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(54) **Article of Footwear**

Schuhartikel

Chaussure

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## Description

**[0001]** The present invention relates to articles of footwear and in particular to articles of footwear having a securing strap.

**[0002]** The closest prior art is represented by figure 5F of DE 1947245 A1, which discloses a strap passing through a channel in the midfoot region of the sole.

**[0003]** According to the present invention there is provided an article of footwear comprising: a sole arrangement having an upper midsole and a lower wear portion in which there is provided a laterally extending channel in the midfoot region; and a securing strap which extends from and is connected to the medial side of an insock layer which has a part that is fixed with respect to the sole arrangement and an unfixated part in the medial midfoot region adjacent to the securing strap, the strap being adapted to pass from the medial side, over the instep of a wearer's foot to the lateral side of the sole arrangement, and through the channel, the free end of the securing strap being adapted to be secured relative to the article of footwear.

**[0004]** Preferably the free end of the securing strap is adapted to be secured relative to the part of the securing strap extending from the medial side to the lateral side of the sole arrangement and ideally the securing of the strap is effected by one or more of the following: hook/loop fastener, buckle, snap-fastener, laces.

**[0005]** In preferred arrangements the channel has a downwardly facing opening which opening is narrower than the width of the securing strap. In addition the medial side of the sole arrangement is provided with a slot through which the securing strap passes after passing through the channel in the sole arrangement and/or the lateral side of the sole arrangement is provided with a slot through which the securing strap passes before passing through the channel in the sole arrangement. Conveniently the or each slot is provided in an upward projection extending from the lower wear portion. In an alternative the channel is an enclosed laterally extending slot through the lower wear portion, which slot opens at the medial and lateral sides.

**[0006]** It is a preferred feature that the fixed part of the insock layer is adhered to the insole in the heel region and in the lateral side of the midfoot region. Often, the securing strap comprises a continuation of the insock layer and also the securing strap has one or more additional layers attached to the continuation of the insock layer at selected locations. Sometimes said one or more additional layers extend the full length of the strap.

**[0007]** With some embodiments the article of footwear is a sandal and one or more other securing straps are provided. In other embodiments the article of footwear comprises an upper secured to the sole arrangement, the securing strap passing around the exterior of the upper.

**[0008]** Normally the strap, in use, forms a generally closed loop around an instep region of the wearer's foot.

**[0009]** Embodiments of the present invention will now be described in more detail. The description makes reference to the accompanying drawings in which:

5 Figure 1 is a perspective view from a lateral side of an article of footwear according to the present invention,

Figure 2 is a perspective view from a medial side of the article of footwear of figure 1,

10 Figure 3a is an underplan view,

Figure 3b is a plan view,

Figures 4a to 4d are perspective views showing the securing of the article of footwear shown in figure 1,

15 Figure 5 is a lateral section through the figure 1 article of footwear at a midfoot location, and

Figure 6 is another lateral section through the figure 1 article of footwear at a midfoot location with a different shaped foot therein.

20 **[0010]** In the figures there is shown an article of footwear 10 in the form of a sandal. The sandal 10 has an upper midsole 11 secured to a lower wear portion 12 which in this case has a tread pattern formed in its lowermost surface. (In more basic arrangements the midsole and the wear portion could be formed as a single unitary construction without detracting from the invention). The sandal 10 has a midfoot strap 13 in a midfoot region and a toe strap 14 in a toe region, the straps being made from leather or fabric or plastic or some other suitable flexible material or a combination thereof. The strap material may also have a degree of elasticity to improve comfort. The toe strap 14 extends between slots 15 provided in oppositely disposed formations 16 which are upstanding from the edges of the wear portion 12. The toe strap 14 is ideally, but not necessarily, adjustable such that it can be lengthened or shortened depending on the size of the wearer's foot and depending on the closeness of fit required. For example, a tighter fit may be required for active hiking whilst a more relaxed fit may be desired for less rigorous activities.

30 **[0011]** The midfoot strap 13 is in the form of an elongate extension of an insock layer 20 which is secured to the upper surface of the midsole 11, by adhesive, stitching or other means. The insock layer 20 is however not secured to the upper surface of the midsole 11 adjacent the inner, medial side of the article of footwear in the midfoot area and this is indicated by the broken line 21 in figure 3. In other words, part 22 of the insock layer 20 in the heel region and to some extent in the outer, lateral side of the midfoot region is secured to the upper surface of the midsole 11 whereas part 23 of the insock layer at the medial side of the midfoot region is not secured to the midsole. The part 23 has an elongate extension which constitutes the midfoot strap 13 although it is possible that the midfoot strap 13 could be a separate strap which is secured to the insock layer at its medial edge. Whilst the midfoot strap 13 is shown as a single thickness extension of the insock layer, it could be provided with other

layers for cushioning or decoration at one or more locations along its length or indeed all along its length.

**[0012]** At opposite sides of the article of footwear, there are formations 24 which project upwardly from the lower wear portion 12 and which each provide a strap receiving slot 25. The slots 25 extend generally in a direction lengthwise of the article of footwear.

**[0013]** In the underside of the lower wear portion 12 there is a lateral channel 26 situated between the two formations 24. The channel 26 in this embodiment is constituted between two mouldings 27 which provide a space through which the midfoot strap 13 can pass in the lateral direction. The midfoot strap 13 can be threaded through from one side to the other or it can be manipulated into the channel through the optional narrow gap 28 between the two mouldings 27. Once the strap 13 is in the channel it can be moved in the lateral direction but is held captive in other directions relative to the lower wear portion 12.

**[0014]** The securing process for the sandal is shown in figures 4a to 4d although the foot of the wearer has not been shown in order to aid clarity. Starting at figure 4a, the midfoot strap 13 is shown in a completely free state. The strap 13 is extended over the instep of the wearer's foot and the free end 30 of the strap remote from the insock layer 20 is passed downwardly through the slot 25 of the formation 24 on the lateral side of the lower wear portion 12, as is shown in figure 4b. The strap 13 is then passed under the lower wear portion 12 and is manipulated into the channel 26 through the gap 28 between the mouldings 27 in the underside of the lower wear portion 12 or is threaded through the channel. Figure 4c shows the free end 30 of the strap emerging at the medial side of the sole. The free end 30 is then threaded upwardly through the slot 25 of the formation 24 on the medial side of the lower wear portion 12 and this is shown in figure 4d.

**[0015]** In practise the securing process up to figure 4d would probably be conducted prior to the wearer's foot being present but this is a matter of choice. From the figure 4d position with the wearer's foot in place the midfoot strap 13 can be pulled and tightened around the wearer's foot. The strap 13 is then folded on to itself such that the free end 30 overlies and is secured to a part of the midfoot strap 13 which extends over the instep from the insock layer 20 to the lateral slot 25. The method of securing the parts of the strap 13 could be by any known means such as strips of hook/loop fastener, a series of snap fasteners, buckles, laces. Hook/loop fastener is probably the simplest and most convenient method of securing and is of course well known in the industry.

**[0016]** The midfoot strap 13 can be pulled as tightly as desired prior to securing and it will be appreciated that this tightening action can be effected because the strap 13 is free to move laterally through the channel 26 and through the slots 25. Pulling on the midfoot strap 13 means that the part of the strap where it extends from the insock layer 20 and the unsecured part 23 of the insock layer 20 are able to lift relative to the general upper

surface of the midsole and towards the arch of the foot of the wearer.

**[0017]** This feature is shown more clearly with respect to figures 5 and 6. It is well known that feet vary in size and in cross-sectional shape, with some feet having a higher arch than other feet. The present construction provides a variable arch support by virtue of the unsecured part 23 of the insock layer 20 adjacent the strap 13 being able to lift into contact with the arch of the foot. Figure 5 shows a foot 30 having a low arch 31 and it can be seen that the unsecured part 23 has not really lifted from the general surface of the midsole. In figure 6, there is shown a foot 32 having a higher arch 33 and it can be seen that the unsecured part 23 of the insock layer has been lifted into contact with the arch. This is effected simply by tightening the midfoot strap 13.

**[0018]** It will be readily appreciated that modifications can be made to the construction without departing from the scope of the attached claims. For example the form of the channel 26 in the underside could be modified in a number of ways as long as the strap remains held in a position which allows lateral movement of the strap. For example, instead of the mouldings 27 the channel could have the form of an enclosed slot through the thickness of the lower wear portion and this is already illustrated in figures 5 and 6. Such a construction could avoid the use of the slot formations 24 but this is really a matter of design choice.

**[0019]** Further straps, such as a heel strap arrangement, could also be provided. In addition, the midfoot strap system could be adapted for use in a shoe/boot with the midfoot strap 13 passing externally around an upper.

### Claims

1. An article of footwear (10) comprising: a sole arrangement having an upper midsole (11) and a lower wear portion (12) in which there is provided a laterally extending channel (26) in the midfoot region; and a securing strap (13) which extends from and is connected to the medial side of an insock layer (20) which has a part (22) that is fixed with respect to the sole arrangement and an unfixed part (23) in the medial midfoot region adjacent to the securing strap (13), the strap (13) being adapted to pass from the medial side, over the instep of a wearer's foot to the lateral side of the sole arrangement, and through the channel (26), the free end (30) of the securing strap (13) being adapted to be secured relative to the article of footwear (10).
2. An article of footwear (10) as claimed in claim 1 wherein the free end (30) of the securing strap (13) is adapted to be secured relative to the part of the securing strap (13) extending from the medial side to the lateral side of the sole arrangement.

3. An article of footwear (10) as claimed in claim 2 wherein the securing of the strap (13) is effected by one or more of the following: hook/loop fastener, buckle, snap-fastener, laces.
4. An article of footwear (10) as claimed in any one of claims 1 to 3 wherein the channel (26) has a downwardly facing opening which opening is narrower than the width of the securing strap (13).
5. An article of footwear (10) as claimed in any one of claims 1 to 4 wherein the medial side of the sole arrangement is provided with a slot (25) through which the securing strap (13) passes after passing through the channel (26) in the sole arrangement.
6. An article of footwear (10) as claimed in any one of claims 1 to 5 wherein the lateral side of the sole arrangement is provided with a slot (25) through which the securing strap (13) passes before passing through the channel (26) in the sole arrangement.
7. An article of footwear (10) as claimed in claim 5 or claim 6 wherein the or each slot (25) is provided in an upward projection (24) extending from the lower wear portion (12).
8. An article of footwear (10) as claimed in any one of claims 1 to 3 wherein the channel (26) is an enclosed laterally extending slot through the lower wear portion (12), which slot opens at the medial and lateral sides.
9. An article of footwear (10) as claimed in any one of claims 1 to 8 wherein the fixed part of the insock layer (20) is adhered to the midsole (11) in the heel region and in the lateral side of the midfoot region.
10. An article of footwear (10) as claimed in any one of claims 1 to 9 wherein the securing strap (13) comprises a continuation of the insock layer (20).
11. An article of footwear (10) as claimed in claim 10 wherein the securing strap (13) has one or more additional layers attached to the continuation of the insock layer (20) at selected locations.
12. An article of footwear (10) as claimed in claim 11 wherein said one or more additional layers extend the full length of the strap (13).
13. An article of footwear (10) as claimed in any one of claims 1 to 12 wherein the article of footwear (10) is a sandal and one or more other securing straps are provided.
14. An article of footwear (10) as claimed in any one of claims 1 to 12 wherein the article of footwear (10)

comprises an upper secured to the sole arrangement, the securing strap (13) passing around the exterior of the upper.

- 5 15. An article of footwear (10) as claimed in any one of claims 1 to 14 wherein the strap (13), in use, forms a generally closed loop around an instep region of the wearer's foot.

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#### Patentansprüche

1. Schuhartikel (10), der Folgendes umfasst: eine Sohlenanordnung mit einer oberen Zwischensohle (11) und einem unteren Verschleißteil (12), in dem ein lateral verlaufender Kanal (26) in der Mittelfußregion vorgesehen ist; und einen Befestigungsriemen (13), der von der medialen Seite einer Einlegesohlenlage (20) ausgeht und damit verbunden ist, die einen mit Bezug auf die Sohlenanordnung festen Teil (22) und einen nichtfesten Teil (23) in der medialen Mittelfußregion neben dem Befestigungsriemen (13) aufweist, wobei der Riemen (13) so gestaltet ist, dass er von der medialen Seite über den Spann des Fußes eines Trägers zur lateralen Seite der Sohlenanordnung und durch den Kanal (26) passiert, wobei das freie Ende (30) des Befestigungsriemens (13) so gestaltet ist, dass es relativ zu dem Schuhartikel (10) befestigt werden kann.
2. Schuhartikel (10) nach Anspruch 1, wobei das freie Ende (30) des Befestigungsriemens (13) zum Befestigen relativ zu dem Teil des Befestigungsriemens (13) ausgelegt ist, der von der medialen Seite zur lateralen Seite der Sohlenanordnung verläuft.
3. Schuhartikel (10) nach Anspruch 2, wobei das Befestigen des Riemens (13) durch ein oder mehrere der Folgenden erfolgt: Klettverschluss, Schnalle, Druckknopfverschluss, Schnürsenkel.
4. Schuhartikel (10) nach einem der Ansprüche 1 bis 3, wobei der Kanal (26) eine nach unten weisende Öffnung aufweist, die schmaler ist als der Befestigungsriemen (13).
5. Schuhartikel (10) nach einem der Ansprüche 1 bis 4, wobei die mediale Seite der Sohlenanordnung mit einem Schlitz (25) versehen ist, durch den der Befestigungsriemen (13) nach dem Passieren durch den Kanal (26) in der Sohlenanordnung passiert.
6. Schuhartikel (10) nach einem der Ansprüche 1 bis 5, wobei die laterale Seite der Sohlenanordnung mit einem Schlitz (25) versehen ist, durch den der Befestigungsriemen (13) vor dem Passieren durch den Kanal (26) in der Sohlenanordnung passiert.

7. Schuhartikel (10) nach Anspruch 5 oder Anspruch 6, wobei der oder jeder Schlitz (25) in einem aufwärtigen Vorsprung (24) vorgesehen ist, der sich von dem unteren Verschleißteil (12) erstreckt.
8. Schuhartikel (10) nach einem der Ansprüche 1 bis 3, wobei der Kanal (26) ein umschlossener, lateral verlaufender Schlitz durch den unteren Verschleißteil (12) ist, wobei der Schlitz auf der medialen und der lateralen Seite offen ist.
9. Schuhartikel (10) nach einem der Ansprüche 1 bis 8, wobei der feste Teil der Einlegesohlenlage (20) an der Mittelsohle (11) in der Fersenregion und in der lateralen Seite der Mittelfußregion haftet.
10. Schuhartikel (10) nach einem der Ansprüche 1 bis 9, wobei der Befestigungsriemen (13) eine Fortsetzung der Einlegesohlenlage (20) umfasst.
11. Schuhartikel (10) nach Anspruch 10, wobei der Befestigungsriemen (13) eine oder mehrere zusätzliche Lagen hat, die an der Fortsetzung an gewählten Stellen der Einlegesohlenlage (20) angebracht sind.
12. Schuhartikel (10) nach Anspruch 11, wobei die genannten ein oder mehreren zusätzlichen Lagen über die volle Länge des Riemens (13) verlaufen.
13. Schuhartikel (10) nach einem der Ansprüche 1 bis 12, wobei der Schuhartikel (10) eine Sandale ist und ein oder mehrere weitere Befestigungsriemen vorgesehen sind.
14. Schuhartikel (10) nach einem der Ansprüche 1 bis 12, wobei der Schuhartikel (10) ein Oberteil umfasst, das an der Sohlenanordnung befestigt ist, wobei der Befestigungsriemen (13) um die Außenseite des Oberteils herum passiert.
15. Schuhartikel (10) nach einem der Ansprüche 1 bis 14, wobei der Riemen (13) beim Gebrauch eine allgemein geschlossene Schleife um eine Spannregion des Fußes des Trägers bildet.
2. Chaussure (10) selon la revendication 1, dans laquelle l'extrémité libre (30) de la bride de fixation (13) est adaptée à être fixée par rapport à la partie de la bride de fixation (13) s'étendant du côté médial au côté latéral de l'agencement de semelle.
3. Chaussure (10) selon la revendication 2, dans laquelle la fixation de la bride (13) est effectuée par un ou plusieurs dispositifs parmi les suivants : fermeture auto-agrippante, boucle, fermoir à pression, lacets.
4. Chaussure (10) selon l'une quelconque des revendications 1 à 3, dans laquelle le canal (26) a une ouverture faisant face vers le bas qui est plus étroite que la largeur de la bride de fixation (13).
5. Chaussure (10) selon l'une quelconque des revendications 1 à 4, dans laquelle le côté médial de l'agencement de semelle est pourvu d'une fente (25) à travers laquelle la bride de fixation (13) passe après être passée à travers le canal (26) dans l'agencement de semelle.
6. Chaussure (10) selon l'une quelconque des revendications 1 à 5, dans laquelle le côté latéral de l'agencement de semelle est pourvu d'une fente (25) à travers laquelle la bride de fixation (13) passe avant de passer à travers le canal (26) dans l'agencement de semelle.
7. Chaussure (10) selon la revendication 5 ou la revendication 6, dans laquelle la ou chaque fente (25) est prévue dans une saillie vers le haut (24) s'étendant depuis la portion d'usure inférieure (12).
8. Chaussure (10) selon l'une quelconque des revendications 1 à 3, dans laquelle le canal (26) est une fente renfermée s'étendant latéralement à travers la portion d'usure inférieure (12), laquelle fente s'ouvre sur les côtés médial et latéral.
9. Chaussure (10) selon l'une quelconque des revendications 1 à 8, dans laquelle la partie fixée de la couche de semelle intérieure (20) adhère à la semelle intercalaire (11) dans la région du talon et dans le côté latéral de la région du milieu du pied.
10. Chaussure (10) selon l'une quelconque des revendications 1 à 9, dans laquelle la bride de fixation (13) comprend une continuation de la couche de semelle

## Revendications

1. Chaussure (10) comprenant : un agencement de semelle ayant une semelle intercalaire supérieure (11) et une portion d'usure inférieure (12) dans laquelle il est prévu un canal s'étendant latéralement (26) dans la région du milieu du pied ; et une bride de fixation (13) qui s'étend depuis et est connectée au côté médial d'une couche de semelle intérieure (20) qui possède une partie (22) qui est fixée par rapport à l'agencement de semelle et une partie non fixée (23) dans la région du milieu du pied médiale adjacente à la bride de fixation (13), la bride (13) étant adaptée à passer du côté médial sur le cou-de-pied d'un pied du porteur au côté latéral de l'agencement de semelle et à travers le canal (26), l'extrémité libre (30) de la bride de fixation (13) étant adaptée à être fixée par rapport à la chaussure (10).

intérieure (20).

- 11.** Chaussure (10) selon la revendication 10, dans laquelle la bride de fixation (13) a une ou plusieurs couches supplémentaires reliées à la continuation de la couche de semelle intérieure (20) en des emplacements sélectionnés. 5
- 12.** Chaussure (10) selon la revendication 11, dans laquelle lesdites une ou plusieurs couches supplémentaires s'étendent sur la longueur entière de la bride (13). 10
- 13.** Chaussure (10) selon l'une quelconque des revendications 1 à 12, dans laquelle la chaussure (10) est une sandale et une ou plusieurs autres brides de fixation sont prévues. 15
- 14.** Chaussure (10) selon l'une quelconque des revendications 1 à 12, dans laquelle la chaussure (10) comprend une tige fixée à l'agencement de semelle, la bride de fixation (13) passant autour de l'extérieur de la tige. 20
- 15.** Chaussure (10) selon l'une quelconque des revendications 1 à 14, dans laquelle la bride (13) forme en cours d'utilisation une boucle généralement fermée autour d'une région de cou-de-pied du pied du porteur. 25

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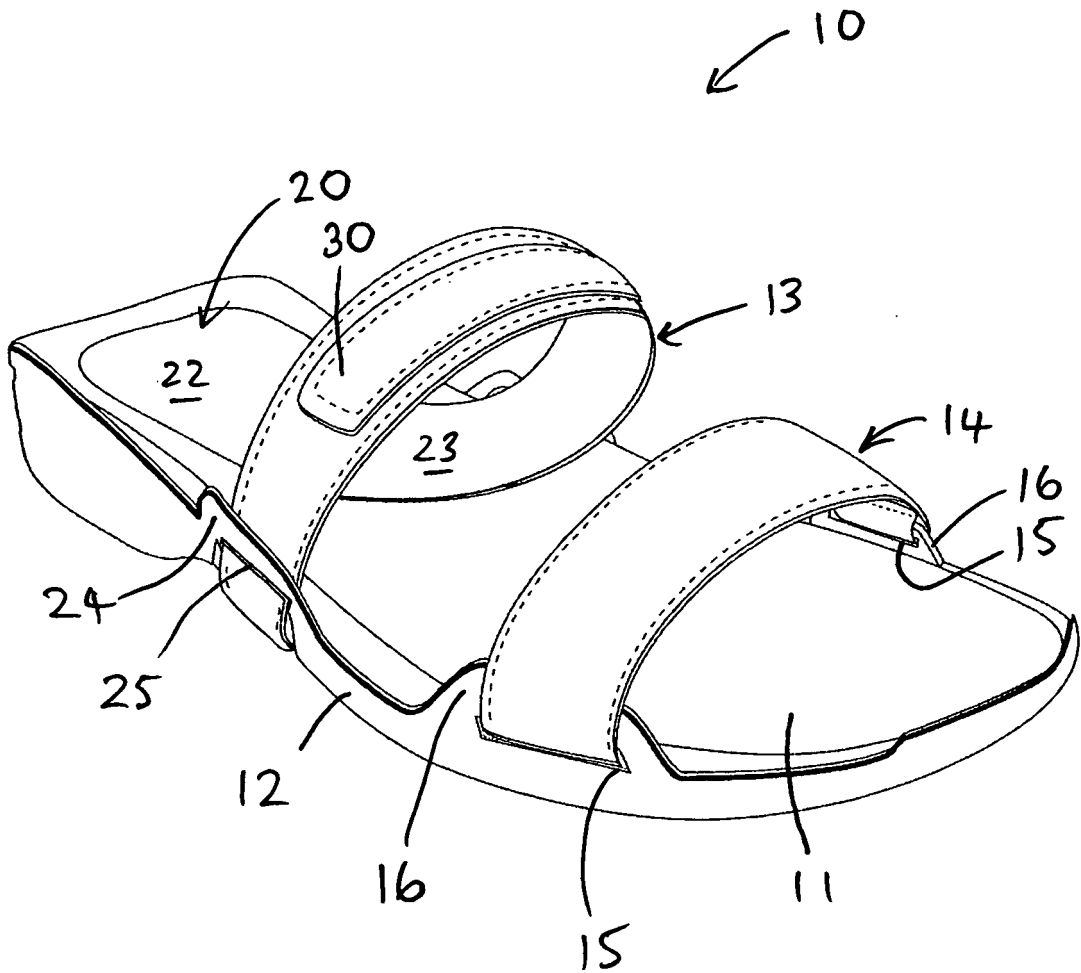


FIGURE 1

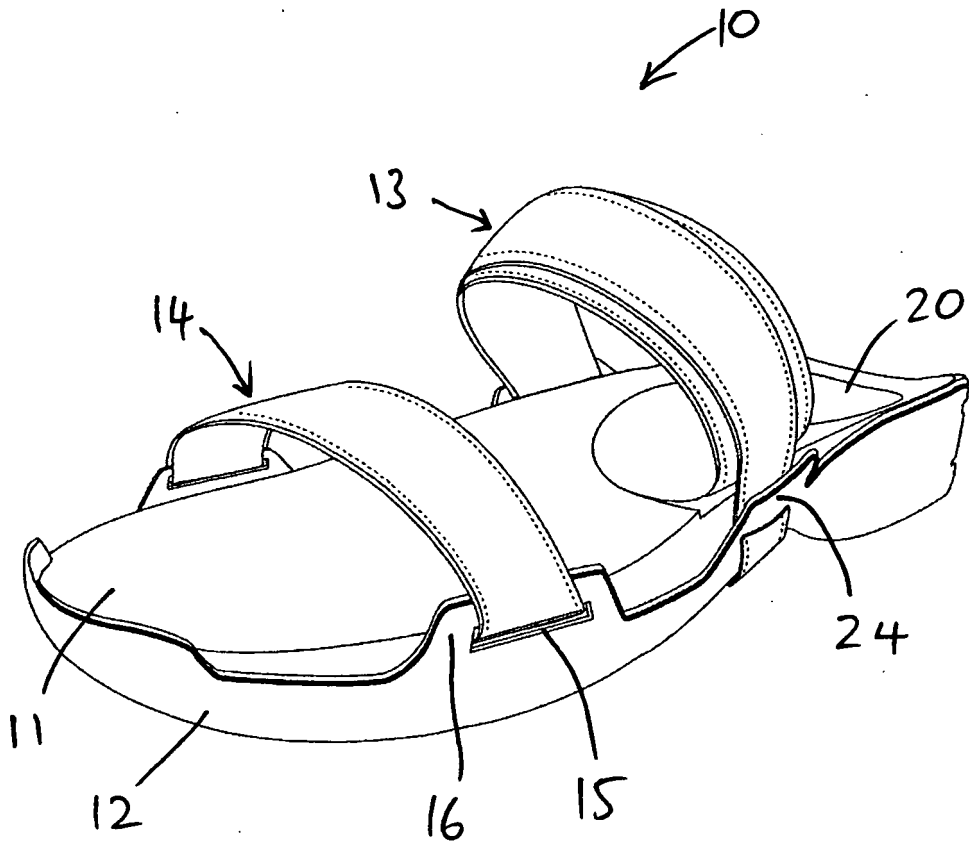


FIGURE 2

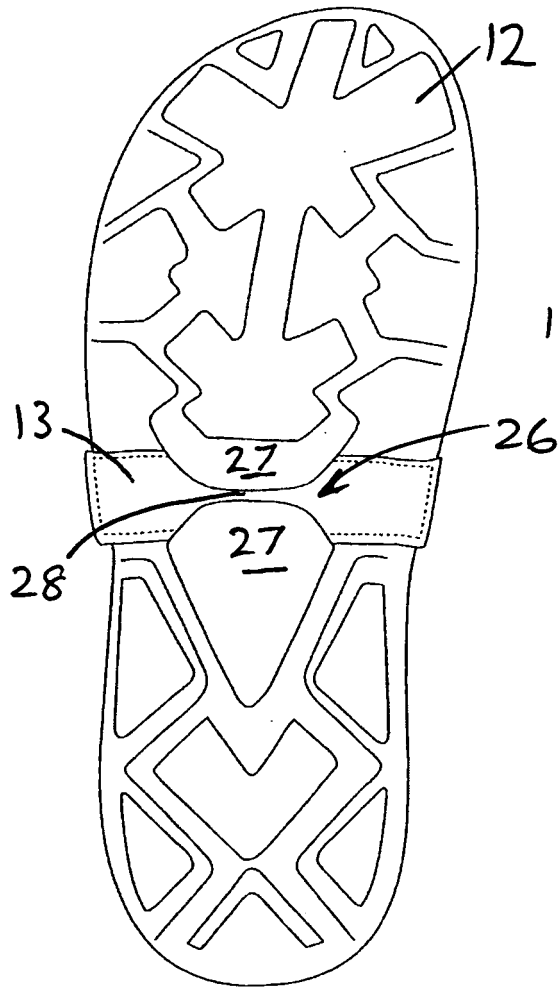


FIGURE 3a

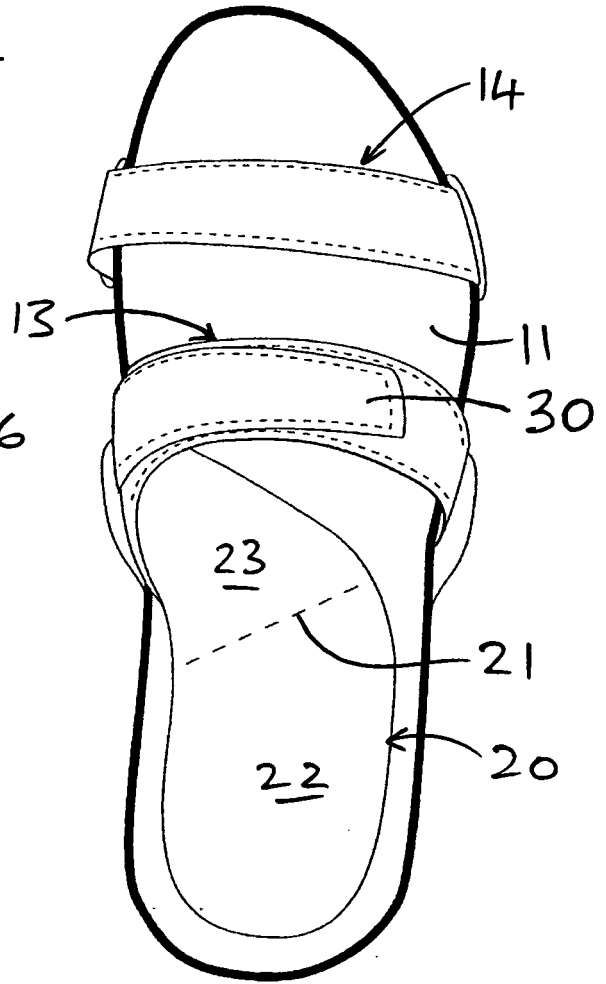


FIGURE 3b

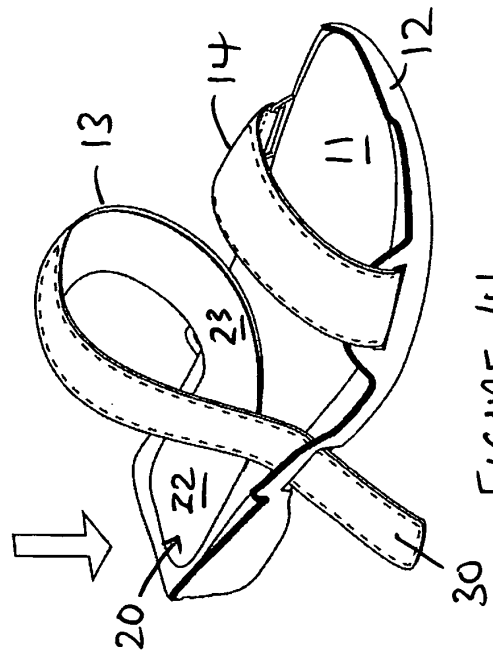


FIGURE 4a

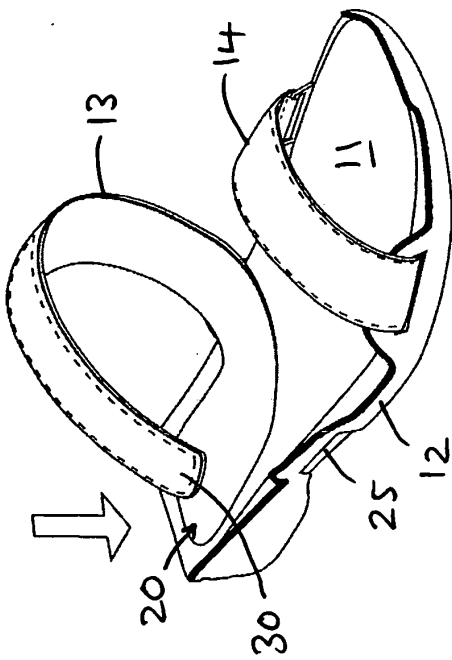


FIGURE 4b

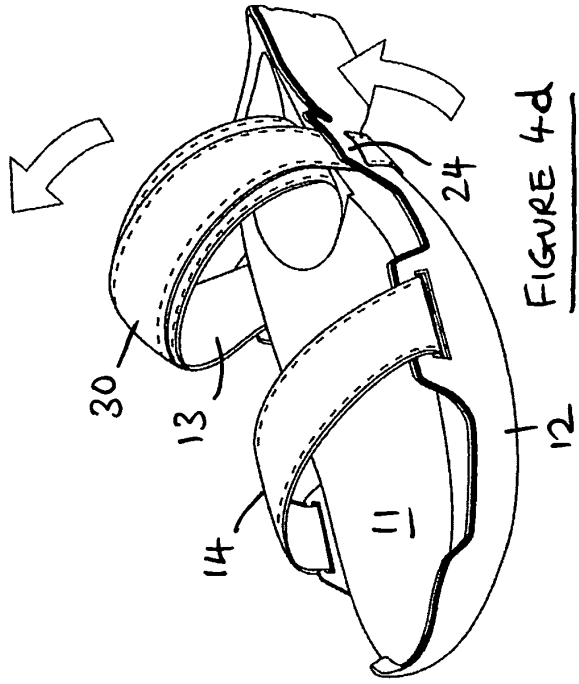


FIGURE 4c

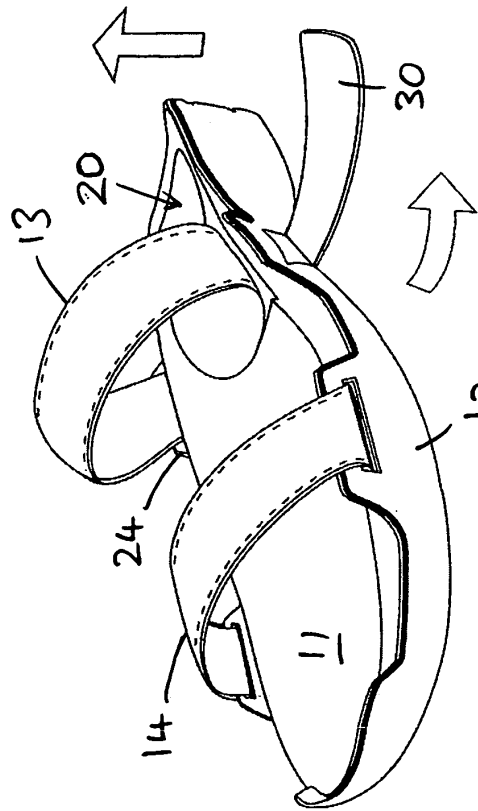
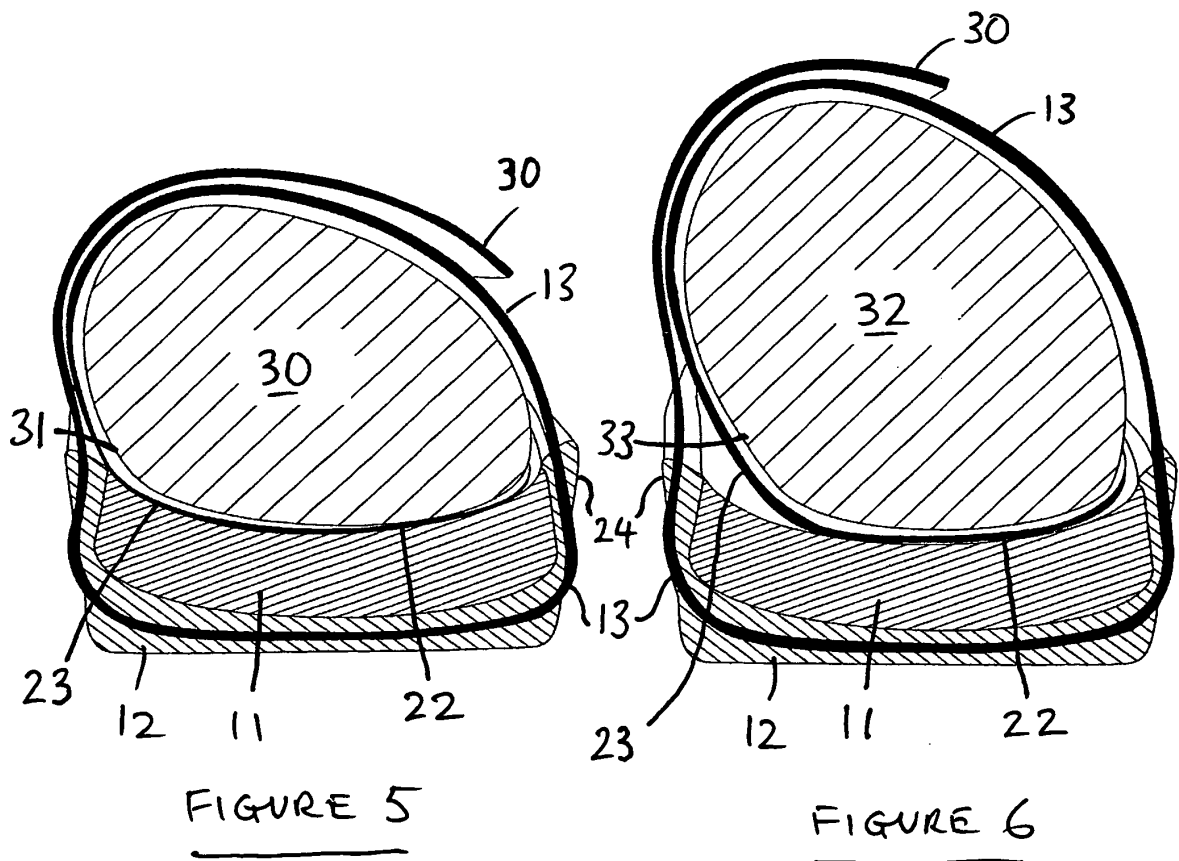


FIGURE 4d



**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

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