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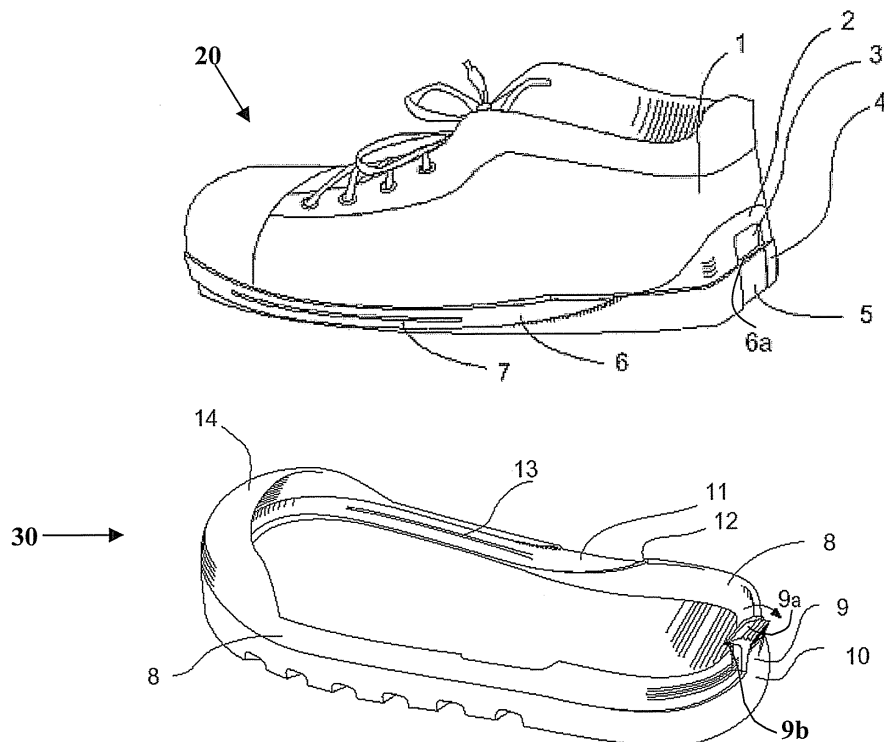
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(54) Footware with a quick removable sole

(57) The present invention provides for a footware (20) with a quick removable sole (30), comprising: in the toe portion of the sole a rising toe part bending towards the inside of the sole; in the heel portion of the sole a clip (9) hook shaped in the inner upper part; in the heel portion

of the footware an upper recess (3) and a rising edge forming a gap in the upper recess; the toe portion of the footware fitting inside said rising toe part of the removable sole, said hook of the clip engaging with said gap in the footware.

fig. 1



Description

[0001] The present invention relates to a footwear with a quick removable sole.

[0002] A removable sole in a footwear is useful in a number of situations, in particular when the sole becomes dirty, and there should be a need to enter an house or other clean environments. In this situation a person should have to take the shoes off. It is better and quicker to simply provisionally remove the soles from the shoes, without the need to throw them away or to change them, to enter the house and wear them again later when exiting.

[0003] There is a number of known examples of footwears with removable soles in the art. The common problem of the known solutions is that the removal of the sole is not easy: the person must stoop or kneel and remove the sole with the hands, to unhook or release an engaging connector or hook of the sole.

[0004] Therefore in view of the known solutions, that are not quite efficient, it is the main object of the present invention to provide a footwear with a fixed sole and a removable sole, characterized in that said removable sole comprises: a peripheral rising edge; a clip in the heel portion, hook shaped in the inner upper part; and in that said footwear comprises: a lateral projecting rising edge at least in a toe and lateral parts; an upper recess in the heel portion forming a gap; said lateral projecting rising edge engaging with said peripheral rising edge, and said hook of the clip engaging with said gap.

[0005] These and further objects are achieved by means of a footwear with a quick removable sole, as described in the attached claims, which are considered an integral part of the present description.

[0006] The invention will become fully clear from the following detailed description, given by way of a mere exemplifying and non limiting example, to be read with reference to the attached drawing figures, wherein:

- Figure 1 shows a shoe with a removable sole according to the invention;
 - Figures 2a and 2b show two variants of particulars of figure 1;
 - Figure 3 shows a boot with a removable sole according to the invention.
- The same reference numerals in the figures designate the same or functionally equivalent parts.

[0007] As shown in fig. 1, a shoe 20 comprises an upper part 1 made of any known material, like synthetic or natural materials.

[0008] An upper sole 4 is rigidly connected to the shoe, preferably made of rigid plastics. The upper sole 4 is provided with a lateral projecting rising edge 6, preferably made of rigid plastics, surrounding the sole 4 in the toe part and in the lateral part of the latter, where preferably it bends towards the top, in correspondence with the hollow of the foot.

[0009] Preferably the height of the lateral projecting rising edge 6 is lower in the toe part and becomes higher towards the end of it in the lateral part.

[0010] The heel part of the shoe has an upper recess 3, preferably placed centrally above the sole 4. A dividing edge 6a is formed below the upper recess 3, forming a gap.

[0011] Preferably the heel part of the shoe has a shaped rising edge 2 surrounding the recess 3, and a lower recess 5 is provided centrally just below the upper recess 3, the dividing edge 6a forming a gap in between.

[0012] A removable lower sole 30 comprises a lower part 10 and a peripheral rising edge 8, preferably made of rigid plastics. The heel portion of the sole comprises a clip 9. Preferably the clip 9 is provided in the upper portion with a knurled roughness part 9a, and a hook shape 9b in the inner side. The clip 9 is designed so as to engage with the recess 3 of the shoe.

[0013] The peripheral rising edge 8 is present at least in the toe and lateral parts of the sole 30, but it can be present in the whole of the sole perimeter as well. Preferably it comprises in the toe portion an upwardly rising toe part 14, bending towards the inside of the sole.

[0014] Preferably the internal part of the peripheral rising edge 8 is provided with an internal guide 11, designed to engage with the lateral projecting rising edge 6 of the shoe (figures 2a, 2b).

[0015] Preferably the internal guide 11 is provided with a lateral slot aperture 12 in the lateral upper part of the peripheral rising edge 8, where the internal guide 11 bends upwardly, in correspondence with the hollow of the foot. Preferably the internal guide 11 is present at least in the toe and lateral parts of the peripheral rising edge 8, but it can be present in the whole of the perimeter as well.

[0016] Preferably a projecting guide 7 is obtained longitudinally on the lateral sides of the raising edge 6.

[0017] In a first variant shown in figure 2a, the projecting guide 7 can have a rounded shape, and the internal side of the peripheral rising edge 8 is provided with an inner groove having a dual rounded shape 13 as well. Preferably a step 11a is provided in the lower internal part of the peripheral rising edge 8, projecting towards the raising edge 6 of the shoe, to improve the engagement of the sole 30 with the shoe 20.

[0018] In a second variant shown in figure 2b, the projecting guide 7a has a "T" shape, as well as the internal side of the peripheral rising edge 8 is provided with an inner groove having a dual "T" shape 13a as well.

[0019] The projecting guide 7 can have other forms equivalent in the functionality to those shown in figures 2a and 2b.

[0020] As shown in figures 2a and 2b, the upper portion of the peripheral rising edge 8 of the removable sole projects towards the inside of the sole, to engage better with the rising edge 6 of the shoe, when the removable sole is worn.

[0021] In the variant of figure 2a, in addition the pro-

jecting guide 7 is engaged in the groove 13, so reinforcing the sealing between the peripheral rising edge 8 of the removable sole and projecting rising edge 6 of the shoe.

[0022] A further reinforcement is obtained with the variant of fig. 2b, as the "T" shape of the projecting guide 7a is firmly inside the "T" shape of the groove 13a, so avoiding definitely the detachment of the peripheral rising edge 8 of the removable sole 30 from the rising edge 6 of the shoe 20, especially when bending the shoes during walking. This also avoids dirty particles entering the space in between.

[0023] As shown in figure 3, in operation there are two variants to wear and remove the removable sole.

[0024] In a first variant, applicable with preference to substantially rigid footwear, like ski boots or others, to wear the sole, the toe part of the footwear is engaged with the internal part of the upwardly rising toe part 14 of the removable sole. Then the heel portion of the footwear is pressed against the heel portion of the removable sole. The clip 9 engages with and slides against the rising edge 6 of the footwear, or with the lower recess 5, if present, till when the hook 9b of the inner part of the clip 9 becomes embedded in the gap between the upper recess 3 and the rising edge 6 or the lower recess 5 if present. The projecting guide 7 engages with the inner groove 13. In this case the only variant of forms shown in fig. 2a can be used.

[0025] To remove the sole 30, the person may stand up, and use the toe part of the other footwear to act against the knurled roughness part 9a of the clip 9, to move it back (see the arrow), and release the hook 9b from the gap 6a. Then he can lift up the heel part of the footwear and disengage the toe part of the footwear from the rising toe part 14 of the sole 30.

[0026] In a second variant, applicable with preference to substantially elastically bending footwear, to wear the sole, with a sliding movement the lateral rising edges 6 of the footwear is first caused to enter the lateral guides 11 of the removable sole, and insert the projecting guides 7 or 7a into the inner grooves 13 or 13a, till when the toe part of the footwear is engaged with the internal part of the upwardly rising toe part 14 of the removable sole. A residual pressure is then applied to the heel portion of the footwear to engage the heel clip 9 with the recess 3.

[0027] To remove the sole 30, the person may stand up, and use the toe part of the other footwear to act against the knurled roughness part 9a of the clip 9, to move it back (see the arrow), and release the hook 9b from the gap 6a, like in the first variant. Then the footwear is slid backwardly, to disengage the rising edge 6 from the lateral guides 11 of the sole 30.

[0028] Further implementation details will not be described, as the man skilled in the art is able to carry out the invention starting from the teaching of the above description.

[0029] Many changes, modifications, variations and other uses and applications of the subject invention will become apparent to those skilled in the art after consid-

ering the specification and the accompanying drawings which disclose preferred embodiments thereof. All such changes, modifications, variations and other uses and applications which do not depart from the spirit and scope of the invention are deemed to be covered by this invention.

Claims

1. Footware (20) with a fixed sole (4) and a removable sole (30), **characterized in that** said removable sole (30) comprises:

- a peripheral rising edge (8);
- a clip (9) in the heel portion, hook shaped (9a) in the inner upper part; and **in that** said footware (20) comprises:

- a lateral projecting rising edge (6) at least in a toe and lateral parts;
- an upper recess (3) in the heel portion forming a gap (6a);

said lateral projecting rising edge (6) engaging with said peripheral rising edge (8), and said hook (9a) of the clip (9) engaging with said gap (6a).

2. Footware according to claim 1, **characterized in that** said peripheral rising edge (8) is present at least in a toe and lateral parts, or also in the whole of the sole perimeter.

3. Footware according to claim 1, **characterized in that** said removable sole further comprises in the toe portion a rising toe part (14) bending towards the inside of the sole; the toe portion of the footwear (30) fitting inside said rising toe part (14).

4. Footware according to claim 1, **characterized in that** an internal part of said peripheral rising edge (8) is provided with an internal guide (11), to engage with said lateral projecting rising edge (6).

5. Footware according to claim 4, **characterized in that** said internal guide (11) is provided with a lateral slot aperture (12) in the lateral upper part of said peripheral rising edge (8), where said internal guide bends upwardly, and **in that** said lateral projecting rising edge (6) bends upwardly in the lateral part of the footwear in correspondence with said lateral slot aperture (12).

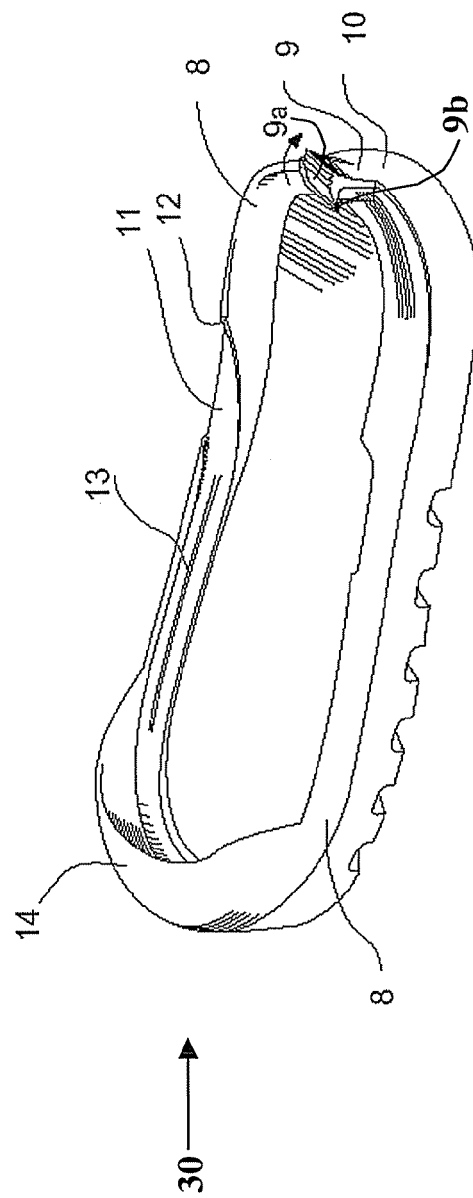
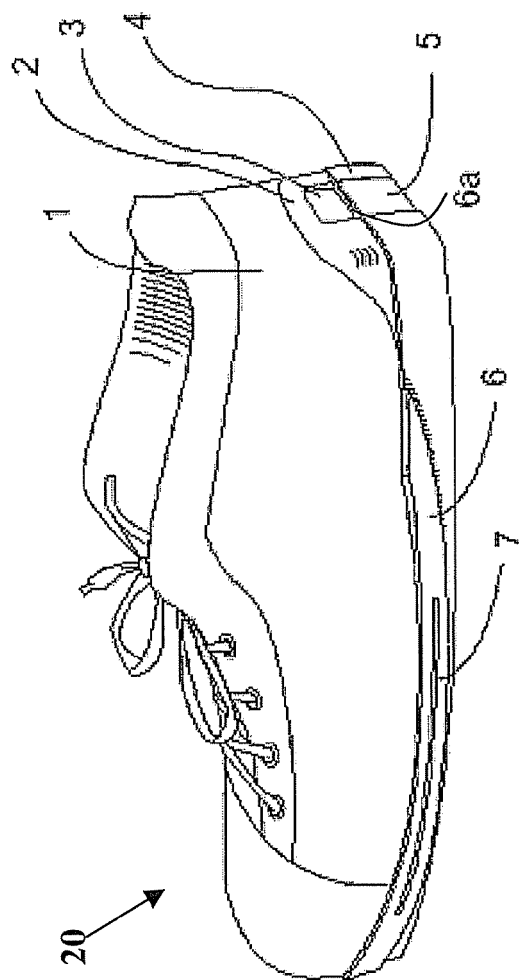
6. Footware according to claim 4, **characterized in that** said internal guide (11) is present at least in the toe and lateral parts of the peripheral rising edge (8), or also in the whole of the perimeter.

7. Footware according to claim 1, **characterized in that** said peripheral rising edge (8) further comprises an inner groove (13), and **in that** said lateral projecting rising edge (6) further comprises a projecting guide (7) having a dual shape with respect said inner groove and fitting with it. 5
8. Footware according to claim 7, **characterized in that** said inner groove (13) and said projecting guide (7) have a rounded shape. 10
9. Footware according to claim 7, **characterized in that** said inner groove (13) and said projecting guide (7) have a "T" shape. 15
10. Footware according to claim 1, **characterized in that** the height of said lateral projecting rising edge (6) is lower in the toe part and becomes higher towards the lateral part. 20
11. Footware according to claim 1, **characterized in that** the upper portion of said peripheral rising edge (8) projects towards the inside of the sole, to engage better with said rising edge (6). 25
12. Footware according to claim 1, **characterized in that** it further comprises a lower recess (5) under said upper recess (3). 30
13. Footware according to claim 1, **characterized in that** said clip (9) comprises in the upper portion a knurled roughness part (9a). 35
14. Footware according to claim 1, **characterized in that** said peripheral rising edge (8) comprises in the lower internal portion a step (11a) projecting towards said raising edge 6. 40
15. Footware according to claim 1, **characterized in that** the heel part comprises a shaped rising edge (2), surrounding said upper recess (3). 45
16. Footware according to any of the preceding claims, **characterized in that** it is a shoe or a boot. 50

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fig. 1



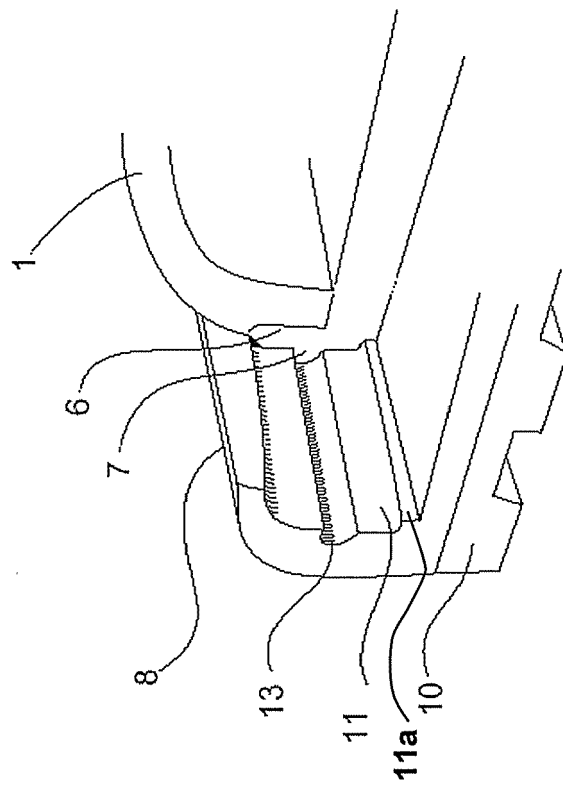


Fig. 2a

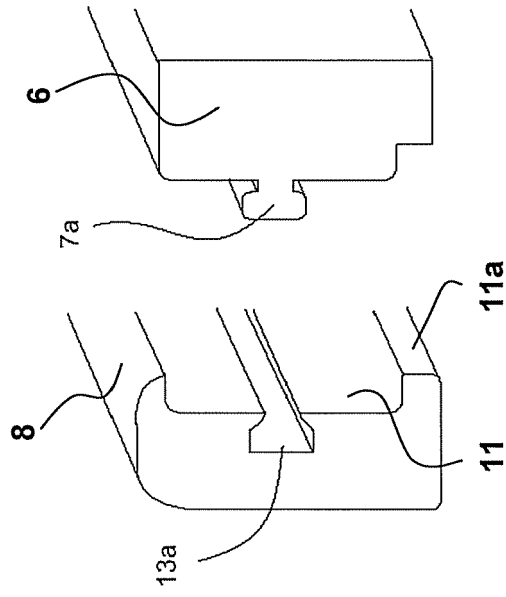


Fig. 2b

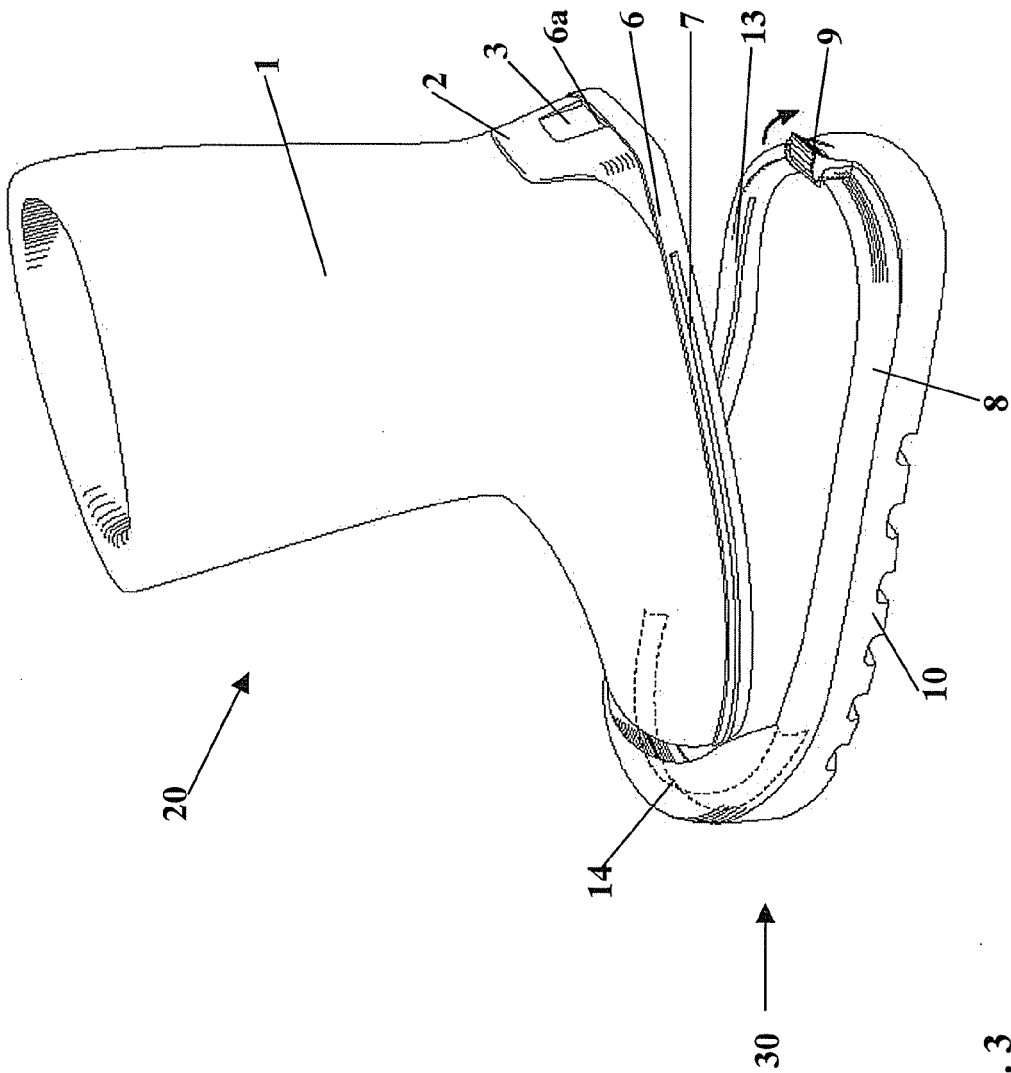


Fig. 3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 10 3227

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 August 2005	Examiner Cianci, S
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			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 05 10 3227

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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19-08-2005

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