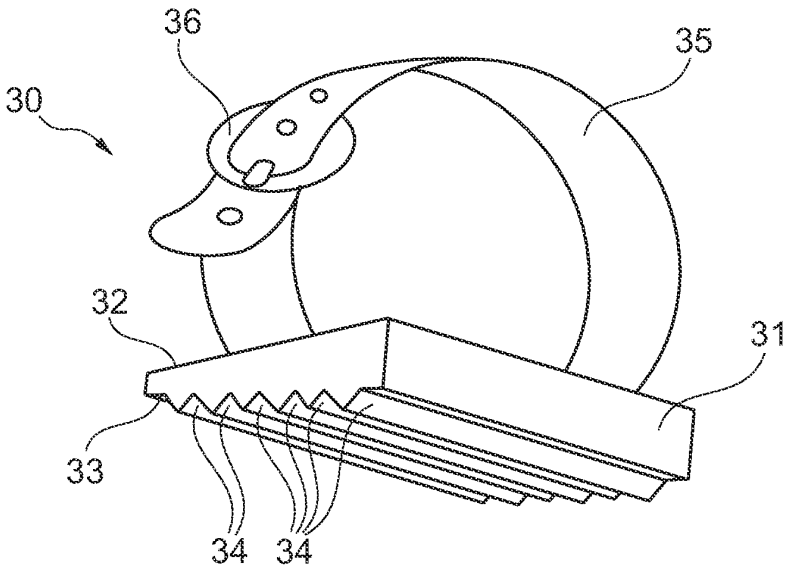

Fig. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 10 17 7088

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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X	JP 61 051011 U (-) 5 April 1986 (1986-04-05) * figures 1-4 *	1-4,7-9	
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			TECHNICAL FIELDS SEARCHED (IPC) A43C A43B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	7 March 2011	Cianci, Sabino

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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07-03-2011

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