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(19) **United States**(12) **Patent Application Publication****Kittner et al.**(10) **Pub. No.: US 2006/0248752 A1**(43) **Pub. Date: Nov. 9, 2006**(54) **PRESSURE DISSIPATING HEEL COUNTER
AND METHOD OF MAKING SAME**(22) Filed: **May 5, 2005**(75) Inventors: **Markus Kittner**, Santa Barbara, CA
(US); **Paolo Pestrin**, Istrana (IT)**Publication Classification**(51) **Int. Cl.**
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PALO ALTO, CA 94304-1050 (US)(57) **ABSTRACT**(73) Assignee: **Pony International, LLC**, Santa Barbara,
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A heel counter for a shoe and method of making the same is shown and described. The heel counter includes a pair of sidewalls and a deformation member between the sidewalls.

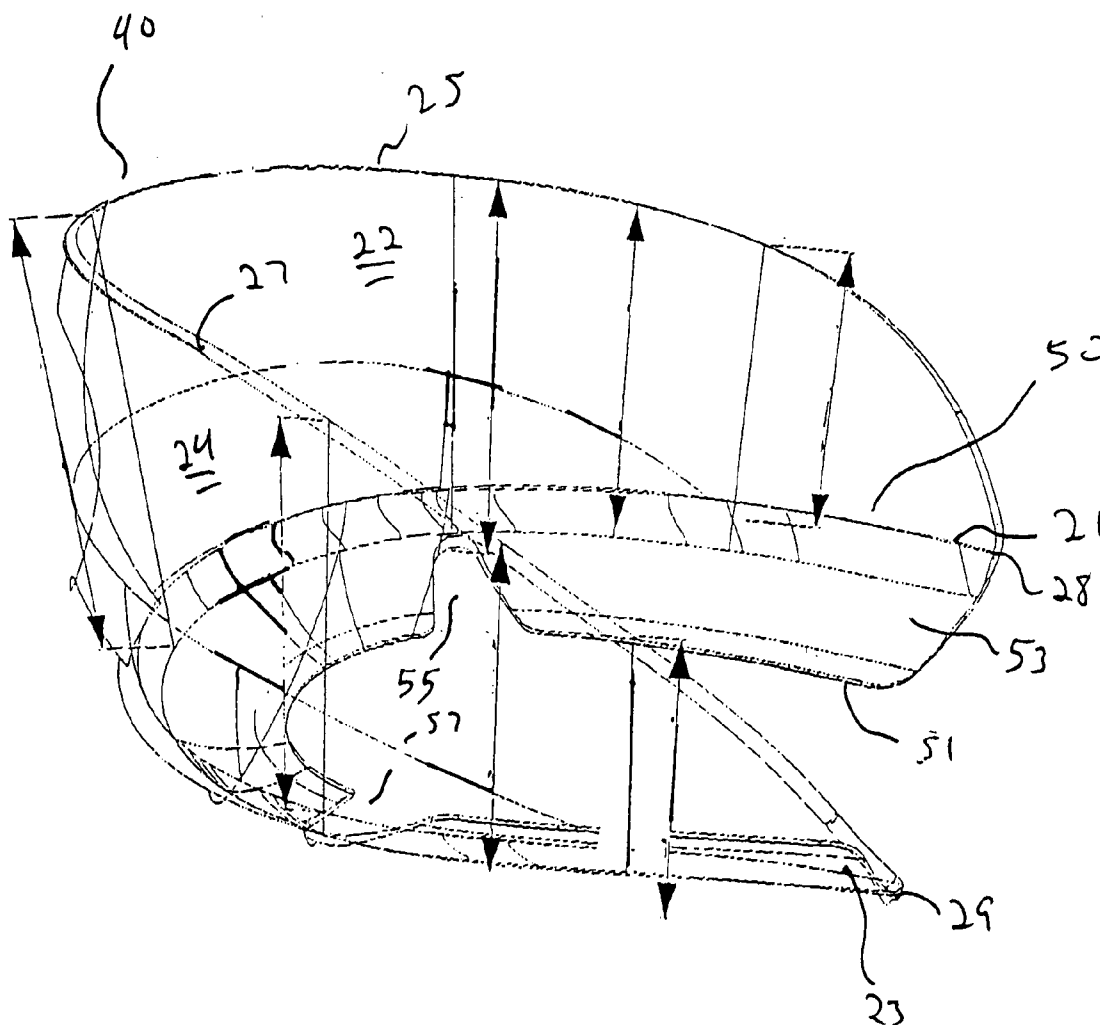
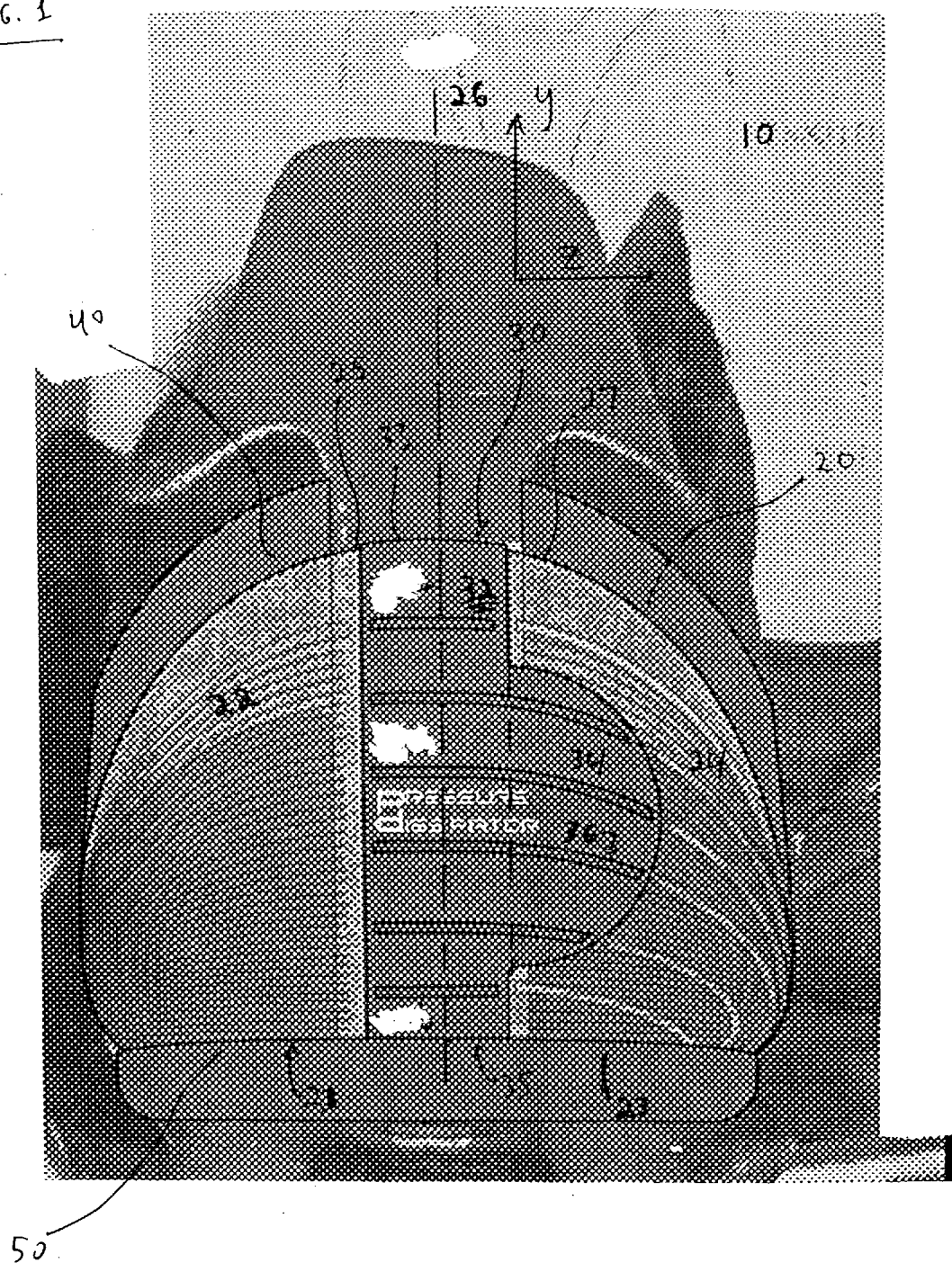


FIG. 1



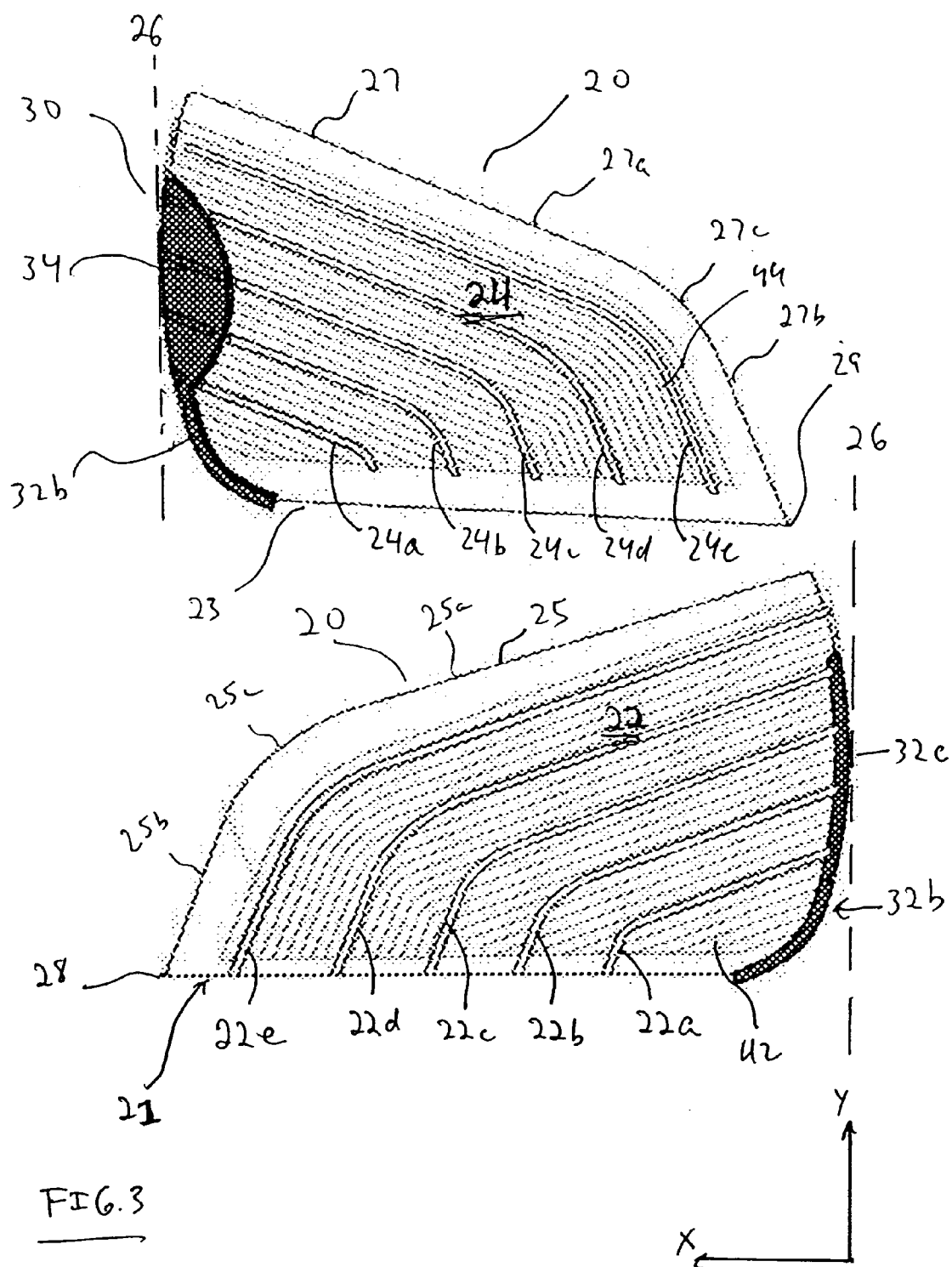


FIG. 4

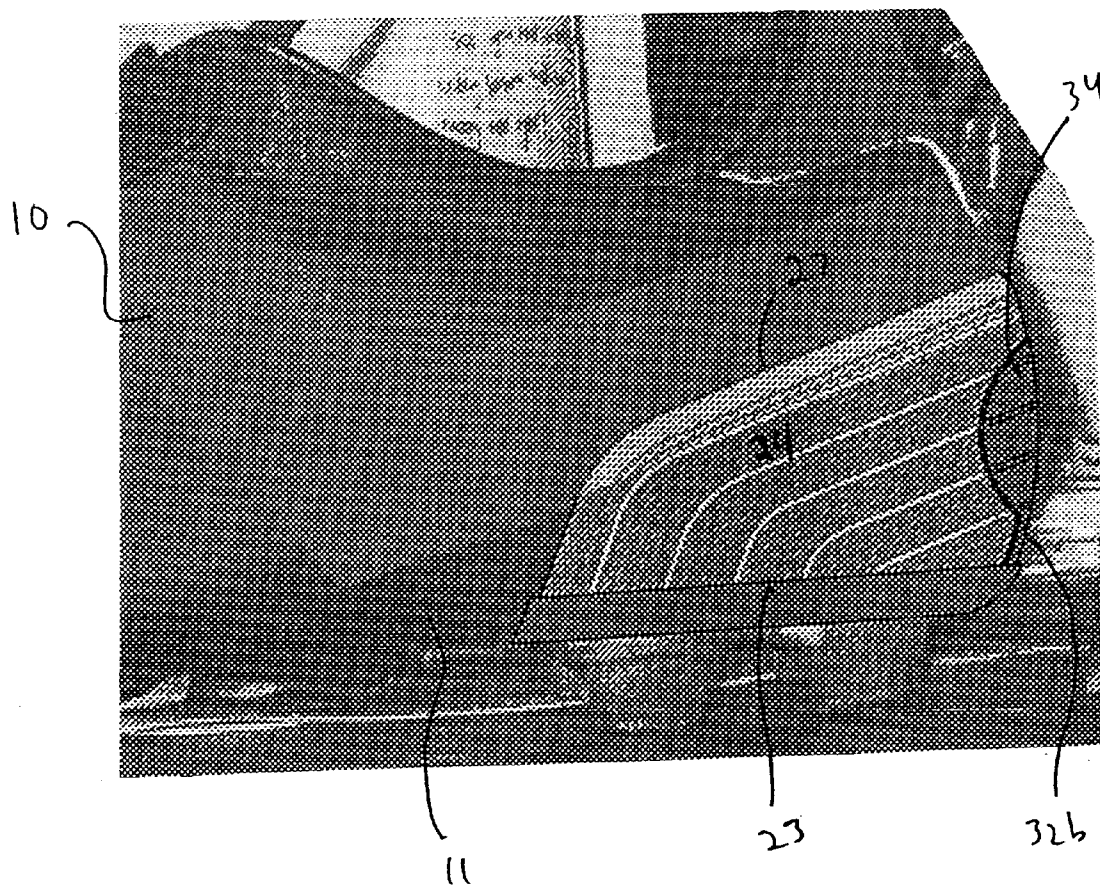
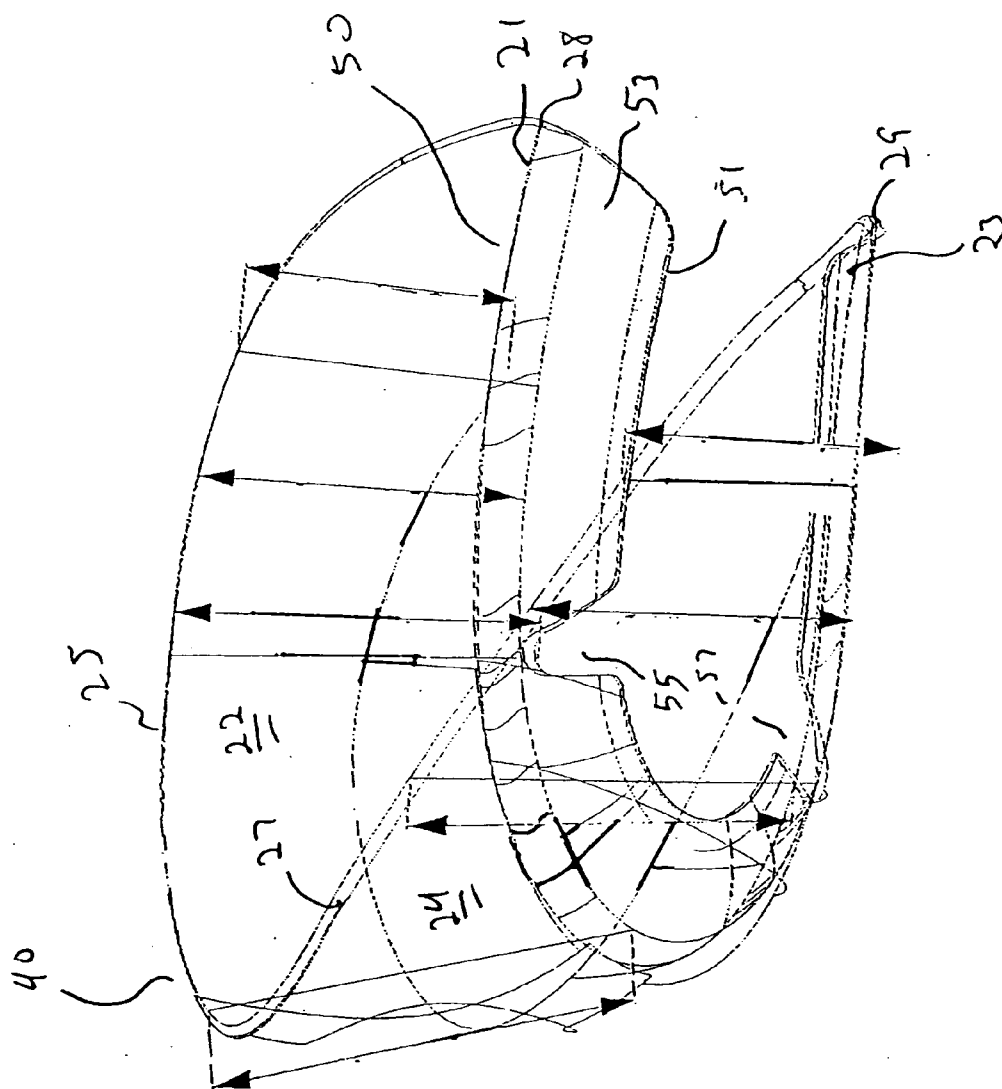


FIG. 5



PRESSURE DISSIPATING HEEL COUNTER AND METHOD OF MAKING SAME

FIELD OF THE INVENTION

[0001] The present invention relates generally to heel counters for shoes, and more particularly, to a dual density heel counter and method of making the same.

BACKGROUND OF THE INVENTION

[0002] Athletes subject their feet to a number of severe stresses. Certain activities, soccer for example, involve short, sharp bursts of energy and frequent directional changes that can cause the heels and the heel bone (the calcaneus) to experience significant stresses. Because the uppers of athletic shoes are typically soft and flexible, without some sort of additional support for the heels, the athlete may experience excessive supination or pronation or even twist or sprain an ankle. As a result, it is desirable to include a heel counter in the heel region of athletic shoes. However, the rigidity needed to provide heel support may also aggravate or injure the heel bone (calcaneus) and/or the achilles tendon. These areas of the feet tend to experience significant impact from the heel region of the shoes, and the potential for injury from such impact may be exacerbated by a rigid heel counter.

[0003] Accordingly, there is a need to overcome the issues noted above.

SUMMARY OF THE PREFERRED EMBODIMENTS

[0004] According to a first aspect of the present invention, a support member of the heel of a shoe is provided. The support member preferably comprises a pair of sidewalls and a deformation member between the sidewalls. In a preferred embodiment, the support member has an arcuate bottom edge. In another preferred embodiment, the sidewalls comprise a first material, and the deformation member comprises a second material. It is especially preferred that the sidewall density is greater than the deformation member density.

[0005] In accordance with another aspect of the present invention, a heel counter is provided. The heel counter preferably comprises a lateral portion comprising at least one lateral portion material, wherein the lateral portion has a density, at least one medial portion material, wherein the medial portion has a density, and an asymmetrical deformation portion between the lateral portion and the medial portion. The deformation portion comprises at least one deformation material having a density, and the density of the deformation portion is less than the density of the lateral portion. In a preferred embodiment, the density of the deformation portion is less than the density of the medial portion. In another preferred embodiment, the lateral portion material and the medial portion material are the same material.

[0006] In other preferred embodiments, the deformation portion comprises a rectangular section and a projection from the rectangular section. In yet other preferred embodiments, the projection defines a semi-circle.

[0007] In accordance with an additional aspect of the present invention, a heel counter is provided which comprises a lateral support, a medial support and a calcaneus bone support.

[0008] In accordance with a further aspect of the present invention, a heel counter is provided which has a top edge and a bottom edge defining a heel axis between the top edge and the bottom edge, and an asymmetrical member located along the heel axis. In a preferred embodiment, the asymmetrical member has a density lower than the density of the remainder of the heel counter. In other preferred embodiments, the asymmetrical member includes a semicircular portion. In still other preferred embodiments, the asymmetrical member includes a lateral projection. In yet other preferred embodiments, the asymmetrical member comprises a rectangular strip and a projection from the rectangular strip.

[0009] In accordance with yet another aspect of the present invention, a shoe is provided. The shoe preferably comprises an upper having a heel that includes an exterior surface and a heel counter attached to the exterior surface of the heel, wherein the heel counter comprises a flexing member. In a preferred embodiment, the upper has a top and a bottom spaced apart in a direction, and the flexing member is disposed along the direction. In other preferred embodiments, the heel counter comprises first and second sidewalls, and the flexing member is located between the first and second sidewalls. In additional referred embodiments, the flexing member has a modulus of elasticity that is less than the modulus of elasticity of the first and second sidewalls.

[0010] In still another aspect of the present invention, a calcaneus protector for use in a heel counter of a shoe is provided, wherein the calcaneus protector comprises a rectangular section and a projection from the rectangular section. In a preferred embodiment, the projection is a semi-circle.

[0011] In another aspect of the present invention, a method of manufacturing a heel counter for a shoe is provided. The method comprises the steps of forming first and second sidewalls and forming a deformation member such that the deformation member is attached to the first and second sidewalls and located between the first and second sidewalls. In a preferred embodiment, the step of forming first and second sidewalls comprises providing a plastic material and molding the plastic material to form the first and second sidewalls. In other preferred embodiments, the step of forming the deformation member comprises integrally forming the deformation member with the first and second sidewalls. In additional preferred embodiments, the method of manufacturing a heel counter further comprises providing a mold comprising a first sidewall section, a second sidewall section, and a deformation member section, wherein the step of forming the first and second sidewalls comprises molding a first material in the first and second sidewall sections, and the step of forming a deformation member comprises molding a second material in the second sidewall section.

[0012] Other objects, features and advantages of the present invention will become apparent to those skilled in the art from the following detailed description. It is to be understood, however, that the detailed description and specific examples, while indicating preferred embodiments of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof, and the invention includes all such modifications.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The invention may be more readily understood by referring to the accompanying drawings in which:

[0014] **FIG. 1** is a rear elevational view of an right foot athletic shoe with a heel counter in accordance with a preferred embodiment of the present invention;

[0015] **FIG. 2** is a right hand side elevational view of the heel counter of **FIG. 1**;

[0016] **FIG. 3** is a left hand side elevational view of the heel counter of **FIG. 1**;

[0017] **FIG. 4** is a left hand side elevational view of a left foot athletic shoe with a heel counter in accordance with a preferred embodiment of the present invention; and

[0018] **FIG. 5** is a perspective view of a preferred embodiment of a heel counter of the present invention with the deformable member removed.

[0019] Like numerals refer to like parts throughout the several views of the drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0020] The present invention concerns support members for shoes, and in a preferred embodiment is directed to heel counters. As used herein, the term “heel counter” means a strengthening device in the heel area of a shoe. Referring to **FIG. 1**, a rear elevational view of a shoe **10** having a heel counter **20** constructed in accordance with the present invention is shown. The shoe of **FIG. 1** is designed for use on the right foot. As is known to those skilled in the art, the term “lateral” when used to describe the orientation of a shoe describes the outer half of a shoe (away from the instep), while the term “medial” refers to the inner half of a shoe (i.e., proximate the instep). Accordingly, when viewing a rear elevational view of a right shoe or a heel counter for a right shoe, the right hand side will be the lateral side of the shoe (or heel counter) and the left hand side will be the medial side of the shoe (or heel counter).

[0021] Referring to **FIG. 1**, heel counter **20**, comprises a lateral portion **24**, which is preferably a sidewall, and a medial portion **22**, which is also preferably a sidewall. Situated between medial portion **22** and lateral portion **24** is a deformation portion which is preferably a flexing member or deformation member **30**. It is preferred that flexing member **30** have a lower density than medial portion **22** or lateral portion **24**.

[0022] **FIGS. 2 and 3** are right and left side elevational views, respectively, of the heel counter **20** of **FIG. 1**. As indicated in the figures, medial sidewall **22** defines a top edge **25** and a bottom edge **21**. Similarly, lateral sidewall **24** defines a top edge **27** and a bottom edge **23**. Flexing member or deformation member **30** also defines a top edge **33** and a bottom edge **35**, as shown in **FIG. 1**. Together, top edges **25**, **27** and **33** define a top edge **40** of heel counter **20**, and bottom edges **21**, **23** and **35** define a bottom edge **50** of heel counter **20**. Although they are depicted as being coextensive with one another in the figures, top edges **25**, **27** and **33** need not be co-extensive. Similarly, bottom edges **21**, **23** and **35** need not be co-extensive with one another.

[0023] For reference in describing the heel counter of the present invention, a rear axis **26** can be defined at the rearmost portion of heel counter **20** in a direction which is substantially perpendicular to bottom edge **50**. As shown in **FIGS. 1 and 3**, the rear axis can be used to define a y-axis, an x-axis, and a z-axis (shown in **FIG. 1**) which is perpendicular to the x and y axes.

[0024] Heel counter **20** is preferably shaped to conform to the heel of a shoe. **FIG. 5** is a transparent perspective view of a the heel counter **20** with the deformable member **30** (described below) removed. As shown in **FIG. 5**, bottom edge **50** has a generally arcuate shape, which is preferably a U-shape or horseshoe shape. Wrap-under portion **53** is preferably designed to wrap under the shoe to be sandwiched between the upper and an outsole or a traction plate such that bottom edge **50** is the bottom-most visible edge (see **FIG. 1**) when heel counter **20** is installed on a shoe. In a preferred embodiment, as depicted in **FIG. 5**, notches **55** and **57** are provided to provide heel counter **20** with greater flexibility and a better ability to closely wrap around the heel of shoe **10**.

[0025] Top edges **25** and **27** of medial sidewall **22** and lateral sidewall **24** each extend forward from a point adjacent the rear axis **26** of heel counter **20** and coincide with their respective bottom edges **21** and **23** at points **28** and **29**. In the embodiments of **FIGS. 1-4**, points **28** and **29** are located near the mid-foot region **11** (see **FIG. 4**) of shoe **10**.

[0026] As depicted in **FIGS. 2-3**, top edges **25** and **27** of the heel counter define a height in the y-direction that varies along the x-axis and which preferably decreases in a direction away from the rearmost portion of heel counter **20**. This variation in height defines a height profile for each edge **25** and **27**.

[0027] Top edges **25** and **27** may define a number of height profiles, and the profiles shown in **FIGS. 2-4** are merely preferred. As shown in the figures, top edge **25** of medial sidewall **22** defines a height profile that comprises linear portions **25a** and **25b** and concave transition portion **25c**. Similarly, top edge **27** of lateral sidewall **24** of the heel counter defines a height profile that comprises linear portions **27a** and **27b** and concave transition portion **27c**. However, top edges **25** and **27** may define a number of other height profiles. For example, they may define a continuously downwardly curving profile, such as the shape of one half of a parabola or a quarter of an ellipse. They may also define a linear profile. While they are depicted as having substantially similar height profiles in **FIGS. 2 and 3**, top edges **25** and **27** may each define different height profiles. If desired, a relatively higher medial height may be used to prevent excessive pronation in the heel.

[0028] Sidewalls **22** and **24** also define width profiles along the z-axis, as best seen in **FIG. 1**. When viewed from a fixed location along the heel counter length (i.e., a fixed position on the x-axis), sidewalls **22** and **24** appear to bulge outwardly, such that when moving from bottom edges **21** and **23** in an upward direction along the y-axis, the width defined along the z-axis gradually increases, eventually reaching a maximum width before tapering off and then decreasing until top edges **25** and **27** are reached.

[0029] As indicated above, top edges **25** and **27** define a height (y-axis position) with respect to their respective

bottom edges **21** and **23** which is at its maximum proximate rear axis **26**. As shown in **FIGS. 1 and 4**, the maximum heights of top edges **25** and **27** of heel counter **20** are generally from about 40 to about 60 percent, preferably from about 45 to about 55 percent, and more preferably about 50 percent of the height of the portion of the shoe upper located at rear axis **26**. However, other maximum heights can be used.

[0030] As best seen in **FIG. 2**, for aesthetic purposes lateral side wall **24** preferably has a number of major grooves **24a-e** and minor grooves **44**, which have a height profile that is substantially similar to that of top edge **27**. In **FIGS. 2 and 3**, both lateral sidewall **24** and medial side wall **22** have major and minor grooves. However, in an alternate embodiment, as depicted in **FIG. 1**, lateral sidewall **24** has major and minor grooves, while medial sidewall **22** has only minor grooves.

[0031] As mentioned previously, the heel counter of this embodiment includes a deformation portion that is preferably a flexing member or deformable member **30**. Flexing member **30** is preferably asymmetrical with respect to rear axis **26**, and is more preferably offset towards the lateral side **24** of heel counter **20**. In the preferred embodiment of **FIGS. 1-4**, flexing member **30** comprises a rectangular portion **32** and a projection **34**. Projection **34** is preferably semi-circular in shape and substantially perpendicular to rear axis **26**. While flexing member **30** is preferably asymmetrical overall with respect to rear axis **26**, as shown in **FIG. 1**, it is preferred that rectangular portion **32** is symmetrical with respect to rear axis **26**. It is further preferred to locate projection **34** at a position that will cover the shoe wearer's calcaneus bone, as described below.

[0032] As indicated above, flexing member **30** preferably has a lower density and a lower modulus of elasticity than the remainder of heel counter **20**. In use, heel counter **20** is preferably affixed to the heel of shoe **10** as shown in **FIGS. 1 and 4**. Heel counter **20** preferably provides added rigidity and support which aids users during periods of physical activity, especially those activities involving quick movements and directional changes. However, the added rigidity and support can degrade the comfort of the shoe wearer and cause injury to the achilles tendon, particularly when the user is flexing his or her foot. Thus, it has been found that by using the relatively lower density rectangular portion **32** of flexing member **30**, heel counters of this embodiment can provide a cushioning effect for the achilles tendon when the shoe wearer flexes his foot.

[0033] As is known to those skilled in the art, the foot comprises a number of bones including the calcaneus, which is located at the heel and offset towards the lateral side of the foot. During periods of physical activity, the calcaneus may tend to push against heel counter **10**, potentially causing discomfort and/or injury. It has been found that a lateral projection (such as semicircle **34**), made of a material of relatively lower density than the remainder of heel counter **20**, cushions the calcaneus and yields to a greater extent than the relatively more rigid side walls **22** and **24**, reducing the potential for injury or discomfort.

[0034] It is preferred that sidewalls **22** and **24** comprise a thermoplastic material, more preferably a thermoplastic polyurethane ("TPU") material. In accordance with this embodiment, the sidewalls have a Shore A hardness of

generally from about 90 to about 100, preferably from about 92 to about 98, and more preferably about 95. It is also preferred that flexing member **30** comprise a thermoplastic material which is more preferably a TPU. Sidewalls **22** and **24** and flexing member **30** may also comprise more than one material. Flexing member **30** has a Shore A hardness of generally from about 70 to about 80, preferably from about 72 to about 78, and more preferably about 75.

[0035] As explained below, in an especially preferred embodiment, the flexing member **30** comprises two grades of TPU as do sidewalls **22** and **24**. When multiple materials are combined to form flexing member **30** or sidewalls **22** and **24**, their individual properties may be averaged to calculate an average property value for the combination. When used in reference to a component such as flexing member **30** or sidewalls **22** and **24** (or a structural portion thereof), the term "average Shore A hardness" refers to the weight-fraction weighted average of the individual Shore A hardnesses for each constituent material comprising the component (i.e., the average equals the sum of each constituent material's weight fraction times that material's individual hardness). Of course, if only one material is used, then the average Shore A hardness will equal that material's Shore A hardness. When the term "Shore A hardness" is used to describe a part (or structural portion thereof), it shall refer to the results of the Shore A test performed on the part.

[0036] It is preferred that flexing member **30** have a Shore A hardness that is less than the Shore A hardness of sidewalls **22** and **24**. It is further preferred that the material(s) comprising flexing member **30** have an average Shore A hardness that is less than the average Shore A hardness of the material(s) comprising sidewalls **22** and **24**.

[0037] As is known to those skilled in the art, the modulus of elasticity is a measure of the degree to which a material deforms under stress and is defined as the ratio of stress (in units of force/area) to strain (original length/change in length due to applied stress). As with the term "average Shore A hardness," when used to describe a component or part such as flexing member **30** or sidewalls **22** and **24** (or a structural portion thereof), the term "average modulus of elasticity" shall refer to the weight-fraction weighted average of the moduli of elasticity of each constituent material comprising the part. However, when used to describe components or parts themselves, the term "modulus of elasticity" shall refer to the strain/stress results for the part.

[0038] In accordance with an especially preferred embodiment of the present invention, sidewalls **22** and **24** have a modulus of elasticity that is greater than the modulus of elasticity of flexing member **30**. In addition, it is especially preferred that sidewalls **22** and **24** comprise material(s) having an average modulus of elasticity that is greater than the average modulus elasticity of the material(s) comprising flexing member **30**.

[0039] As is also known to those skilled in the art, the density of a material is its mass per unit volume. As used to refer to a component or part (or structural portion thereof), the term "density" shall refer to the mass per unit volume of the component or part. However, the term "average density" shall refer to the weight-fraction weighted average of the densities of each constituent material comprising the component or part. It is especially preferred that flexing member **30** have a density that is less than the density of side walls

22 and **24**. It is also preferred that flexing member **30** have an average density that is less than the average density of side walls **22** and **24**. However, a number of materials, moduli of elasticity and densities can be used without departing from the scope of the present invention.

[0040] In an especially preferred embodiment, flexing member **30** comprises a 50/50 (by weight) mixture of AVALON® 85AE TPU (Shore A Hardness of 85) and AVALON® 65AE TPU (Shore A Hardness of 65), both of which are manufactured by Huntsman Polyurethanes of Everberg Belgium. The 50/50 mixture yields an average Shore A hardness of 75. In an even more preferred embodiment, sidewalls **22** and **24** each comprise a 50/50 mixture of AVALON® 95AE AND AVALON® 95AK, both of which are also manufactured by Huntsman Polyurethanes. The 50/50 mixture yields an average Shore A hardness of 95.

[0041] A method of making a heel counter in accordance with the present invention will now be described. The heel counter of **FIG. 1** is preferably created as a unitary, injection molded piece suitable for affixing to the heel of a shoe by known processes, such as gluing.

[0042] In accordance with this embodiment, an injection mold is provided which includes two cavities defining the shape of sidewalls **22** and **24**. An intermediate cavity is provided between the sidewall cavities which defines the shape of flexing member **30**. The material used to form flexing member **30** is suitably heated, melted, and injected into the intermediate cavity using known techniques. The material comprising sidewalls **22** and **24** is then heated, melted and injected into the respective sidewall cavities, such that the sidewalls **22** and **24** fuse together with flexing member **30** to form an integrally molded heel counter **20**. As used herein the terms “melt” or “melted” refer to the application of heat sufficient to cause a solid material to liquefy. Heel counter **20** is then cooled, hardened, and removed from the mold, after which it is affixed to a shoe by gluing or other known techniques. As shown in **FIG. 1**, shoe uppers have a rearmost portion that defines a heel axis. Preferably, heel counter **20** is positioned such that rectangular portion **32** is symmetrical about the heel axis, with projection **34** being offset towards the lateral side of the shoe. While the foregoing describes a process which can be used to make heel counters of the present invention, the present invention is not limited to any particular manufacturing process.

[0043] The embodiments described above are exemplary embodiments of the present invention. Those skilled in the art may now make numerous uses of, and departures from, the above-described embodiments without departing from the inventive concepts disclosed herein. Accordingly, the present invention is to be defined solely by the scope of the following claims.

What is claimed is:

1. A support member for the heel of a shoe, comprising:
 - a pair of sidewalls; and
 - a deformation member between the sidewalls.
2. The support member of claim 1, wherein the support member has an arcuate bottom edge.
3. The support member of claim 2, wherein the support member is a heel counter.

4. The support member of claim 1, wherein the sidewalls comprise a first material and the deformation member comprises a second material.

5. The support member of claim 4, wherein the sidewalls have a density, the deformation member has a density, and the density of the sidewalls is greater than the density of the deformation member.

6. The support member of claim 4, wherein the sidewalls have a modulus of elasticity, the deformation member has a modulus of elasticity, and the modulus of elasticity of the sidewalls is greater than the modulus of elasticity of the deformation member.

7. A shoe comprising the support member of claim 1.

8. A shoe comprising an upper having a heel, wherein the support member of claim 1 is attached to the heel.

9. The shoe of claim 8, wherein the heel comprises an exterior surface and the support member is attached to the exterior surface of the heel.

10. A heel counter, comprising:

- a. a lateral portion comprising at least one lateral portion material, wherein the lateral portion has a density;
- b. a medial portion comprising at least one medial portion material, wherein the medial portion has a density;
- c. an asymmetrical deformation portion between the lateral portion and the medial portion, said deformation portion comprising at least one deformation portion material, wherein the deformation portion has a density;

wherein the density of the deformation portion is less than the density of the lateral portion.

11. The heel counter of claim 10, wherein the density of the deformation portion is less than the density of the medial portion.

12. The heel counter of claim 10, wherein the at least one lateral portion material and the at least one medial portion material are the same material.

13. The heel counter of claim 10, wherein the deformation portion comprises a rectangular section and a projection from the rectangular section.

14. A shoe comprising an upper having a heel, wherein the heel counter of claim 10 is attached to the heel.

15. The heel counter of claim 13, wherein the projection defines a semi-circle.

16. A heel counter, comprising:

- a. a lateral support;
- b. a medial support; and
- c. a calcaneus bone support.

17. A heel counter having a top edge and a bottom edge defining a heel axis between the top edge and bottom edge, and an asymmetrical member located along the heel axis.

18. The heel counter of claim 17, wherein the asymmetrical member has a first density, the remainder of the heel counter has a second density, and the first density is less than the second density.

19. The heel counter of claim 17, wherein the asymmetrical member includes a semicircular portion.

20. The heel counter of claim 17, wherein the asymmetrical member includes a lateral projection.

21. The heel counter of claim 17, wherein the asymmetrical member comprises a rectangular strip and a projection from the rectangular strip.

22. A heel counter having a rear axis, comprising:

- a. lateral and medial sidewalls having a first density;
- b. a deformable member having a second density, the deformable member being located between the lateral and medial sidewalls and disposed along the rear axis, wherein the deformable member comprises a rectangular strip with a semicircular projection directed towards the lateral sidewall, and the deformable member is integrally molded with the lateral and medial sidewalls;

wherein the second density is less than the first density.

23. A shoe, comprising an upper having a heel, the heel having an exterior surface, wherein the heel counter of claim 22 is attached to the exterior surface.

24. A shoe comprising,

- a. an upper having a heel, the heel including an exterior surface; and
- c. a heel counter attached to the exterior surface of the heel, where the heel counter comprises a flexing member.

25. The shoe of claim 24, wherein the upper has a top and a bottom spaced apart in a direction and the flexing member is disposed along the direction.

26. The shoe of claim 24, wherein the flexing member is asymmetrical.

27. The shoe of claim 24, wherein the heel counter comprises first and second sidewalls and the flexing member is located between the first and second sidewalls.

28. The shoe of claim 27, wherein said flexing member has a modulus of elasticity, the first and second sidewalls have a modulus of elasticity, and the modulus of elasticity of the flexing member is less than the modulus of elasticity of the first and second sidewalls.

29. The shoe of claim 24, wherein the upper defines a lateral side and a medial side and the flexing member includes a projection directed towards the lateral side.

30. The shoe of claim 29, wherein the projection is a semi-circle.

31. A calcaneus protector for use in a heel counter of a shoe, the calcaneus protector comprising a rectangular section and a projection from the rectangular section.

32. The calcaneus protector of claim 31, wherein the projection is a semi-circle.

33. A heel counter comprising the calcaneus protector of claim 31.

34. A shoe comprising the heel counter of claim 33.

35. The calcaneus protector of claim 31, wherein the projection comprises a polyurethane material.

36. A method of manufacturing a heel counter for a shoe, comprising the steps of:

forming first and second side walls, and forming a deformation member such that the deformation member is attached to the first and second sidewalls and located between the first and second sidewalls.

37. The method of claim 36, wherein the step of forming first and second sidewalls comprises providing a plastic material and molding the plastic material to form the first and second sidewalls.

38. The method of claim 36, wherein the step of forming the deformation member comprises integrally forming the deformation member with the first and second sidewalls.

39. The method of claim 36, further comprising providing a mold, the mold comprising a first sidewall section, a second sidewall section, and a deformation member section, and wherein the step of forming the first and second sidewalls comprises molding a first material in the first and second sidewall sections, and the step of forming a deformation member comprises molding a second material in the second sidewall section.

40. A method of manufacturing a heel counter, comprising the steps of:

- a. providing a mold comprising a first sidewall section, a second sidewall section, and a deformable member section between the first sidewall section and second sidewall section;
- b. providing a first material;
- c. melting the first material;
- d. filling the deformable member section with the first material;
- e. providing a second material;
- f. melting the second material;
- g. filling the first sidewall section and the second sidewall section with the melted second material;
- h. allowing the first material in the first and second sidewall sections and the second material in the deformable member section to harden, thereby forming a heel counter; and
- g. removing the heel counter from the mold.

41. A method of manufacturing a shoe, comprising the steps of:

- a. providing a shoe upper having a heel; and
- b. attaching the heel counter of claim 40 to the heel of the shoe upper.

42. A shoe, comprising:

- a. an upper having a heel, the heel having an exterior surface;
- b. a heel counter, attached to the exterior surface of the heel, the heel counter comprising a lateral portion, a medial portion, and a deformation portion between the lateral portion and the medial portion.

43. The shoe of claim 42, wherein the deformation portion has a density, the lateral portion has a density, and the density of the deformation portion is less than the density of the lateral portion.

44. The shoe of claim 42, wherein the deformation portion is asymmetrical.

45. A shoe comprising a heel having an exterior surface and the heel counter of claim 17 attached to the exterior surface of the heel, wherein the heel counter includes an asymmetrical member.

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