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## (54) METHOD FOR PRODUCING A FASTENING SYSTEM FOR INTERCHANGEABLE SANDAL STRAPS

(57) The present invention refers to a process for production of a fastening system of interchangeable straps in sandals that includes the following steps: preparation of the base by creation of several apertures in its material; coating of said base with adhesive for attachment of the material composing the outer layer of the platform, to secure the sole and the insole; application of a fastener within said base, piercing the outer layer of the platform,

by pressure on the support which is traversed by said fastener which is inserted inside the base and passes through multiple apertures and is fastened permanently; fastening of said fastener ensuring so that the support remains a reasonable distance from the platform to enable the straps to be engaged and disengaged. The invention also includes the product produced by said process

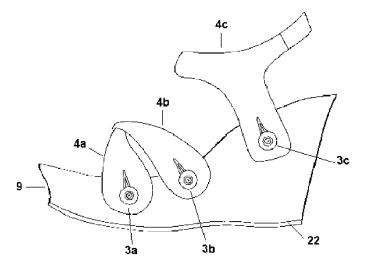


Figure 7

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#### **FIELD OF THE INVENTION**

**[0001]** The present invention pertains to footwear. More specifically the invention relates to a process for production of a fastening system of interchangeable straps in sandals in accordance with the preamble of patent claim 1. The invention relates to a type of personal item designed to meet human needs.

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#### **PRIOR ART**

**[0002]** The footwear industry, in order to meet a human need, has gradually been developing and manufacturing more refined models whose production, from a technical point of view, is becoming increasingly complex.

**[0003]** The primary use of footwear is to protect people's feet. Today, however, shoes are purchased based on criteria related to fashion trends and are used as a fashion accessory and as a complement to external image, more commonly known as "look".

**[0004]** The footwear industry, in response to market demand, has been creating several alternatives to traditional shoes and the concept of shoes with interchangeable elements, particularly interchangeable straps, is already known.

**[0005]** However, already known footwear with interchangeable elements is not, due to its intrinsic characteristics, intended to facilitate the interchangeability of certain components to enable shoes to be differently configured while retaining an attractive aesthetic appearance which enables them to be used with different clothing styles, materials and colours.

**[0006]** As can be seen in US patent No.4461102, shoes that change appearance by replacement of straps are provided. Interchangeability of the straps is made possible by a fastening mechanism consisting of spring connectors attached to the ends of each strap employed with the shoe where each spring connector includes at least one loop spring which engages a stud securely fixed to the lower part of the shoe.

[0007] US patent No. 5992058 provides for a shoe system with interchangeable elements whose fastening device consists of snap fasteners, located on the perimeter of the shoe sole, to which several flexible straps can be attached, said straps having a pair of opposite ends detachable from the sole and the heel of the shoe is also interchangeable via a screw to which the desired heel must be connected.

**[0008]** US patent No. 2002194750 provides for a shoe with a removable upper whose fastening mechanism consists of receiving openings in recesses located on the base of the shoe and fasteners which are coupled with said openings, which are located on said removable uppers.

[0009] US patent No. 2003233772 provides for interchangeable shoe coverings in which the fastener may consist of hooks, straps, snaps or laces.

**[0010]** US patent No. 200726650 provides for a shoe with two components which are independent of one another and interchangeable, namely an ankle strap with a fastening device consisting of snap fasteners which can be attached by means of rivets, adhesives or other known means and a vamp whose fastener also consists of snaps that can be attached using rivets, adhesives or other known means.

10 [0011] US patent No. 2007209238 provides for a vamp for use in shoes with interchangeable components, the vamp consisting of ends that include fasteners that interconnect with fasteners positioned on the edge of the shoe base.

15 [0012] US patent No. 2004064976 provides for an interchangeable shoe ensemble which includes a base member having snap fasteners along its periphery and positioned for connection to the corresponding snap fasteners on the interchangeable upper.

**[0013]** US patent No. 2004064976 [sic] provides for a shoe whose sole includes foldable iron accessories that are attached to each end of the shoe upper and said upper is interchangeable.

**[0014]** None of the above documents provides for a system with one or more interchangeable uppers that are easily replaceable and fastened so as to provide comfort and safety to the user and which, at the same time, do not compromise the aesthetic appearance of the shoe.

**[0015]** Accordingly, it would be useful to provide a process for production of a fastening system for interchangeable straps in sandals and other products, obtained according to said process, which is functional to the extent that it provides comfort and safety to the user and at the same time has an aesthetic function by providing a pleasing outer appearance.

### **SUMMARY OF THE INVENTION**

**[0016]** The present invention seeks to overcome these problems through a process for the production of a fastening system of interchangeable straps for sandals that is different from existing processes and has specific features in terms of fasteners.

[0017] The present invention presents a process for production of a fastening system of interchangeable straps in sandals that is different from conventional processes because it includes the following steps: preparation of the base by creation of several apertures in its material; coating of said base with adhesive for attachment of the material composing the outer layer of the platform, to secure the sole and the insole; application of a fastener within said base, piercing the outer layer of the platform, by pressure on the support which is traversed by said fastener which is inserted inside the base and passes through multiple apertures and is fastened permanently; fastening of said fastener ensuring so that the support remains a reasonable distance from the platform.

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[0018] The platform of the fastening system of interchangeable straps in sandals may be with or without a heel and may adopt several configurations and aesthetic decorations. The fasteners applied inside the base may be affixed to the extension of the periphery of the platform with a heel or positioned on the upper face of the insole of the base without a heel. The interchangeable straps that are combinable with one another are replaced by disengaging and engaging the buttonholes on the supports. The straps can also be fastened permanently to a platform with a heel or without a heel.

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[0019] The present invention allows the user to wear sandals in different contexts by changing the strap to suit the outfit and personal taste, while ensuring, at the same time, comfort in use through the possibility of selecting the base that best fits the size and shape of the foot and the strap whose size is suitable for providing stability and comfort.

[0020] The present invention provides for a system allowing replacement of straps which, furthermore, can be combined with each other, allowing different colours and types of straps with the inherent ability of change in aesthetic appearance which, accordingly, allows numerous different models of sandals to be configured.

[0021] The present invention enables the physical space occupied by the shoe to be reduced as it provides for numerous different sandal models using a single platform to which interchangeable straps are connected providing for the composition of several sandal models.

[0022] The present invention provides for a system in which particular components, namely the platform and straps, can be of sizes that can be combined with each other to enable the sandal to fit the foot of each individual user, in a way that traditional footwear cannot.

#### **DESCRIPTION OF THE DRAWINGS**

[0023] The present invention is described and illustrated below with reference to the accompanying drawings, which are presented as examples and without limitation, namely:

Figure 1: a schematic top view illustration of the base of the system illustrating the interior of the base (1); the multiple apertures (2)

Figure 2: a schematic front view illustration of the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) illustrating the preferably circular shape of its face,

Figure 3: a schematic side view illustration of the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) which illustrates the preferably circular shape of its face and the fastener (8) with a preferably cylindrical shape and which traverses said supports,

Figure 4: a schematic front view illustration of the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) which illustrates the preferably circular shape of its face and the fastener(8) with a preferably cylindrical shape and which traverses said supports,

Figure 5: a schematic top view illustration of the base of the system illustrating the interior of the base (1); the multiple apertures (2), the supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) and the fasteners (8),

Figure 6: a schematic front view illustration of the system illustrating the platform with a heel(9); three interchangeable straps (4a, 4b, 4c); a support (3a) affixed to the extension of the periphery of the right side section of the platform with a heel (9); a support (5c) affixed to the extension of the periphery of the left side section of the platform with a wheel(9); the insole, (21); the sole (22),

Figure 7: a schematic right side view illustration of the system showing the right side section of the platform with a heel(9); three supports (3a, 3b, 3c) affixed to the extension of the periphery of the right side section of the platform with a heel(9); three interchangeable straps (4a, 4b, 4c); the sole (22)

Figure 8: a schematic left side view illustration of the system showing the left side section of the platform with a heel(9); three supports (5a, 5b, 5c) affixed to the extension of the periphery of the left side section of the platform with a heel (9); three interchangeable straps (4a, 4b, 4c); the sole (22)

Figure 9: a schematic front view illustration of the system illustrating the platform with a heel (9); a support (6) affixed to the extension of the right side section of the periphery of the platform with a heel (9); a support (7) affixed to the extension of the left side section of the periphery of the platform with a heel(9); two interchangeable straps (12a, 12b); a strap (13) fastened permanently to the platform with a heel (9); two fasteners (10, 11) integrated in the strap (13) permanently fastened to the platform with a heel (9); the insole, (21); the sole (22)

Figure 10: a schematic right side view illustration of the system illustrating the right side section of the platform with a heel (9); a support (6) affixed to the extension of the right side section of the periphery of the platform with a heel(9); a strap (13) fastened permanently to the platform with a heel (9); a fastener (10) integrated into the strap (13) fastened permanently to the platform with a heel (9); two interchangeable straps (12a, 12b); the sole (22)

Figure 11: a schematic left side view illustration of the system illustrating the left side section of the platform with a heel (9); a support(7) affixed to the extension of the left side section of the periphery of the

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platform with a heel (9); a strap (13) fastened permanently to the platform with a heel (9); a fastener (11) integrated into the strap (13) fastened permanently to the platform with a heel (9); two interchangeable straps (12a, 12b); the sole (22)

**Figure 12:** a schematic front view illustration of the system illustrating the platform without a heel (14); a support (15) affixed to the upper section of the insole (21); an interchangeable strap (16); two straps (17, 19) fastened permanently to the platform without a heel (14); the insole (21),

Figure 13: a schematic right side view illustration of the system illustrating the right side section of the platform without a heel (14); ; a support(15) affixed to upper section of the insole(21); a strap (17) fastened permanently to the platform without a heel (14); a fastener (20) integrated into the strap (17) fastened permanently to the platform without a heel (14); an interchangeable strap (16);

Figure 14: a schematic left side view illustration of the system illustrating the left side section of the platform without a heel (14); a support (15) affixed to upper section of the insole (21); a strap (19) fastened permanently to the platform without a heel (14); a fastener(18)integrated into the strap (19) fastened permanently to the platform without a heel (14); an interchangeable strap(15);

#### LIST OF REFERENCE SIGNS

No.	Designation	
1	Base	
2	Aperture	
3a	Support	
3b	Support	
3c	Support	
4a	Interchangeable strap	
4b	Interchangeable strap	
4c	Interchangeable strap	
5a	Support	
5b	Support	
5c	Support	
6	Support	
7	Support	
8	Fastener	
9	Platform with a heel	
10	Fastener	

(continued)

No.	Designation		
11	Fastener		
12a	Interchangeable strap		
12b	Interchangeable strap		
13	Strap		
14	Platform without a heel		
15	Support Interchangeable strap Strap		
16			
17			
18	Fastener		
19	Strap		
20	Fastener		
21	Insole Sole		
22			

#### **DETAILED DESCRIPTION OF THE INVENTION**

**[0024]** The present invention provides a process for the production of a fastening system of interchangeable straps in sandals comprising the following steps:

- preparation of the base (1) through material that is sufficiently rigid to house fasteners inserted into its structure, in which numerous apertures are created(2);
- coating of said base (1) with adhesive material to fix the layer, preferably of cork, that forms the outer of the platform (9, 14) and to fix the sole (22), preferably of rubber and to fix the insole (21), preferably of imitation leather;
  - application of a fastener (8), preferably of cylindrical shape, inside said base (1) puncturing the outer layer of the platform (9, 14) by means of pressure on the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15), which is preferably round, which is traversed by said fastener (8) which is inserted into the base (1) and there pierces numerous apertures (2) and is fastened permanently;
- fastening of said fastener(8), preferably of cylindrical shape, ensuring that the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) remains sufficient distance from the platform (9, 14) to enable the interchangeable straps to be engaged and disengaged.

**[0025]** This fastening system of interchangeable straps in sandals, obtained in accordance with the process described in the previous paragraph, consists of a

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platform with a heel(9) or without a heel (14) which can adopt several configurations and aesthetic decorations, using supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) which may be affixed to the extension of the periphery of the platform with a heel(9) or positioned on the insole (21) of the platform without a heel (14), using interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) that can be combined with each other, by straps (13, 17, 19) fastened permanently to the platform with a heel (9) or without a heel (14) and by fasteners (10, 11, 18, 20) integrated in the straps (13, 17, 19) permanently fastened to the platform with a heel (9) or without a heel (14.

[0026] The present fastening system of interchangeable straps in sandals has a platform that can be with a heel (9) or without a heel (14) in which the base (1) is formed of a resistant material that is sufficiently rigid to house fasteners inserted into its structure, preferably of polyurethane which is a polymer designated by the acronym PU. The platform with a heel (9) and without a heel (14) may be coated with various materials and can therefore adopt several configurations and aesthetic decorations. The platform with a heel (9) can vary in terms of heel height and shape.

[0027] The present fastening system of interchangeable straps in sandals includes supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) which may be affixed to the extension of the periphery of the platform with a heel (9) or positioned on the insole (21) of the platform without a heel(14). The supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) are made of a resistant material that is sufficiently rigid to enable the straps to be engaged and disengaged, preferably stainless steel and therefore highly resistant to oxidation and, accordingly, susceptibility to deterioration due to rusting. These supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) are traversed by a fastener(8) inserted into the base (1) by means of pressure on said supports, perforating the outer layer of the platform (9, 14) and passing through multiple apertures (2) and being fastened permanently in the base (1) preventing them coming loose from their position. The number and position of the supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) in the base (1) may vary to allow different models of shoes to be configured by applying the same fastening system of interchangeable components. The supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) are placed at strategic locations to ensure comfort of the foot provided by the stable, safe properly fitted engagement of each strap and the fasteners (8) ensure that said supports are affixed and prevent them coming loose from their location. The aesthetic decorations of said supports may vary.

[0028] This fastening system includes interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) that can be combined with each other. These interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) are composed of three distinct layers, namely: the outer layer consists of a section whose size, material of composition, colour or colours may vary based on the time of year and seasonal collection, the middle layer consisting of a resilient material that ensures

the durability, shape and comfort of the strap and whose size, material of composition and colour or colours may vary, the inner layer consisting of an anti-allergic material which provides comfort to the user when wearing the sandals. These interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) have a finish consisting of special stitching that is strengthened around the buttonholes which engage the supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) and fasteners (10, 11, 18, 20) integrated in the straps (13, 17, 19) to prevent the interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) being excessively damaging by and during movement of the wearer's foot. The length of the interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) is variable to enable them to be engaged on the supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15). The size, material of composition, colour or colours, configuration and aesthetic decorations of the interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) are variable so as to provide the sandals with several aesthetic appearances provided by use thereof. The interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) are easy to change as it is only necessary to engage the buttonholes on the supports (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) and fasteners (10, 11, 18, 20) integrated in the straps (13, 17, 19).

**[0029]** This fastening system includes interchangeable straps, includes straps (13, 17, 19) that are permanently fixed to the platform with a heel (9) or without a heel (14) to which the interchangeable straps (4a, 4b, 4c, 12a, 12b, 16) are connected. The configuration and aesthetic decoration of the straps (13, 17, 19) may vary.

[0030] This fastening system includes interchangeable straps, includes fasteners(10, 11, 18, 20) integrated in the straps (13, 17, 19) fastened permanently to the platform with a heel (9) or without a heel (14) that enable interconnection of the interchangeable straps (4a, 4b, 4c, 12 a, 11b, 16) to the straps (13, 17, 19). The configuration and aesthetic decoration of the fasteners(10, 11, 18, 20) may vary.

### PREFERRED EMBODIMENT OF THE INVENTION

[0031] Preparation of the base (1) through material of sufficient rigidity to house fasteners inserted in its structure, in which numerous apertures are created (2); Coating of said base (1) with adhesive material to fix the layer, preferably of cork, that forms the outer of the platform (9, 14) and to fix the sole (22), preferably of rubber and to fix the insole (21), preferably of imitation leather; Application of a fastener (8), preferably of cylindrical shape, inside said base (1) puncturing the outer layer of the platform (9, 14) by means of pressure on the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15), which is preferably round, which is traversed by said fastener (8) which is inserted into the base (1) and there passes through multiple apertures (2) and is fastened permanently; Fastening of said fastener(8), preferably of cylindrical shape, ensuring that the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) remains sufficient distance from the platform (9, 14) to enable the interchangeable straps to be engaged and disengaged. The

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platform with a heel (9) may be coated with various materials and may therefore take numerous appearances and may also be of different heights and heel shapes. To provide comfort, three supports (3a, 3b, 3c) are affixed to this platform (9) at strategic locations on the extension of the right side section of the periphery of the platform and three supports (5a, 5b, 5c) on the extension of the left side section of the periphery of the platform and these are affixed by said fastener(8) which traverses said supports, which is inserted into the base (1) and there passes through multiple aperture(2) and is fastened permanently. These supports (3a, 3b, 3c, 5a, 5b, 5c) are made of resistant material that is sufficiently rigid to enable engagement and disengagement of the straps. The aesthetic decoration of the supports (3a, 3b, 3c, 5a, 5b, 5c) may vary. Three interchangeable straps (4a, 4b, 4c) of variable length and material and colours are engaged on the supports (3a, 3b, 3c, 5a, 5b, 5c) at the buttonhole section. These interchangeable straps (4a, 4b, 4c) consist of three distinct layers, namely: an outer layer whose size, material and colour may vary, the middle layer whose material provides comfort and durability to the strap and whose size, composition and colour may vary and the inner layer consisting of an anti-allergic material that provides comfort to the user when using the sandals. The interchangeable straps (4a, 4b, 4c) have a special stitching that is strengthened around the buttonholes which engage the supports (3a, 3b, 3c, 5a, 5b, 5c) to prevent them being excessively damaged by their use. The interchangeable straps (4a, 4b, 4c) are changed by disengaging the supports (3a, 3b, 3c, 5a, 5b, 5c) from the buttonholes.

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lindrical shape, ensuring that the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15) remains sufficient distance from the platform (9, 14) to enable the interchangeable straps to be engaged and disengaged.

2. Fastening system of interchangeable straps in sandals characterized by being obtained by a process in accordance with the previous claim.

Claims

1. Process for the production of a fastening system of interchangeable straps for sandals comprising the following steps:

> a. preparation of the base (1) through material that is sufficiently rigid to house fasteners inserted into its structure, in which numerous apertures are created(2);

> b. coating of said base (1) with adhesive material to fix the layer, preferably of cork, that forms the outer of the platform (9, 14) and to fix the sole (22), preferably of rubber and to fix the insole (21), preferably of imitation leather;

> c. application of a fastener (8), preferably of cylindrical shape, inside said base (1) puncturing the outer layer of the platform (9, 14) by means of pressure on the support (3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15), which is preferably round, which is traversed by said fastener (8) which is inserted into the base (1) and there pierces numerous apertures (2) and is fastened permanently; d. fastening of said fastener(8), preferably of cy-

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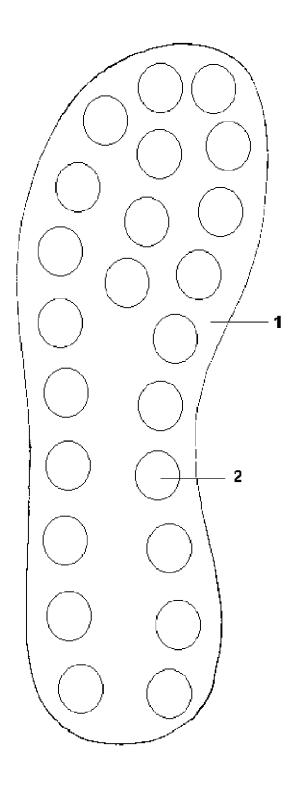
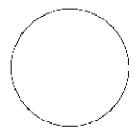


Figure 1



3a, 3b, 3c, 5a, 5b, 5c, 6, 7, **1**5

Figure 2

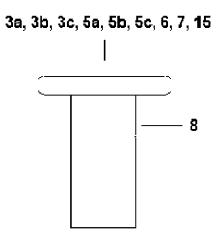


Figure 3

3a, 3b, 3c, 5a, 5b, 5c, 6, 7, 15

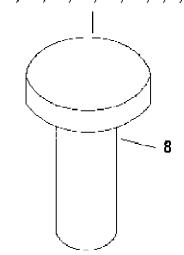


Figure 4

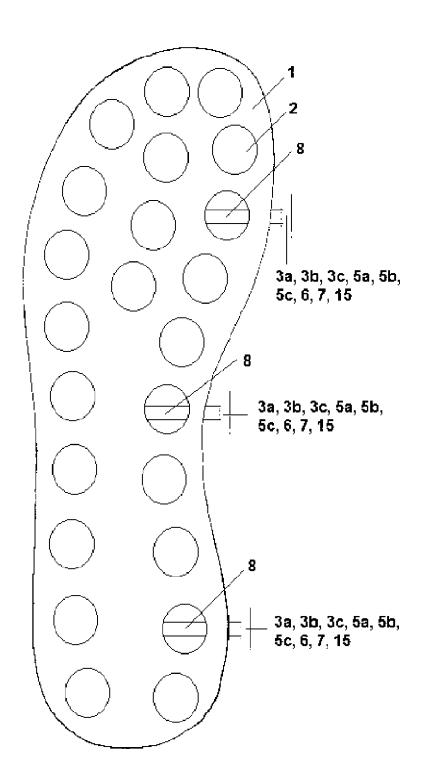


Figure 5

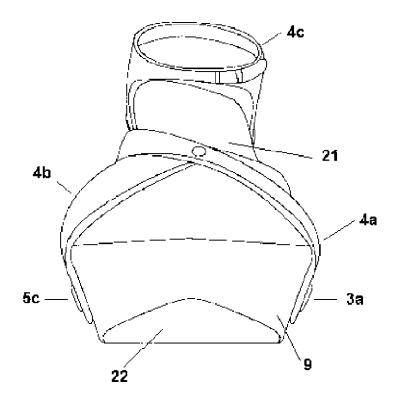


Figure 6

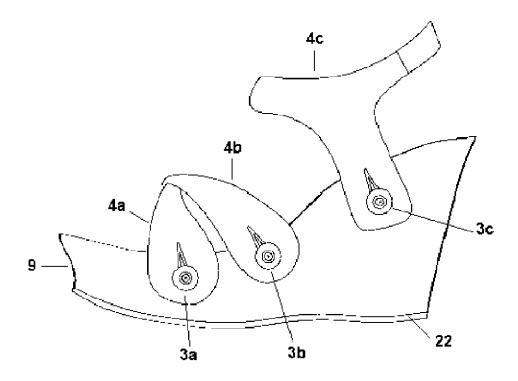


Figure 7

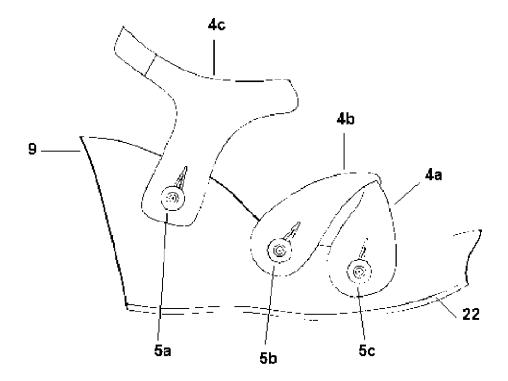


Figure 8

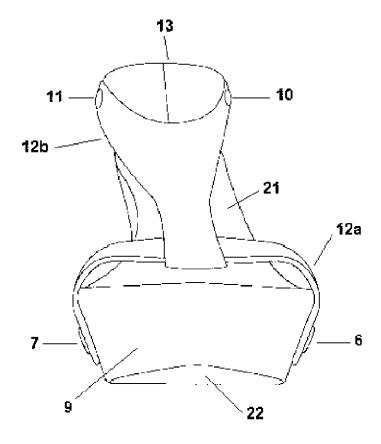


Figure 9

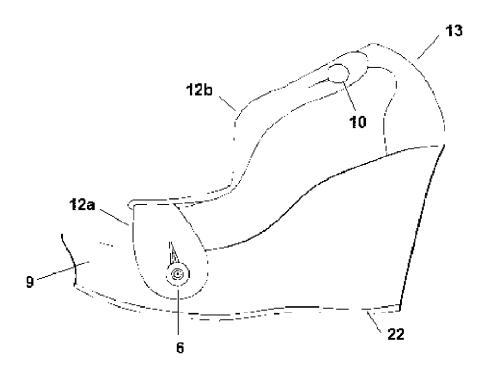


Figure 10

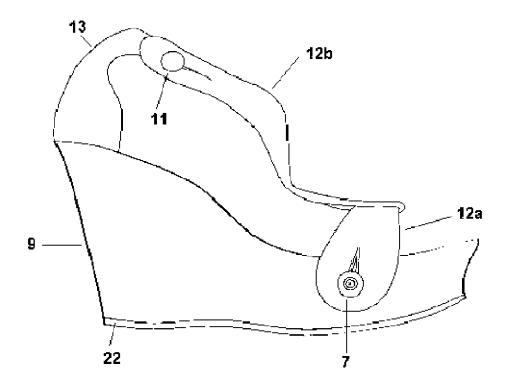


Figure 11

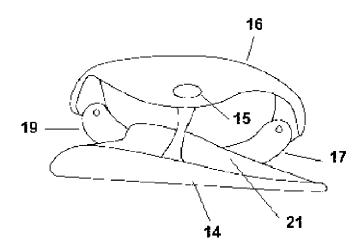


Figure 12

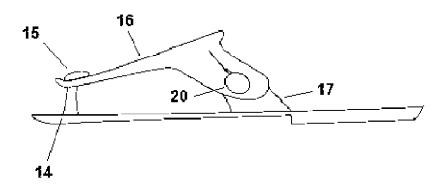


Figure 13

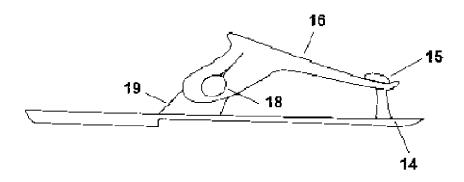


Figure 14

## INTERNATIONAL SEARCH REPORT

International application No PCT/PT2014/000039

		014/000039			
5	A. CLASSIFICATION OF SUBJECT MATTER INV. A43B3/10 A43B3/12 A43B3/24 A43B13/14 ADD.	A43B1/06			
	According to International Patent Classification (IPC) or to both national classification and IPC				
	B. FIELDS SEARCHED				
10	Minimum documentation searched (classification system followed by classification symbols) A43B				
	Documentation searched other than minimum documentation to the extent that such documents are included in the fields				
15	Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  EPO-Internal				
	C. DOCUMENTS CONSIDERED TO BE RELEVANT				
20	Category* Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.			
0.5	Y US 6 772 539 B1 (TAI CHIN-HSING [TW]) 10 August 2004 (2004-08-10) column 2, lines 37-40; figures 1,2	1,2			
25	Y WO 2012/067319 A1 (CHO SEONG GUK [KR]; YOON JONG HO [KR]) 24 May 2012 (2012-05-24) figure *	1,2			
30	X US 4 461 102 A (DEVINCENTIS CHERYL A [US]) 24 July 1984 (1984-07-24) column 4, lines 12,13,23-25; figures 1-3	1,2			
35	X US 2002/194750 A1 (FEICK WILLIAM KURT [US]) 26 December 2002 (2002-12-26) figures 1,2,3	1,2			
	-/				
40	X Further documents are listed in the continuation of Box C. X See patent family annex.				
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50	Date of the actual completion of the international search  Date of mailing of the international	search report			
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55	European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016  Duquénoy, Alain	ı			
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	C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT			
5	Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
10	Υ	FR 2 934 125 A1 (HAN LUNA [FR]) 29 January 2010 (2010-01-29) holes in the sole; page 1, lines 18-21; figure 1	1,2	
	Υ	US 8 020 319 B1 (MOHAUPT ANNE ELIZABETH [US]) 20 September 2011 (2011-09-20) figure 2	1,2	
15	Υ	US 3 063 167 A (SCHOLL WILLIAM M) 13 November 1962 (1962-11-13) column 2, lines 66-72; figures 2,3	1,2	
20	Υ	WO 2009/011896 A1 (2001 BRANDS INC [US]; HEARN WILLIAM L [US]) 22 January 2009 (2009-01-22) figures 4,9	1,2	
0.5	X	US 3 742 625 A (FAMOLARE J) 3 July 1973 (1973-07-03) figures 1,3	1,2	
25	Х	WO 2005/009161 A1 (SHELSKY DAVID JACOB [IL]) 3 February 2005 (2005-02-03) figures 1,6,7	1,2	
30	Υ	US 3 890 725 A (LEA DARRELL BERNARD ET AL) 24 June 1975 (1975-06-24) figure 2	1,2	
35	Υ	US 2011/283564 A1 (STILLWAGON ELIZABETH [US]) 24 November 2011 (2011-11-24) abstract; figures 1,2,4,5,6,7,8,9,10,12	1,2	
30	Υ	US 2 395 767 A (SUTCLIFFE HARRY L) 26 February 1946 (1946-02-26) page 1, column 2, lines 37-55; figures 1,3	1,2	
40	Υ	US 2011/056091 A1 (SHMURAK YELENA [US] ET AL) 10 March 2011 (2011-03-10) figures 1,2,4	1,2	
45				
50				
55				

Form PCT/ISA/210 (continuation of second sheet) (April 2005)

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/PT2014/000039

5	Patent document cited in search report	Publication date	Patent family Publication member(s) date
	US 6772539 B1	10-08-2004	NONE
	WO 2012067319 A1	24-05-2012	NONE
10	US 4461102 A	24-07-1984	NONE
	US 2002194750 A1	26-12-2002	NONE
	FR 2934125 A1	29-01-2010	NONE
15	US 8020319 B1	20-09-2011	NONE
	US 3063167 A	13-11-1962	GB 990234 A 28-04-1965 US 3063167 A 13-11-1962
	WO 2009011896 A1	22-01-2009	NONE
20	US 3742625 A	03-07-1973	NONE
	WO 2005009161 A1	03-02-2005	AU 2003304370 A1 14-02-2005 WO 2005009161 A1 03-02-2005
25	US 3890725 A	24-06-1975	AU 6034073 A 20-03-1975 US 3890725 A 24-06-1975
	US 2011283564 A1	24-11-2011	NONE
30	US 2395767 A	26-02-1946	NONE
	US 2011056091 A1		CN 102573545 A 11-07-2012 US 2011056091 A1 10-03-2011 WO 2011028815 A1 10-03-2011
35			
40			
45			
50			
55			

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#### REFERENCES CITED IN THE DESCRIPTION

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## Patent documents cited in the description

- US 4461102 A [0006]
- US 5992058 A [0007]
- US 2002194750 A [0008]
- US 2003233772 A [0009]

- US 200726650 B [0010]
- US 2007209238 A [0011]
- US 2004064976 A [0012] [0013]