



(12) **Patent Application Publication**

(43) **Pub. Date:** **Mar. 17, 2005**

Related U.S. Application Data

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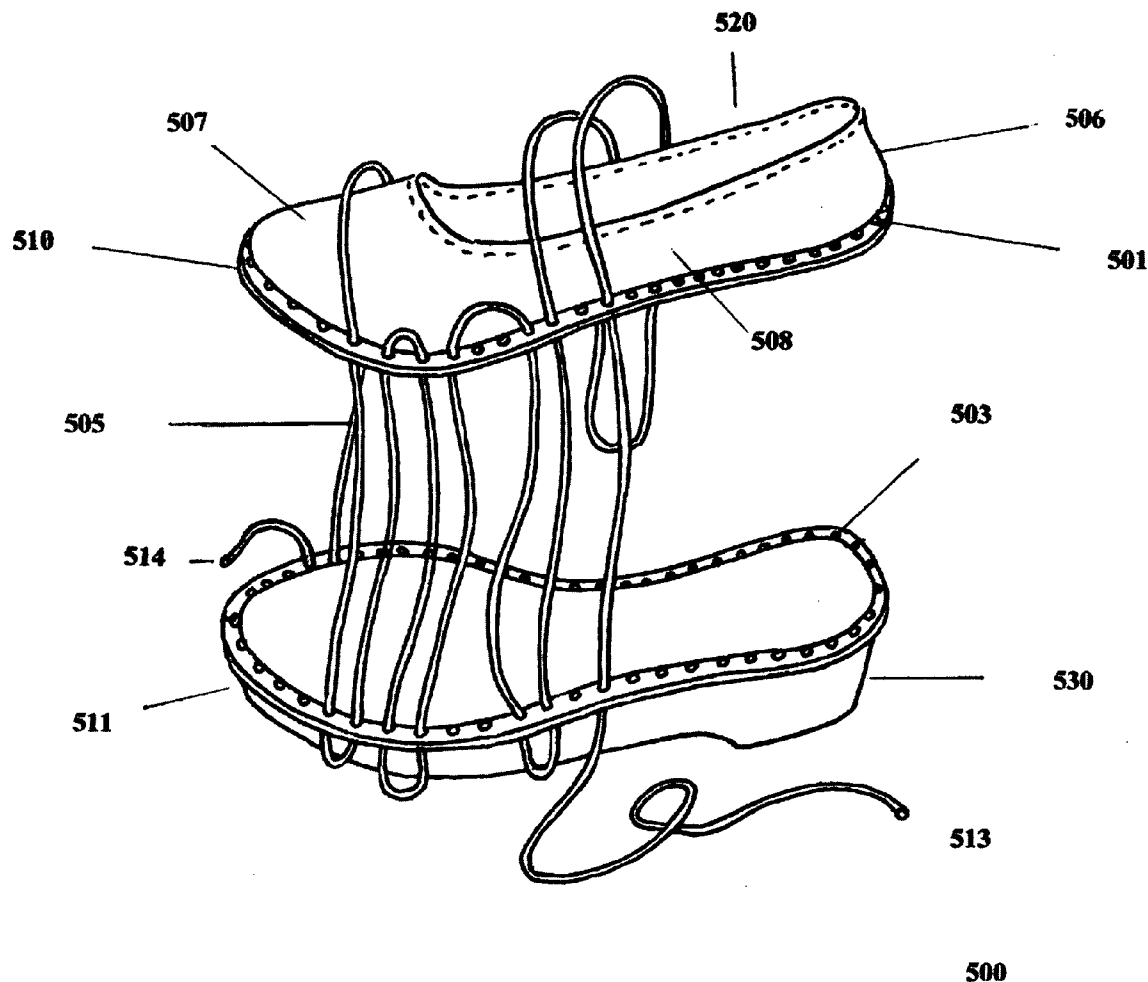
Publication Classification

(52) **U.S. Cl.** **36/19 R**

(57) **ABSTRACT**

An article of footwear comprises a sole, a shoe top having at least one of a toe portion and a heel portion wherein the shoe top is attached to the sole, and a shoe lip having a plurality of holes disposed between the sole and the shoe top.

(22) Filed: **Oct. 30, 2004**



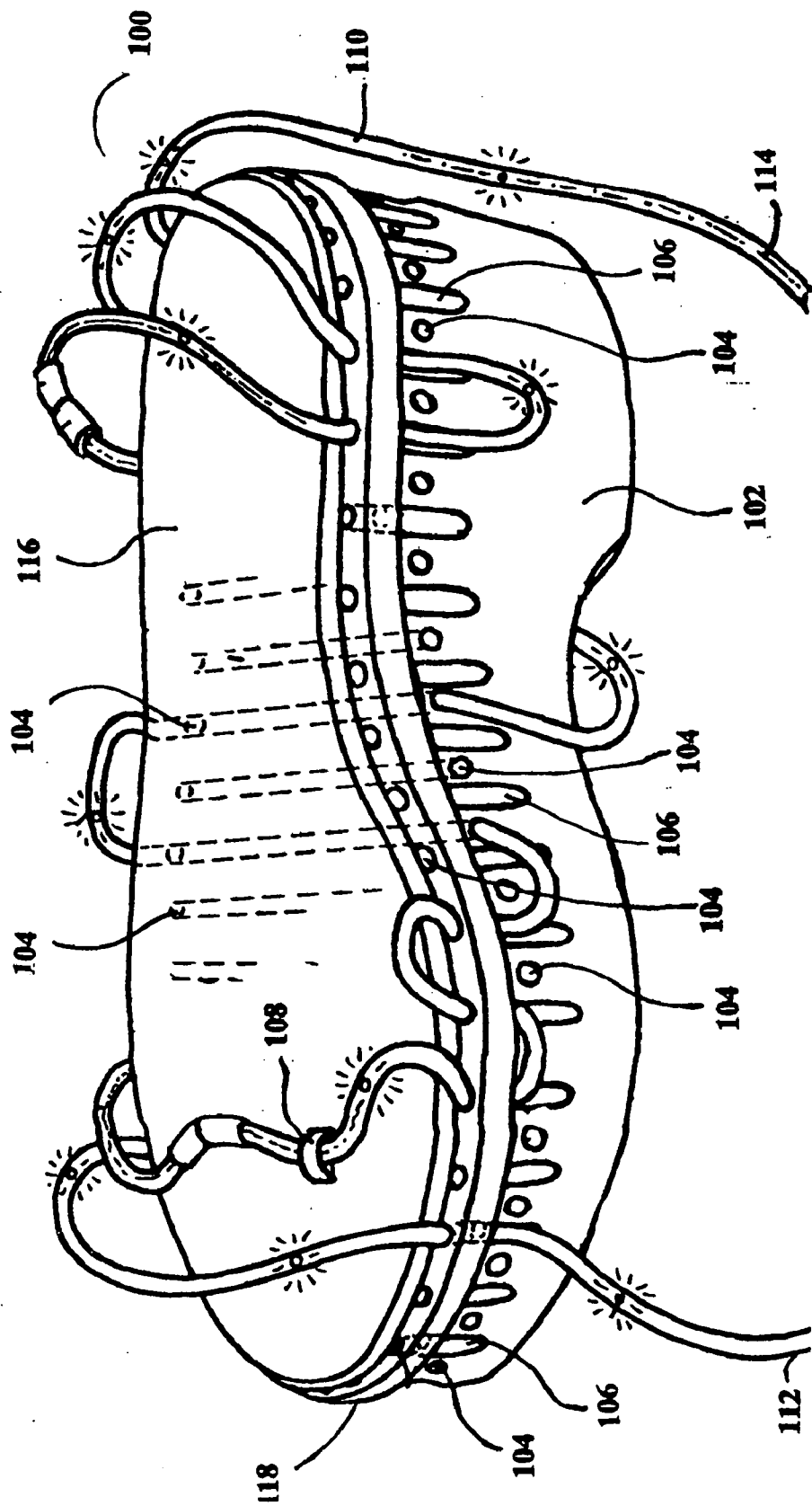


Fig. 1

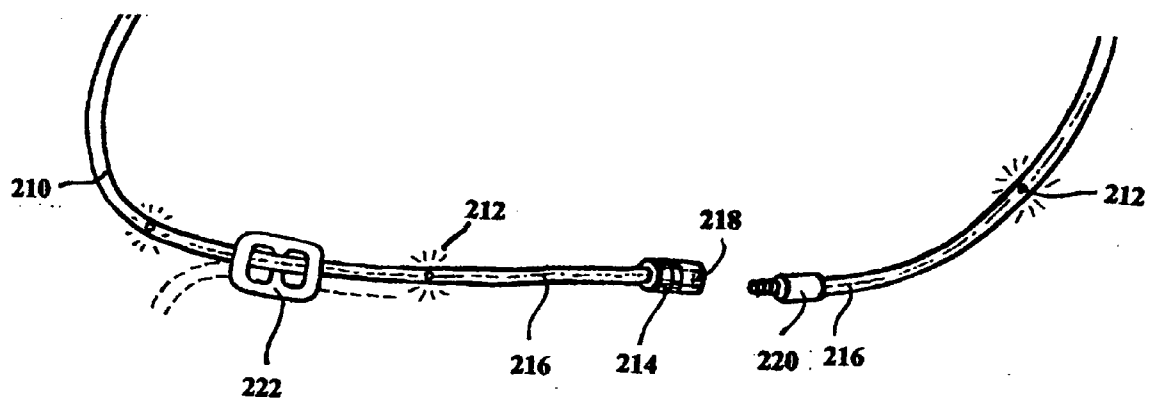


Fig. 2

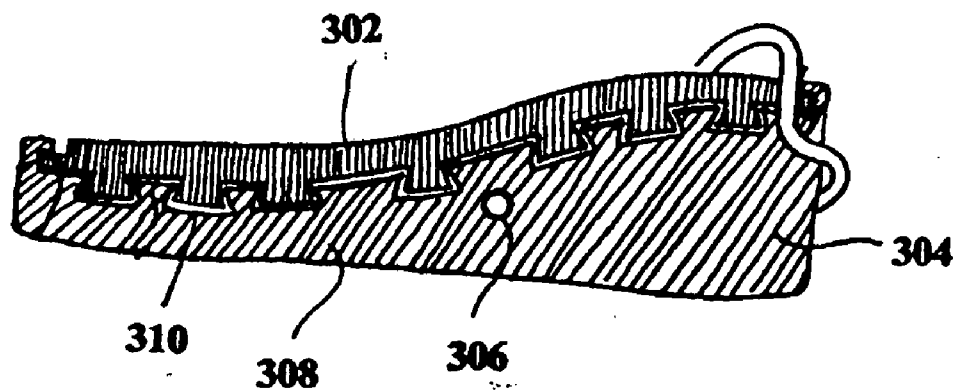


Fig. 3a

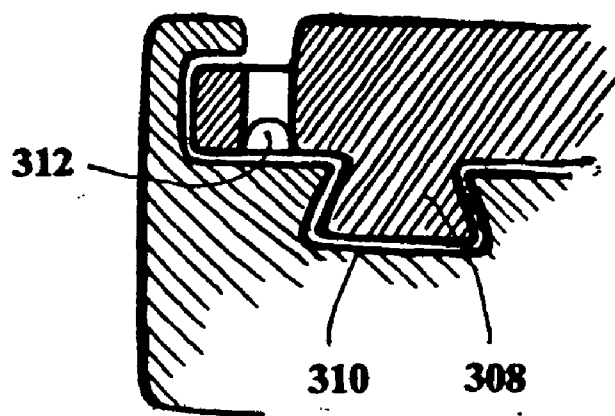


Fig. 3b

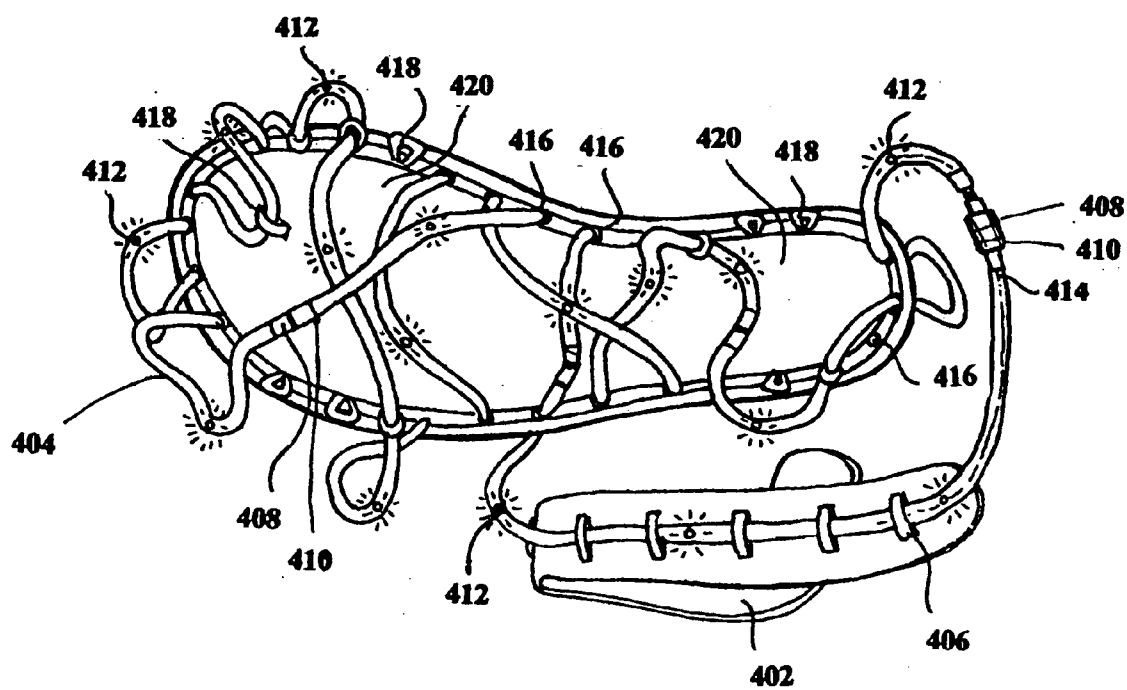


Fig. 4

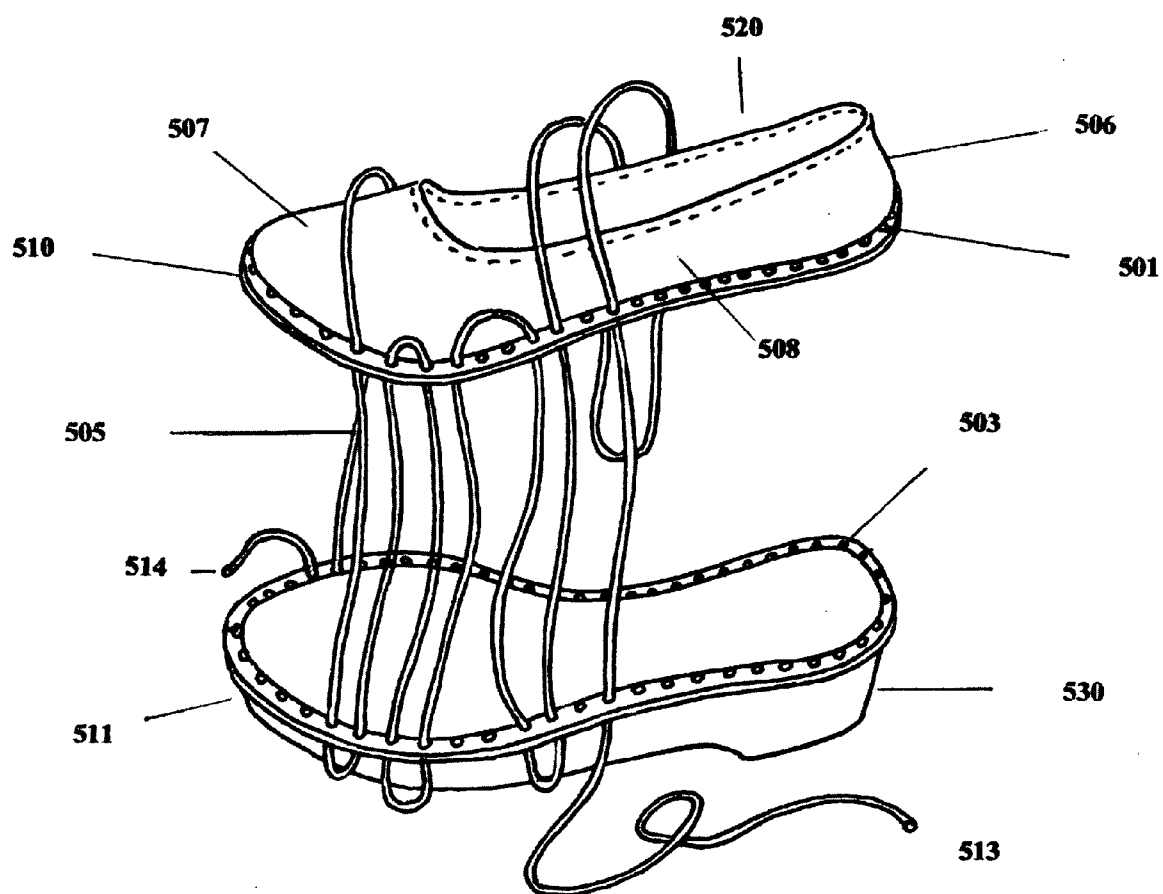


Fig. 5

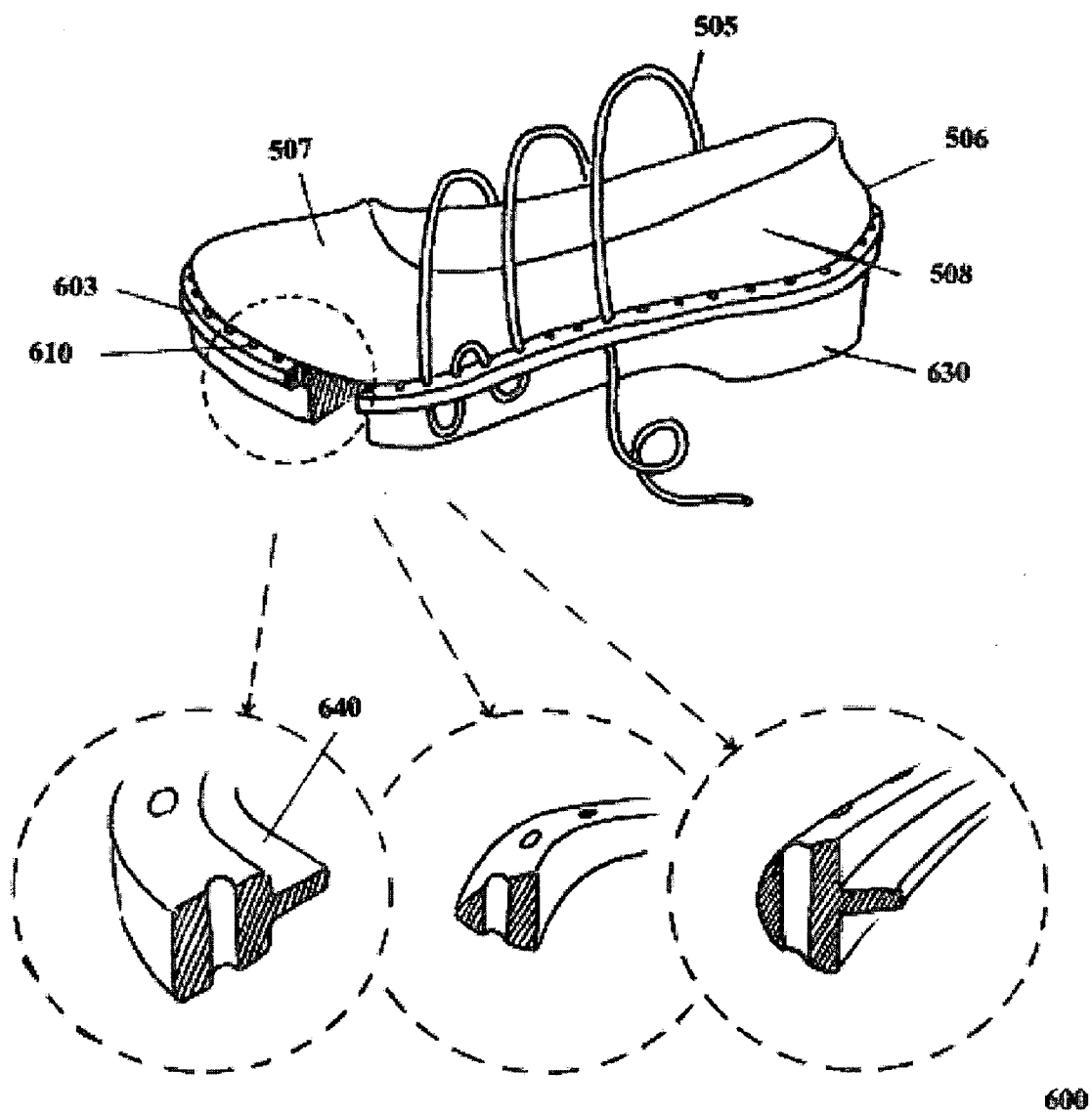


Fig. 6

SHOE HAVING A VARIETY OF LACING STYLES

RELATED APPLICATION DATA

[0001] This present application is a continuation-in-part of commonly assigned application Ser. No. 10/402,713, filed on Mar. 28, 2003, the disclosure of which in its entirety is incorporated by reference herein.

1. TECHNICAL FIELD

[0002] The present invention relates generally to footwear, and more specifically, to shoes having a plurality of channels used for attaching an upper sole and a lower sole to form a shoe.

2. DISCUSSION OF RELATED ART

[0003] Footwear includes a shoe top and a sole. The shoe top is securely attached to the sole. Generally, the shoe top wraps around some or all of a wearer's foot. The wearer's foot is typically held in place by shoelaces. Soles are generally formed of a cushioning material. Because the shoe top is fixedly attached to the sole, the entire footwear needs to be replaced when the soles are worn, the shoe top is defaced or damaged, or if the wearer grows tired of the look or style of the shoe. In certain circumstances, a shoe wearer may want to have a different thickness of sole, a different style, or a different material of upper and/or lower portions. Being not detachable, replacement of the entire shoe is the typical solution.

SUMMARY OF THE INVENTION

[0004] In one exemplary embodiment of the invention, an article of footwear comprises a first sole including a first lip provided along its perimeter, a second sole including a second lip provided along its perimeter, a plurality of holes disposed along the lip of the first sole and a plurality of holes disposed along the lip of the second sole, wherein the first lip and the second lip are dimensioned and shaped to form at least a plurality of channels from the holes of the first lip and the second lip, and a lace for extending through at least a plurality of channels to attach the first sole to the second sole.

[0005] In another exemplary embodiment of the invention, an article of footwear comprises a first sole including a first lip provided along its perimeter, a second sole including a second lip provided along its perimeter, a plurality of holes spaced apart and disposed along the first lip and the second lip, and a lace for extending through any combination of the plurality of holes to attach the first sole to the second sole.

[0006] The article of footwear further comprises a shoe top having at least one of a toe portion, a heel portion, and an instep portion, wherein the shoe top is attached to the first sole. A first shoe top is attached to the first sole and a second shoe top is attached to a third sole. The second sole is attached to one of the first and the third sole using the lace. The first sole and the second sole are made from different materials. The lace strings through the first lip, the second lip, and above the shoe top. The second sole is thicker than the first sole. A material of the second sole is rubber.

[0007] In still another exemplary embodiment of the present invention, an article of footwear comprises a sole, a shoe top having at least one of a toe portion and a heel

portion, wherein the shoe top is attached to the sole, and a shoe lip having a plurality of holes disposed between the sole and the shoe top. The shoe lip includes means for removably attaching to the sole. The means for attaching includes a tongue for fitting into a groove between the sole and the shoe top. The article of footwear further comprises a lace for extending through at least a plurality of holes to wrap around any portion of the wearer's toes, foot, ankle, calf, and leg in a plurality of decorative styles.

[0008] In another exemplary embodiment of the present invention, a shoe lip for attachment to a shoe having at least a top portion and a sole comprises a plurality of holes spaced apart from each other and a tongue portion for insertingly fitting a groove between the sole and the shoe top. The tongue portion further includes adhesive material for affixing the shoe lip to the shoe.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is an exemplary illustration of a sandal according to an embodiment of the present invention.

[0010] FIG. 2 is an exemplary illustration of a lace according to an embodiment of the present invention.

[0011] FIG. 3A is an exemplary illustration of a side view of layers of a sole of a sandal according to an embodiment of the present invention.

[0012] FIG. 3B is an exemplary illustration of a channel incorporated into a sole locking mechanism according to an embodiment of the present invention.

[0013] FIG. 4 is an exemplary illustration of a top view of a sandal according to an embodiment of the present invention.

[0014] FIG. 5 is an illustration of a shoe according to an exemplary embodiment of the present invention.

[0015] FIG. 6 is an illustration of a shoe according to another exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0016] With reference now to the Figures, the illustration of FIG. 1 depicts an example of a sandal 100 according to an embodiment of the present invention. In general, sandal 100 comprises a sole 102 having a plurality of redirection holes 104, grooves 106, and rings 108 for stringing a lace 110. The lace 110 is preferably a transparent plastic tube having a first end 112 and a second end 114, but can comprise any flexible material. The sole 102 can further include a top layer 116 and a bottom layer 118. The plurality of redirection holes 104 can further be provided between the top layer 116 and the bottom layer 118. The top layer 116 and the bottom layer 118 can be connected together. In still another embodiment according to the present invention, the plurality of redirection holes 104, grooves 106, and rings 108 can string more than one lace (not shown).

[0017] Referring to FIG. 2, in a preferred embodiment a lace 210 includes lights 212 within its interior surface that can flash or remain constantly illuminated, for decorative purposes. The lace 210 also includes a power supply 214, for example, a battery, that provides electric current to the lights using an electrically conductive material 216 within the

interior surface of the lace that is connected to the lights **212** and power supply **214** to form an electric circuit. The power supply **214** can be positioned behind an electrically conductive female connector **218** affixed to the first end of the lace **210** that can be coupled to an electrically conductive male connector **220** affixed to the second end of the lace **210**, thereby completing the electric circuit. The lace **210** can further have a plurality of connectors and power supplies (not shown). In another embodiment according to the present invention, the lace includes an adjusting mechanism **222** that adjusts the length of the lace for a comfortable fit of the sandal on the wearer's foot.

[0018] Referring to **FIG. 3A**, in a preferred embodiment according to the present invention, the sole comprises a plurality of layers. A first layer **302** that is in contact with a wearer's foot and a second layer **304** that is in contact with a surface. The first layer **302** having at least one of a plurality of redirection rings for stringing at least one of a plurality of laces and the second layer **304** having at plurality of redirection holes and grooves for stringing at least one of a plurality of laces, as illustrated in **FIG. 1**. Again referencing **FIG. 3A**, the first layer **302** and the second layer **304** are affixed to each other using a locking mechanism. The locking mechanism is preferably comprised of a plurality of tongues **308** arranged on the first layer **302** and a plurality of grooves **310** arranged on the second layer, wherein the plurality of tongues **308** and the plurality of grooves **310** are arranged oppositely to each other such that the plurality of tongues **308** interlock with the plurality of grooves **310** when pressed together. As shown in **FIG. 3B**, the locking mechanism can further include a channel **312** for stringing a lace thereby hiding the lace from view and obtaining a seamless connection between the first layer **302** and second layer **304**. Additionally, any number of layers of soles can be affixed together to obtain a more comfortable fit of the sandal on a wearer's foot.

[0019] Referring to **FIG. 4**, a top view of a sandal is illustrated according to an embodiment of the present invention. The lace **404** can include a moveable anti-friction pad **402** positioned over the lace **404** to prevent irritation of a wearer's skin arising from friction of the lace **404** against the skin. The anti-friction pad **402** further includes a plurality of securing devices **406** used to movably affix the anti-friction pad **402** to the lace **404**.

[0020] Further illustrated are a plurality of electrically conductive connectors **408** (both male and female shown in a connected position) and a plurality of power supplies **410**. The electrically conductive connectors **408**, the power supplies **410**, and a plurality of illumination devices **412** provided within the interior surface of the lace **404**, are connected using an electrically conductive material **414** also provided within the interior surface of the lace **404**. The lace **404** is strung through a plurality of redirection holes **416**, grooves (not shown), and rings **418** that are provided on the perimeter, on a top surface, and within an interior surface (not shown) of a sole **420**, thereby forming a receptacle to secure the sole **420** to a wearer's foot. The receptacle formed serves as a top portion of a shoe.

[0021] When securing the sandal to a foot, any combination of redirection holes **416**, grooves, and rings **418** can be used for stringing the lace **404**. Additionally, in conjunction with using any combination of redirection holes **416**,

grooves, and rings **418**, to secure the sandal to the foot, the lace can be wrapped around any portion of the wearer's toes, foot, ankle, calf, and leg in a plurality of decorative styles. Obtaining a plurality of decorative styles from a single pair of sandals advantageously increases the marketability of the sandal.

[0022] The illustration of **FIG. 5** depicts a shoe **500** according to an exemplary embodiment of the present invention. The shoe **500** comprises an upper portion **520** and a lower portion **530**. The upper portion **520** includes an upper sole **510** and a shoe top which comprises a heel portion **506**, a toe portion **507**, and an instep portion **508**. The shoe top is fixedly attached to the upper sole **510**. The upper sole **510** has a lip with a plurality of holes **501** which are spaced apart and disposed around its perimeter. The lower portion **530** comprises a lower sole **511** formed of a cushioning material. The lower sole **511** has a lip with a plurality of holes **503** which are spaced apart and disposed around its perimeter. In general, the upper sole **510** is in contact with a wearer's foot and the lower sole **511** is in contact with a surface.

[0023] In one exemplary embodiment, the upper sole **520** and the lower sole **530** are dimensioned and shaped so that at least a plurality of holes of the upper sole **520** and the lower sole **530** match to form a channel through which lace **513** can be strung to tie together the upper sole **520** and the lower sole **530**.

[0024] In another exemplary embodiment of the present invention, a shoe wearer may use a different thickness, a different color, and/or a different material of either the upper or lower portion. The shoe wearer may change a style of a shoe, for example, by replacing the upper sole with another sole having an attached shoe top. The new sole with shoe top may have a different shoe top with a completely different style, or different toe portion or heel portion, or by a different thickness and/or a different color of sole. For example, a rubber bottom sole can be used for wearing in slippery conditions.

[0025] The lace **505** is preferably a transparent plastic tube having a first end **513** and a second end **514**, but can comprise any flexible material. Details of the lace **505** are same with the details of the lace **210** described in **FIG. 2**. The lace **505** additionally secures the soles **510** and **511** to wearer's foot. In another exemplary embodiment of the present invention, the holes **501** and **503** can string more than one lace.

[0026] When securing the upper sole **510** to the lower sole **511**, any combination of holes **501** and **503** can be used for stringing the lace **505**. In conjunction with using any combination of holes **501** and **503** to secure the upper sole to the lower sole, the lace can be wrapped around any portion of the wearer's toes, foot, ankle, calf, and leg in a plurality of decorative styles. In such case, the shoe can be worn without the shoe top. In addition, to obtain a plurality of decorative styles, jewelry, colored plastics, or pieces of leather can be removably affixed to the lace **505**.

[0027] The illustration of **FIG. 6** depicts a shoe **600** according to another exemplary embodiment of the present invention. The shoe **600** comprises a sole **630**, a shoe top, and a shoe lip **610**. The shoe top comprises a heel portion **506**, a toe portion **507**, and an instep portion **508**. The shoe

top is fixedly attached to the sole **630**. The shoe lip **610** has a plurality of holes **603** which are disposed spaced apart from each other. The shoe lip **610** can be removably attached to the shoe **600**, in a space between the sole **630** and the shoe top. As shown, a tongue and groove system, with the shoe lip **610** having a tongue portion **640** for insertingly fitting into the 'groove' between the sole **630** and the shoe top. The tongue and groove system facilitates ease of adding the shoe lip **610** to existing shoes. Alternatively, the shoe lip **610** can be glued into existing shoes by an adhesive.

[0028] In another exemplary embodiment of the present invention, any connecting system, which is easy to attach and remove the shoe lip **610** from the sole **630**, can be used. The magnified circles in FIG. 6 show exemplary shapes of the shoe lip **610**. The shoe lip **610** may be formed of an elastic material such as, for example, plastic, leather or rubber. The sole **630** may be formed of a cushioning material.

[0029] Although illustrative embodiments of the present invention have been described herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to those precise embodiments, and that various other changes and modifications may be affected therein by one skilled in the art without departing from the scope or spirit of the present invention.

What is claimed is:

1. An article of footwear comprising:
 - a sole;
 - a shoe top having at least one of a toe portion and a heel portion, wherein the shoe top is attached to the sole; and
 - a shoe lip having a plurality of holes disposed between the sole and the shoe top.
2. The article of footwear of claim 1, wherein the shoe lip includes means for removably attaching to the sole.
3. The article of footwear of claim 2, wherein the means for attaching includes a tongue for fitting into a groove between the sole and the shoe top.
4. The article of footwear of claim 1, further comprising a lace for extending through at least a plurality of holes to wrap around any portion of the wearer's toes, foot, ankle, calf, and leg in a plurality of decorative styles.
5. An article of footwear comprising:
 - a first sole including a first lip provided along its perimeter;
 - a second sole including a second lip provided along its perimeter;
 - a plurality of holes disposed along the lip of the first sole and a plurality of holes disposed along the lip of the second sole, wherein the first lip and the second lip are dimensioned and shaped to form at least a plurality of channels from the holes of the first lip and the second lip; and
 - a lace for extending through at least a plurality of channels to attach the first sole to the second sole.
6. The article of footwear of claim 5, further comprising a shoe top having at least one of a toe portion, a heel portion, and an instep portion, wherein the shoe top is attached to the first sole.

7. The article of footwear of claim 5, further comprising a first shoe top attached to the first sole and a second shoe top attached to a third sole, wherein the second sole is attached to one of the first and the third sole using the lace.

8. The article of footwear of claim 5, wherein the first sole and the second sole are made from different materials.

9. The article of footwear of claim 6, wherein the lace strings through the first lip, the second lip, and above the shoe top.

10. The article of footwear of claim 5, wherein the second sole is thicker than the first sole.

11. The article of footwear of claim 5, wherein a material of the second sole is rubber.

12. The article of footwear of claim 5, further including affixing decorative articles onto the lace.

13. The article of footwear of claim 12, wherein the decorative articles include one of jewelry, colored plastics, and pieces of leather.

14. An article of footwear comprising:

- a first sole including a first lip provided along its perimeter;
- a second sole including a second lip provided along its perimeter;
- a plurality of holes spaced apart and disposed along the first lip and the second lip; and
- a lace for extending through any combination of the plurality of holes to attach the first sole to the second sole.

15. The article of footwear of claim 14, further comprising a shoe top having at least one of a toe portion, a heel portion, and an instep portion, wherein the shoe top is attached to the first sole.

16. The article of footwear of claim 14, further comprising a first shoe top attached to the first sole and a second shoe top attached to a third sole, wherein the second sole is attached to one of the first and the third sole using the lace.

17. The article of footwear of claim 14, wherein the first sole and the second sole are made from different materials.

18. The article of footwear of claim 15, wherein the lace strings through the first lip, the second lip, and above the shoe top.

19. The article of footwear of claim 14, wherein the second sole is thicker than the first sole.

20. The article of footwear of claim 14, wherein a material of the second sole is rubber.

21. The article of footwear of claim 14, further including affixing decorative articles onto the lace.

22. The article of footwear of claim 21, wherein the decorative articles include one of jewelry, colored plastics, and pieces of leather.

23. A shoe lip for attachment to a shoe having at least a top portion and a sole, the shoe lip comprising a plurality of holes spaced apart from each other and a tongue portion for insertingly fitting a groove between the sole and the shoe top.

24. The shoe lip of claim 23, wherein the tongue portion further includes adhesive material for affixing the shoe lip to the shoe.