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(54) Title: FOOTWEAR HAVING PROVISIONS FOR ACCEPTING MODULES <div data-bbox="296 1205 1289 1845" data-label="Image"> </div> (57) Abstract <p>An article of footwear (10) having provisions (18) for accepting modules (1), wherein said modules provide audio, visual (28) and/or other sensible signals. The article of footwear (10) may be a fashion shoe having an upper (12), a sole (14), and a heel (16), a sport shoe having an upper and a sole, or a low shoe having just a sole. The provisions (18) for accepting modules may be receptacle means formed within the article of footwear or attachment means formed without the article of footwear.</p>		

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FOOTWEAR HAVING PROVISIONS FOR ACCEPTING MODULESBACKGROUND OF THE INVENTIONField of the Invention

The present invention relates to footwear providing
5 audio, visual, and/or other sensible signals, and, more particularly, to an article of footwear having provisions for accepting modules, wherein said modules provide audio, visual, and/or other sensible signals.

Description of the Prior Art

- 10 It is known to provide circuitry for permanent installation in an article of footwear wherein, upon certain motions and/or positions of the footwear, the circuitry causes a light source, sound source, and/or other sensible source to be switched on. The circuitry
15 typically includes a battery, a motion and/or position detecting device, and the light source, sound source, and/or the other sensible source. The circuitry is typically permanently installed in the heel, sole, and/or upper of the footwear.
- 20 It would be desirable to have access to such circuitry for replacement and/or repair purposes. For example, the battery may have to be replaced or the connective wiring may have to be repaired. It would also be desirable to remove and/or replace such circuitry from its permanently
25 installed position in the heel, sole, and/or upper of the footwear. For example, it would be desirable to remove light source circuitry and replace it with sound source circuitry, or vice versa.

To date, no means has been prescribed for allowing such
30 circuitry to be removed and/or replaced from its permanently installed position in the heel, sole, and/or

upper of the footwear other than by entirely removing and/or destructively invading the heel, sole, and/or upper of the footwear. Thus, it would be desirable to provide a means for allowing such circuitry to be removed
5 and/or replaced from its permanently installed position in the heel, sole, and/or upper of the footwear other than by entirely removing and/or destructively invading the heel, sole, and/or upper of the footwear.

SUMMARY OF THE INVENTION

10 The present invention contemplates an article of footwear designed to accept modules that provide audio, visual, and/or other sensible signals. The term sensible signals may mean a visible signal created by a light emitting diode (LED), light bulb, or other light source, an
15 audible signal created by a speaker, buzzer, or other sound source, or any other signal sensible to either the wearer of the footwear and/or someone in close proximity.

In accord with the present invention, there is provided an article of footwear having provisions for accepting
20 modules, wherein said modules provide audio, visual, and/or other sensible signals. The article of footwear may be a fashion shoe having an upper, a sole, and a heel, a sport shoe having an upper and a sole, or a low shoe having just a sole. The provisions for accepting
25 modules may be receptacle means formed within the article of footwear or attachment means formed without the article of footwear.

In a first embodiment of the present invention, a fashion shoe accepts modules by way of attachment means formed
30 without the upper of the fashion shoe.

In a second embodiment of the present invention, a fashion shoe accepts modules by way of receptacle means formed within the sole of the fashion shoe.

In a third embodiment of the present invention, a fashion shoe accepts modules by way of receptacle means formed within the heel of the fashion shoe.

In a fourth embodiment of the present invention, a sport shoe accepts modules by way of attachment means formed without the upper of the sport shoe.

10 In a fifth embodiment of the present invention, a sport shoe accepts modules by way of receptacle means formed within the sole of the sport shoe.

In a sixth embodiment of the present invention, a low shoe accepts modules by way of receptacle means formed within the sole of the low shoe.

From the above descriptive summary it is apparent how the present invention overcomes the shortcomings of the above-mentioned prior art by providing a means for allowing modules, that provide audio, visual, and/or other sensible signals, to be removed and/or replaced from within or without the heel, sole, and/or upper of the footwear other than by entirely removing and/or destructively invading the heel, sole, and/or upper of the footwear.

25 Accordingly, the primary objective of the present invention is to provide a means for allowing modules, that provide audio, visual, and/or other sensible signals, to be removed and/or replaced from within or without the heel, sole, and/or upper of the footwear other than by entirely removing and/or destructively invading the heel, sole, and/or upper of the footwear.

Other objectives and advantages of the present invention will become apparent to those skilled in the art upon reading the following detailed description and claims, in conjunction with the accompanying drawings which are
5 appended hereto.

BRIEF DESCRIPTION OF THE DRAWINGS

In order to facilitate a fuller understanding of the present invention, reference is now be made to the appended drawings. The drawings should not be construed
10 as limiting the present invention, but are intended to be exemplary only.

Figure 1 is a perspective view of a fashion shoe, according to the present invention, that accepts modules by way of first attachment means formed without the upper
15 of the fashion shoe.

Figure 2 is a perspective view of a fashion shoe, according to the present invention, that accepts modules by way of second attachment means formed without the upper of the fashion shoe.

20 Figure 3 is a perspective view of a fashion shoe, according to the present invention, that accepts modules by way of third attachment means formed without the upper of the fashion shoe.

Figure 4 is a perspective view of a fashion shoe,
25 according to the present invention, that accepts modules by way of receptacle means formed within the sole of the fashion shoe.

Figure 5 is a perspective view of a fashion shoe, according to the present invention, that accepts modules

by way of receptacle means formed within the heel of the fashion shoe.

Figure 6 is a perspective view of a sport shoe, according to the present invention, that accepts modules by way of first attachment means formed without the upper of the sport shoe.

Figure 7 is a perspective view of a sport shoe, according to the present invention, that accepts modules by way of second attachment means formed without the upper of the sport shoe.

Figure 8 is a perspective view of a sport shoe, according to the present invention, that accepts modules by way of third attachment means formed without the upper of the sport shoe.

Figure 9 is a perspective view of a sport shoe, according to the present invention, that accepts modules by way of receptacle means formed within the sole of the sport shoe.

Figure 10 is a perspective view of a low shoe, according to the present invention, that accepts modules by way of receptacle means formed within the sole of the low shoe.

PREFERRED EMBODIMENTS OF THE PRESENT INVENTION

Referring to Figure 1, there is shown a fashion shoe 10 having an upper 12, a sole 14, and a heel 16. Without the upper 12 of the fashion shoe 10 there is a first attachment means 18 for accepting a module 20 according to the present invention. The first attachment means 18 comprises a pocket 18 that is sewn or stitched to the upper 12 of the fashion shoe 10. Along the open edge of the pocket 18 a flap 22 is provided for removably

securing the module 20 within the pocket 18. The flap 22 is removably fastenable to the upper 12 of the fashion shoe 10 by a mating snap combination 24 so as to allow the module 20 to be removably secured within the pocket 18 when the mating snap combination 24 is fastened and to allow the module 20 to be freely removed from and/or inserted into the pocket 18 when the mating snap combination 24 is unfastened. It should be noted that other means are available for removably fastening the flap 22 to the upper 12 of the fashion shoe 10, such as buckles or VELCRO fasteners.

As previously asserted, the present invention contemplates an article of footwear designed to accept modules that provide audio, visual, and/or other sensible signals, wherein the term sensible signals means a visible signal created by a light emitting diode (LED), light bulb, or other light source, an audible signal created by a speaker, buzzer, or other sound source, or any other signal sensible to either the wearer of the footwear and/or someone in close proximity thereto. The module 20 shown in Figure 1 is equipped with means for providing audio and visual sensible signals, namely a speaker 26 and an LED 28, respectively. The size and positioning of the flap 22 is such that the speaker 26 and the LED 28 are sufficiently exposed so as to allow either the wearer of the fashion shoe 10 and/or someone in close proximity thereto to sense the sensible signals. At this point it should be noted that the speaker 26 and the LED 28, or any other means for creating a sensible signal, may be exposed through other areas of the pocket 18 or may be merely allegorically exposed so that either the wearer of the fashion shoe 10 and/or someone in close proximity thereto may be able to sense the sensible signals.

Referring to Figure 2, there is again shown the fashion shoe 10 having the upper 12, the sole 14, and the heel 16. Without the upper 12 of the fashion shoe 10 there is a second attachment means 30,32 for accepting the module 20 according to the present invention. The second attachment means 30,32 comprises a pair of essentially orthogonally positioned straps 30 and 32 for removably securing the module 20 against the upper 12 of the fashion shoe 10. Both ends of the straps 30,32 may be sewn or stitched to the upper 12, as shown, or the end of one or more straps 30,32 may be removably fastenable to the upper 12 of the fashion shoe 10 by a mating snap combination 24 (see Figure 7). It should be noted that other means are available for removably fastening the end of one or more straps 30,32 to the upper 12 of the fashion shoe 10, such as buckles or VELCRO fasteners.

If both ends of the straps 30,32 are sewn or stitched to the upper 12 of the fashion shoe 10, as shown, the module 20 may be freely removed from and/or inserted into its removably secured position against the upper 12 of the fashion shoe 10 by angling the module 20 between where the straps 30,32 are sewn or stitched to the upper 12 of the fashion shoe 10. If the end of one or more straps 30,32 are removably fastenable to the upper 12 of the fashion shoe 10 (see Figure 7), the module 20 may be freely removed from and/or inserted into its removably secured position against the upper 12 of the fashion shoe 10 through an opening(s) created when the one or more straps 30,32 are unfastened. In either case the straps 30,32 must be taught so as to prevent the module 20 from escaping from its removably secured position against the upper 12 of the fashion shoe 10.

The module 20 shown in Figure 2 is equipped with the speaker 26 and the LED 28. The size and positioning of the straps 30,32 are such that the speaker 26 and the LED

28 are sufficiently exposed so as to allow either the wearer of the fashion shoe 10 and/or someone in close proximity thereto to sense the sensible signals that the speaker 26 and the LED 28 provide.

- 5 Referring to Figure 3, there is again shown the fashion shoe 10 having the upper 12, the sole 14, and the heel 16. Without the upper 12 of the fashion shoe 10 there is a third attachment means 34,36 for accepting the module 20 according to the present invention. The third
- 10 attachment means 34,36 comprises a mating pair of VELCRO fasteners 34,36, wherein a first fastener 34 of the pair is permanently affixed to the upper 12 of the fashion shoe 10 and a second fastener 36 of the pair is permanently affixed to the module 20. As is commonly
- 15 known, when the first fastener 34 of the pair is pressed against the second fastener 36 of the pair the mating pair of VELCRO fasteners 34,36 become removably fastened together, thereby allowing the module 20 to be removably secured against the upper 12 of the fashion shoe 10.
- 20 The module 20 shown in Figure 3 is equipped with the speaker 26 and the LED 28. Since the mating pair of VELCRO fasteners 34,36 do not in any way shroud the speaker 26 and the LED 28, the sensible signals provided by the speaker 26 and the LED 28 may be sensed by either
- 25 the wearer of the fashion shoe 10 and/or someone in close proximity thereto.

- Referring to Figure 4, there is again shown the fashion shoe 10 having the upper 12, the sole 14, and the heel 16. Within the sole 14 of the fashion shoe 10 there is
- 30 receptacle means 38 for accepting the module 20 according to the present invention. The receptacle means 38 comprises a housing 40 that is molded or otherwise disposed in the sole 14 of the fashion shoe 10. The housing 40 has an opening 42, located along the side of

the sole 14 of the fashion shoe 10, for allowing the module 20 to be freely removed from and/or inserted into the housing 40.

The module 20 is removably secured within the housing 40 by a force-fit plug/receptacle combination 44,46, wherein a male plug 44 is permanently affixed to the module 20 and a female receptacle 46 is formed along the back wall of the housing 40. As is commonly known, when the male plug 44 is engaged with the female receptacle 46 the force-fit plug/receptacle combination 44,46 becomes removably fastened together, thereby allowing the module 20 to be removably secured within the housing 40. It should be noted that a male plug may be permanently affixed to the housing 40 and a female receptacle may be formed in the module 20. It should also be noted that other means are available for removably securing the module 20 within the housing 40, such as mating snap combinations or VELCRO fasteners.

The module 20 shown in Figure 4 is equipped with the speaker 26 and the LED 28. Since the speaker 26 and the LED 28 are exposed when the module 20 is removably secured within the housing 40, the sensible signals provided by the speaker 26 and the LED 28 may be sensed by either the wearer of the fashion shoe 10 and/or someone in close proximity thereto.

Referring to Figure 5, there is again shown the fashion shoe 10 having the upper 12, the sole 14, and the heel 16. Within the heel 16 of the fashion shoe 10 there is the receptacle means 38 for accepting the module 20 according to the present invention. The receptacle means 38 comprises the housing 40 that is molded or otherwise disposed in the heel 16 of the fashion shoe 10. The housing 40 has the opening 42, located along the side of the heel 16 of the fashion shoe 10, for allowing the

module 20 to be freely removed from and/or inserted into the housing 40.

The module 20 is removably secured within the housing 40 by the force-fit plug/receptacle combination 44,46, wherein the male plug 44 is permanently affixed to the module 20 and the female receptacle 46 is formed along the back wall of the housing 40. As is commonly known, when the male plug 44 is engaged with the female receptacle 46 the force-fit plug/receptacle combination 44,46 becomes removably fastened together, thereby allowing the module 20 to be removably secured within the housing 40. It should be noted that a male plug may be permanently affixed to the housing 40 and a female receptacle may be formed in the module 20. It should also be noted that other means are available for removably securing the module 20 within the housing 40, such as mating snap combinations or VELCRO fasteners.

The module 20 shown in Figure 5 is equipped with the speaker 26 and the LED 28. Since the speaker 26 and the LED 28 are exposed when the module 20 is removably secured within the housing 40, the sensible signals provided by the speaker 26 and the LED 28 may be sensed by either the wearer of the fashion shoe 10 and/or someone in close proximity thereto.

Referring to Figure 6, there is shown a sport shoe 50 having an upper 12, and a sole 14. Without the upper 12 of the sport shoe 50 there is the first attachment means 18 for accepting the module 20 according to the present invention. The first attachment means 18 comprises the pocket 18 that is sewn or stitched to the upper 12 of the sport shoe 50. Along the open edge of the pocket 18 the flap 22 is provided for removably securing the module 20 within the pocket 18. The flap 22 is removably fastenable to the upper 12 of the fashion shoe 10 by the

mating snap combination 24 so as to allow the module 20 to be removably secured within the pocket 18 when the mating snap combination 24 is fastened and to allow the module 20 to be freely removed from and/or inserted into the pocket 18 when the mating snap combination 24 is unfastened. It should be noted that other means are available for removably fastening the flap 22 to the upper 12 of the fashion shoe 10, such as buckles or VELCRO fasteners.

10 The module 20 shown in Figure 6 is equipped with the speaker 26 and the LED 28. The size and positioning of the flap 22 is such that the speaker 26 and the LED 28 are sufficiently exposed so as to allow either the wearer of the fashion shoe 10 and/or someone in close proximity thereto to sense the sensible signals. At this point it should be noted that the speaker 26 and the LED 28, or any other means for creating a sensible signal, may be exposed through other areas of the pocket 18 or may be merely allegorically exposed so that either the wearer of the fashion shoe 10 and/or someone in close proximity thereto may be able to sense the sensible signals.

Referring to Figure 7, there is again shown the sport shoe 50 having the upper 12 and the sole 14. Without the upper 12 of the sport shoe 50 there is the second attachment means 30,32 for accepting the module 20 according to the present invention. The second attachment means 30,32 comprises the pair of essentially orthogonally positioned straps 30 and 32 for removably securing the module 20 against the upper 12 of the sport shoe 50. Both ends of the straps 30,32 may be sewn or stitched to the upper 12 (see Figure 2), or the end of one or more straps 30,32 may be removably fastenable to the upper 12 of the sport shoe 50 by the mating snap combination 24, as shown. It should be noted that other means are available for removably fastening the end of

one or more straps 30,32 to the upper 12 of the sport shoe 50, such as buckles or VELCRO fasteners.

If both ends of the straps 30,32 are sewn or stitched to the upper 12 of the sport shoe 50 (see Figure 2), the module 20 may be freely removed from and/or inserted into its removably secured position against the upper 12 of the sport shoe 50 by angling the module 20 between where the straps 30,32 are sewn or stitched to the upper 12 of the sport shoe 50. If the end of one or more straps 30,32 are removably fastenable to the upper 12 of the sport shoe 50, as shown, the module 20 may be freely removed from and/or inserted into its removably secured position against the upper 12 of the sport shoe 50 through an opening(s) created when the one or more straps 30,32 are unfastened. In either case the straps 30,32 must be taut so as to prevent the module 20 from escaping from its removably secured position against the upper 12 of the sport shoe 50.

The module 20 shown in Figure 7 is equipped with the speaker 26 and the LED 28. The size and positioning of the straps 30,32 are such that the speaker 26 and the LED 28 are sufficiently exposed so as to allow either the wearer of the sport shoe 50 and/or someone in close proximity thereto to sense the sensible signals that the speaker 26 and the LED 28 provide.

Referring to Figure 8, there is again shown the sport shoe 50 having the upper 12 and the sole 14. Without the upper 12 of the sport shoe 50 there is the third attachment means 34,36 for accepting the module 20 according to the present invention. The third attachment means 34,36 comprises the mating pair of VELCRO fasteners 34,36, wherein the first fastener 34 of the pair is permanently affixed to the upper 12 of the sport shoe 50 and the second fastener 36 of the pair is permanently

affixed to the module 20. As is commonly known, when the first fastener 34 of the pair is pressed against the second fastener 36 of the pair the mating pair of VELCRO fasteners 34,36 become removably fastened together, thereby allowing the module 20 to be removably secured against the upper 12 of the sport shoe 50.

The module 20 shown in Figure 8 is equipped with the speaker 26 and the LED 28. Since the mating pair of VELCRO fasteners 34,36 do not in any way shroud the speaker 26 and the LED 28, the sensible signals provided by the speaker 26 and the LED 28 may be sensed by either the wearer of the sport shoe 50 and/or someone in close proximity thereto.

Referring to Figure 9, there is again shown the sport shoe 50 having the upper 12 and the sole 14. Within the sole 14 of the sport shoe 50 there is the receptacle means 38 for accepting the module 20 according to the present invention. The receptacle means 38 comprises the housing 40 that is molded or otherwise disposed in the sole 14 of the sport shoe 50. The housing 40 has the opening 42, located along the side of the sole 14 of the sport shoe 50, for allowing the module 20 to be freely removed from and/or inserted into the housing 40.

The module 20 is removably secured within the housing 40 by the force-fit plug/receptacle combination 44,46, wherein the male plug 44 is permanently affixed to the module 20 and the female receptacle 46 is formed along the back wall of the housing 40. As is commonly known, when the male plug 44 is engaged with the female receptacle 46 the force-fit plug/receptacle combination 44,46 becomes removably fastened together, thereby allowing the module 20 to be removably secured within the housing 40. It should be noted that a male plug may be permanently affixed to the housing 40 and a female

receptacle may be formed in the module 20. It should also be noted that other means are available for removably securing the module 20 within the housing 40, such as mating snap combinations or VELCRO fasteners.

- 5 The module 20 shown in Figure 9 is equipped with the speaker 26 and the LED 28. Since the speaker 26 and the LED 28 are exposed when the module 20 is removably secured within the housing 40, the sensible signals provided by the speaker 26 and the LED 28 may be sensed
10 by either the wearer of the sport shoe 50 and/or someone in close proximity thereto.

Referring to Figure 10, there is shown a low shoe 60 (i.e. a sandal) having thongs 62 and a sole 14. Within the sole 14 of the low shoe 60 there is the receptacle
15 means 38 for accepting the module 20 according to the present invention. The receptacle means 38 comprises the housing 40 that is molded or otherwise disposed in the sole 14 of the low shoe 60. The housing 40 has the opening 42, located along the side of the sole 14 of the
20 low shoe 60, for allowing the module 20 to be freely removed from and/or inserted into the housing 40.

The module 20 is removably secured within the housing 40 by the force-fit plug/receptacle combination 44,46, wherein the male plug 44 is permanently affixed to the
25 module 20 and the female receptacle 46 is formed along the back wall of the housing 40. As is commonly known, when the male plug 44 is engaged with the female receptacle 46 the force-fit plug/receptacle combination 44,46 becomes removably fastened together, thereby
30 allowing the module 20 to be removably secured within the housing 40. It should be noted that a male plug may be permanently affixed to the housing 40 and a female receptacle may be formed in the module 20. It should also be noted that other means are available for

removably securing the module 20 within the housing 40, such as mating snap combinations or VELCRO fasteners.

The module 20 shown in Figure 10 is equipped with the speaker 26 and the LED 28. Since the speaker 26 and the
5 LED 28 are exposed when the module 20 is removably secured within the housing 40, the sensible signals provided by the speaker 26 and the LED 28 may be sensed by either the wearer of the low shoe 60 and/or someone in close proximity thereto.

WHAT IS CLAIMED IS:

- 1 1. An article of footwear comprising:
2 an upper;
3 a sole, said sole fixably secured to said upper;
4 a heel, said heel fixably secured to said sole; and
5 means for removably attaching a module without said
6 upper of said article of footwear, said module providing
7 an audio, visual, and/or other sensible signal, said
8 means for removably attaching said module effectively
9 exposing said module so as to allow said audio, visual,
10 and/or other sensible signal to be sensible to a wearer
11 of said article of footwear and/or anybody in close
12 proximity thereto.
- 1 2. The article of footwear as defined in claim 1,
2 wherein said means for removably attaching comprises a
3 pocket that is sewn or stitched to said upper of said
4 article of footwear.
- 1 3. The article of footwear as defined in claim 2,
2 wherein said pocket provides a flap that is removably
3 fastenable to said upper of said article of footwear.
- 1 4. The article of footwear as defined in claim 3,
2 wherein said flap maintains a mating snap combination for
3 removably fastening said flap to said upper of said
4 article of footwear, so as to allow said module to be
5 removably secured within said pocket when said mating
6 snap combination is fastened to said upper of said
7 article of footwear and to allow said module to be freely
8 removed from and/or inserted into said pocket when said
9 mating snap combination is unfastened.
- 1 5. The article of footwear as defined in claim 3,
2 wherein said flap maintains a buckle for removably
3 fastening said flap to said upper of said article of

4 footwear, so as to allow said module to be removably
5 secured within said pocket when said buckle is fastened
6 to said upper of said article of footwear and to allow
7 said module to be freely removed from and/or inserted
8 into said pocket when said buckle is unfastened.

1 6. The article of footwear as defined in claim 3,
2 wherein said flap maintains a VELCRO fastener for
3 removably fastening said flap to said upper of said
4 article of footwear, so as to allow said module to be
5 removably secured within said pocket when said VELCRO
6 fastener is fastened to said upper of said article of
7 footwear and to allow said module to be freely removed
8 from and/or inserted into said pocket when said VELCRO
9 fastener is unfastened.

1 7. The article of footwear as defined in claim 1,
2 wherein said means for removably attaching comprises at
3 least one strap that is sewn or stitched to said upper of
4 said article of footwear.

1 8. The article of footwear as defined in claim 1,
2 wherein said means for removably attaching comprises at
3 least one strap that is removably fastenable to said
4 upper of said article of footwear.

1 9. The article of footwear as defined in claim 8,
2 wherein each said strap maintains a mating snap
3 combination for removably fastening each said strap to
4 said upper of said article of footwear, so as to allow
5 said module to be removably secured between each said
6 strap and said upper of said article of footwear when
7 said mating snap combination is fastened to said upper of
8 said article of footwear and to allow said module to be
9 freely removed from and/or inserted in between each said
10 strap and said upper of said article of footwear when
11 said mating snap combination is unfastened.

1 10. The article of footwear as defined in claim 8,
2 wherein each said strap maintains a buckle for removably
3 fastening each said strap to said upper of said article
4 of footwear, so as to allow said module to be removably
5 secured between each said strap and said upper of said
6 article of footwear when said mating snap combination is
7 fastened to said upper of said article of footwear and to
8 allow said module to be freely removed from and/or
9 inserted in between each said strap and said upper of
10 said article of footwear when said mating snap
11 combination is unfastened.

1 11. The article of footwear as defined in claim 8,
2 wherein each said strap maintains a VELCRO fastener for
3 removably fastening each said strap to said upper of said
4 article of footwear, so as to allow said module to be
5 removably secured between each said strap and said upper
6 of said article of footwear when said VELCRO fastener is
7 fastened to said upper of said article of footwear and to
8 allow said module to be freely removed from and/or
9 inserted in between each said strap and said upper of
10 said article of footwear when said VELCRO fastener is
11 unfastened.

1 12. The article of footwear as defined in claim 1,
2 wherein said means for removably attaching comprises at
3 least one strap that is both sewn and stitched to said
4 upper of said article of footwear and removably
5 fastenable to said upper of said article of footwear.

1 13. The article of footwear as defined in claim 12,
2 wherein each said removably fastenable strap maintains a
3 mating snap combination for removably fastening each said
4 removably fastenable strap to said upper of said article
5 of footwear, so as to allow said module to be removably
6 secured between each said strap and said upper of said
7 article of footwear when said mating snap combination is

8 fastened to said upper of said article of footwear and to
9 allow said module to be freely removed from and/or
10 inserted in between each said strap and said upper of
11 said article of footwear when said mating snap
12 combination is unfastened.

1 14. The article of footwear as defined in claim 12,
2 wherein each said removably fastenable strap maintains a
3 buckle for removably fastening each said removably
4 fastenable strap to said upper of said article of
5 footwear, so as to allow said module to be removably
6 secured between each said strap and said upper of said
7 article of footwear when said mating snap combination is
8 fastened to said upper of said article of footwear and to
9 allow said module to be freely removed from and/or
10 inserted in between each said strap and said upper of
11 said article of footwear when said mating snap
12 combination is unfastened.

1 15. The article of footwear as defined in claim 12,
2 wherein each said removably fastenable strap maintains a
3 VELCRO fastener for removably fastening each said
4 removably fastenable strap to said upper of said article
5 of footwear, so as to allow said module to be removably
6 secured between each said strap and said upper of said
7 article of footwear when said VELCRO fastener is fastened
8 to said upper of said article of footwear and to allow
9 said module to be freely removed from and/or inserted in
10 between each said strap and said upper of said article of
11 footwear when said VELCRO fastener is unfastened.

1 16. The article of footwear as defined in claim 1,
2 wherein said means for removably attaching comprises a
3 mating pair of VELCRO fasteners, wherein a first fastener
4 of said mating pair is permanently affixed to said upper
5 of said article of footwear and a second fastener of said
6 mating pair is permanently affixed to said module, so as

7 to allow said module to be removably secured to said
8 upper of said article of footwear by fastening together
9 said mating pair of VELCRO fasteners and to allow said
10 module to be freely removed from said upper of said
11 article of footwear by unfastening said mating pair of
12 VELCRO fasteners.

1 17. An article of footwear comprising:
2 an upper;
3 a sole, said sole fixably secured to said upper;
4 a heel, said heel fixably secured to said sole; and
5 means for removably receiving a module within said
6 sole of said article of footwear, said module providing
7 an audio, visual, and/or other sensible signal, said
8 means for removably receiving said module effectively
9 exposing said module so as to allow said audio, visual,
10 and/or other sensible signal to be sensible to a wearer
11 of said article of footwear and/or anybody in close
12 proximity thereto.

1 18. The article of footwear as defined in claim 17,
2 wherein said means for removably receiving comprises a
3 housing disposed in said sole of said article of
4 footwear, said housing opening to the exterior of said
5 sole of said article of footwear so as to allow said
6 module to be freely removed from and/or inserted into
7 said housing.

1 19. The article of footwear as defined in claim 18,
2 wherein said module is removably secured within said
3 housing by a force-fit plug/receptacle combination,
4 wherein a male plug is permanently affixed to said module
5 and a female receptacle is formed in a wall of said
6 housing.

1 20. The article of footwear as defined in claim 18,
2 wherein said module is removably secured within said

3 housing by a force-fit plug/receptacle combination,
4 wherein a female receptacle is formed in said module and
5 a male plug is permanently affixed to a wall of said
6 housing.

1 21. The article of footwear as defined in claim 18,
2 wherein said module is removably secured within said
3 housing by a mating snap combination.

1 22. The article of footwear as defined in claim 18,
2 wherein said module is removably secured within said
3 housing by a mating pair of VELCRO fasteners, wherein a
4 first fastener of said mating pair is permanently affixed
5 to said module and a second fastener of said mating pair
6 is permanently affixed to a wall of said housing, so as
7 to allow said module to be removably secured within said
8 housing by fastening together said mating pair of VELCRO
9 fasteners and to allow said module to be freely removed
10 from within said housing by unfastening said mating pair
11 of VELCRO fasteners.

1 23. An article of footwear comprising:
2 an upper;
3 a sole, said sole fixably secured to said upper;
4 a heel, said heel fixably secured to said sole; and
5 means for removably receiving a module within said
6 heel of said article of footwear, said module providing
7 an audio, visual, and/or other sensible signal, said
8 means for removably receiving said module effectively
9 exposing said module so as to allow said audio, visual,
10 and/or other sensible signal to be sensible to a wearer
11 of said article of footwear and/or anybody in close
12 proximity thereto.

1 24. The article of footwear as defined in claim 23,
2 wherein said means for removably receiving comprises a
3 housing disposed in said heel of said article of

4 footwear, said housing opening to the exterior of said
5 heel of said article of footwear so as to allow said
6 module to be freely removed from and/or inserted into
7 said housing.

1 25. The article of footwear as defined in claim 24,
2 wherein said module is removably secured within said
3 housing by a force-fit plug/receptacle combination,
4 wherein a male plug is permanently affixed to said module
5 and a female receptacle is formed in a wall of said
6 housing.

1 26. The article of footwear as defined in claim 24,
2 wherein said module is removably secured within said
3 housing by a force-fit plug/receptacle combination,
4 wherein a female receptacle is formed in said module and
5 a male plug is permanently affixed to a wall of said
6 housing.

1 27. The article of footwear as defined in claim 24,
2 wherein said module is removably secured within said
3 housing by a mating snap combination.

1 28. The article of footwear as defined in claim 24,
2 wherein said module is removably secured within said
3 housing by a mating pair of VELCRO fasteners, wherein a
4 first fastener of said mating pair is permanently affixed
5 to said module and a second fastener of said mating pair
6 is permanently affixed to a wall of said housing, so as
7 to allow said module to be removably secured within said
8 housing by fastening together said mating pair of VELCRO
9 fasteners and to allow said module to be freely removed
10 from within said housing by unfastening said mating pair
11 of VELCRO fasteners.

1 29. An article of footwear comprising:
2 an upper;

3 a sole, said sole fixably secured to said upper; and
4 means for removably attaching a module without said
5 upper of said article of footwear, said module providing
6 an audio, visual, and/or other sensible signal, said
7 means for removably attaching said module effectively
8 exposing said module so as to allow said audio, visual,
9 and/or other sensible signal to be sensible to a wearer
10 of said article of footwear and/or anybody in close
11 proximity thereto.

1 30. The article of footwear as defined in claim 29,
2 wherein said means for removably attaching comprises a
3 pocket that is sewn or stitched to said upper of said
4 article of footwear.

1 31. The article of footwear as defined in claim 30,
2 wherein said pocket provides a flap that is removably
3 fastenable to said upper of said article of footwear.

1 32. The article of footwear as defined in claim 31,
2 wherein said flap maintains a mating snap combination for
3 removably fastening said flap to said upper of said
4 article of footwear, so as to allow said module to be
5 removably secured within said pocket when said mating
6 snap combination is fastened to said upper of said
7 article of footwear and to allow said module to be freely
8 removed from and/or inserted into said pocket when said
9 mating snap combination is unfastened.

1 33. The article of footwear as defined in claim 31,
2 wherein said flap maintains a buckle for removably
3 fastening said flap to said upper of said article of
4 footwear, so as to allow said module to be removably
5 secured within said pocket when said buckle is fastened
6 to said upper of said article of footwear and to allow
7 said module to be freely removed from and/or inserted
8 into said pocket when said buckle is unfastened.

1 34. The article of footwear as defined in claim 31,
2 wherein said flap maintains a VELCRO fastener for
3 removably fastening said flap to said upper of said
4 article of footwear, so as to allow said module to be
5 removably secured within said pocket when said VELCRO
6 fastener is fastened to said upper of said article of
7 footwear and to allow said module to be freely removed
8 from and/or inserted into said pocket when said VELCRO
9 fastener is unfastened.

1 35. The article of footwear as defined in claim 29,
2 wherein said means for removably attaching comprises at
3 least one strap that is sewn or stitched to said upper of
4 said article of footwear.

1 36. The article of footwear as defined in claim 29,
2 wherein said means for removably attaching comprises at
3 least one strap that is removably fastenable to said
4 upper of said article of footwear.

1 37. The article of footwear as defined in claim 36,
2 wherein each said strap maintains a mating snap
3 combination for removably fastening each said strap to
4 said upper of said article of footwear, so as to allow
5 said module to be removably secured between each said
6 strap and said upper of said article of footwear when
7 said mating snap combination is fastened to said upper of
8 said article of footwear and to allow said module to be
9 freely removed from and/or inserted in between each said
10 strap and said upper of said article of footwear when
11 said mating snap combination is unfastened.

1 38. The article of footwear as defined in claim 36,
2 wherein each said strap maintains a buckle for removably
3 fastening each said strap to said upper of said article
4 of footwear, so as to allow said module to be removably
5 secured between each said strap and said upper of said

6 article of footwear when said mating snap combination is
7 fastened to said upper of said article of footwear and to
8 allow said module to be freely removed from and/or
9 inserted in between each said strap and said upper of
10 said article of footwear when said mating snap
11 combination is unfastened.

1 39. The article of footwear as defined in claim 36,
2 wherein each said strap maintains a VELCRO fastener for
3 removably fastening each said strap to said upper of said
4 article of footwear, so as to allow said module to be
5 removably secured between each said strap and said upper
6 of said article of footwear when said VELCRO fastener is
7 fastened to said upper of said article of footwear and to
8 allow said module to be freely removed from and/or
9 inserted in between each said strap and said upper of
10 said article of footwear when said VELCRO fastener is
11 unfastened.

1 40. The article of footwear as defined in claim 29,
2 wherein said means for removably attaching comprises at
3 least one strap that is both sewn and stitched to said
4 upper of said article of footwear and removably
5 fastenable to said upper of said article of footwear.

1 41. The article of footwear as defined in claim 40,
2 wherein each said removably fastenable strap maintains a
3 mating snap combination for removably fastening each said
4 removably fastenable strap to said upper of said article
5 of footwear, so as to allow said module to be removably
6 secured between each said strap and said upper of said
7 article of footwear when said mating snap combination is
8 fastened to said upper of said article of footwear and to
9 allow said module to be freely removed from and/or
10 inserted in between each said strap and said upper of
11 said article of footwear when said mating snap
12 combination is unfastened.

1 42. The article of footwear as defined in claim 40,
2 wherein each said removably fastenable strap maintains a
3 buckle for removably fastening each said removably
4 fastenable strap to said upper of said article of
5 footwear, so as to allow said module to be removably
6 secured between each said strap and said upper of said
7 article of footwear when said mating snap combination is
8 fastened to said upper of said article of footwear and to
9 allow said module to be freely removed from and/or
10 inserted in between each said strap and said upper of
11 said article of footwear when said mating snap
12 combination is unfastened.

1 43. The article of footwear as defined in claim 40,
2 wherein each said removably fastenable strap maintains a
3 VELCRO fastener for removably fastening each said
4 removably fastenable strap to said upper of said article
5 of footwear, so as to allow said module to be removably
6 secured between each said strap and said upper of said
7 article of footwear when said VELCRO fastener is fastened
8 to said upper of said article of footwear and to allow
9 said module to be freely removed from and/or inserted in
10 between each said strap and said upper of said article of
11 footwear when said VELCRO fastener is unfastened.

1 44. The article of footwear as defined in claim 29,
2 wherein said means for removably attaching comprises a
3 mating pair of VELCRO fasteners, wherein a first fastener
4 of said mating pair is permanently affixed to said upper
5 of said article of footwear and a second fastener of said
6 mating pair is permanently affixed to said module, so as
7 to allow said module to be removably secured to said
8 upper of said article of footwear by fastening together
9 said mating pair of VELCRO fasteners and to allow said
10 module to be freely removed from said upper of said
11 article of footwear by unfastening said mating pair of
12 VELCRO fasteners.

1 45. An article of footwear comprising:
2 an upper;
3 a sole, said sole fixably secured to said upper; and
4 means for removably receiving a module within said
5 sole of said article of footwear, said module providing
6 an audio, visual, and/or other sensible signal, said
7 means for removably receiving said module effectively
8 exposing said module so as to allow said audio, visual,
9 and/or other sensible signal to be sensible to a wearer
10 of said article of footwear and/or anybody in close
11 proximity thereto.

1 46. The article of footwear as defined in claim 45,
2 wherein said means for removably receiving comprises a
3 housing disposed in said sole of said article of
4 footwear, said housing opening to the exterior of said
5 sole of said article of footwear so as to allow said
6 module to be freely removed from and/or inserted into
7 said housing.

1 47. The article of footwear as defined in claim 46,
2 wherein said module is removably secured within said
3 housing by a force-fit plug/receptacle combination,
4 wherein a male plug is permanently affixed to said module
5 and a female receptacle is formed in a wall of said
6 housing.

1 48. The article of footwear as defined in claim 46,
2 wherein said module is removably secured within said
3 housing by a force-fit plug/receptacle combination,
4 wherein a female receptacle is formed in said module and
5 a male plug is permanently affixed to a wall of said
6 housing.

1 49. The article of footwear as defined in claim 46,
2 wherein said module is removably secured within said
3 housing by a mating snap combination.

1 50. The article of footwear as defined in claim 46,
2 wherein said module is removably secured within said
3 housing by a mating pair of VELCRO fasteners, wherein a
4 first fastener of said mating pair is permanently affixed
5 to said module and a second fastener of said mating pair
6 is permanently affixed to a wall of said housing, so as
7 to allow said module to be removably secured within said
8 housing by fastening together said mating pair of VELCRO
9 fasteners and to allow said module to be freely removed
10 from within said housing by unfastening said mating pair
11 of VELCRO fasteners.

1 51. An article of footwear comprising:
2 a sole; and
3 means for removably receiving a module within said
4 sole of said article of footwear, said module providing
5 an audio, visual, and/or other sensible signal, said
6 means for removably receiving said module effectively
7 exposing said module so as to allow said audio, visual,
8 and/or other sensible signal to be sensible to a wearer
9 of said article of footwear and/or anybody in close
10 proximity thereto.

1 52. The article of footwear as defined in claim 51,
2 wherein said means for removably receiving comprises a
3 housing disposed in said sole of said article of
4 footwear, said housing opening to the exterior of said
5 sole of said article of footwear so as to allow said
6 module to be freely removed from and/or inserted into
7 said housing.

1 53. The article of footwear as defined in claim 52,
2 wherein said module is removably secured within said
3 housing by a force-fit plug/receptacle combination,
4 wherein a male plug is permanently affixed to said module
5 and a female receptacle is formed in a wall of said
6 housing.

1 54. The article of footwear as defined in claim 52,
2 wherein said module is removably secured within said
3 housing by a force-fit plug/receptacle combination,
4 wherein a female receptacle is formed in said module and
5 a male plug is permanently affixed to a wall of said
6 housing.

1 55. The article of footwear as defined in claim 52,
2 wherein said module is removably secured within said
3 housing by a mating snap combination.

1 56. The article of footwear as defined in claim 52,
2 wherein said module is removably secured within said
3 housing by a mating pair of VELCRO fasteners, wherein a
4 first fastener of said mating pair is permanently affixed
5 to said module and a second fastener of said mating pair
6 is permanently affixed to a wall of said housing, so as
7 to allow said module to be removably secured within said
8 housing by fastening together said mating pair of VELCRO
9 fasteners and to allow said module to be freely removed
10 from within said housing by unfastening said mating pair
11 of VELCRO fasteners.

1 57. The article of footwear as defined in claim 52,
2 wherein said article of footwear is a sandal.

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FIG. 1

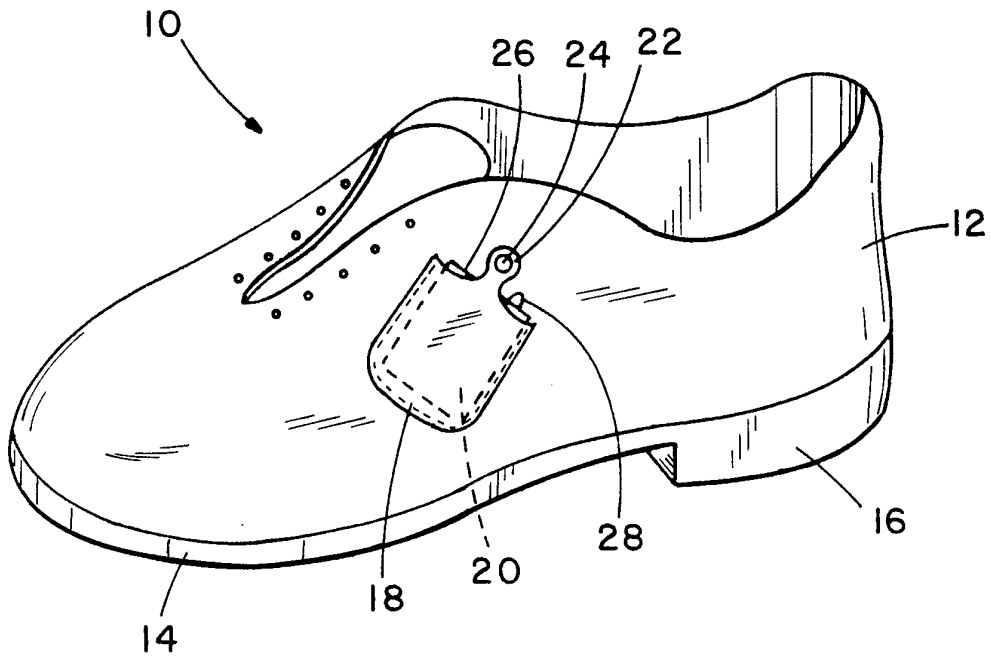
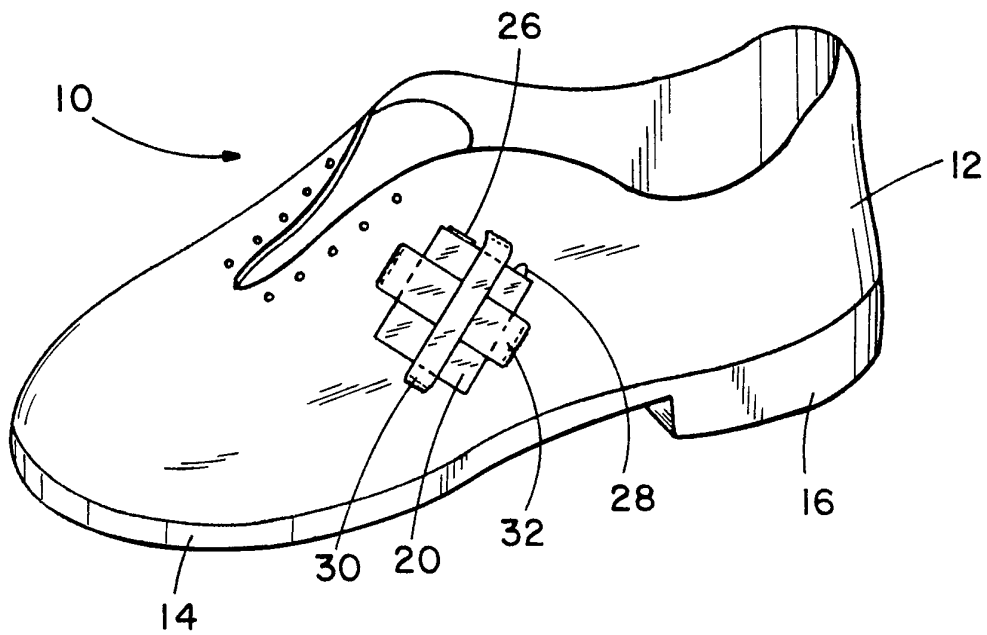


FIG. 2



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FIG. 3

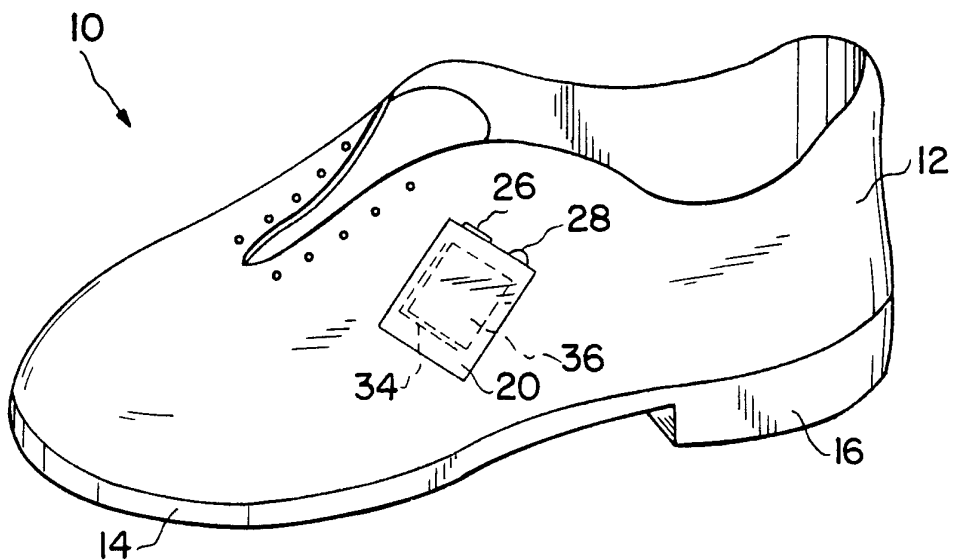
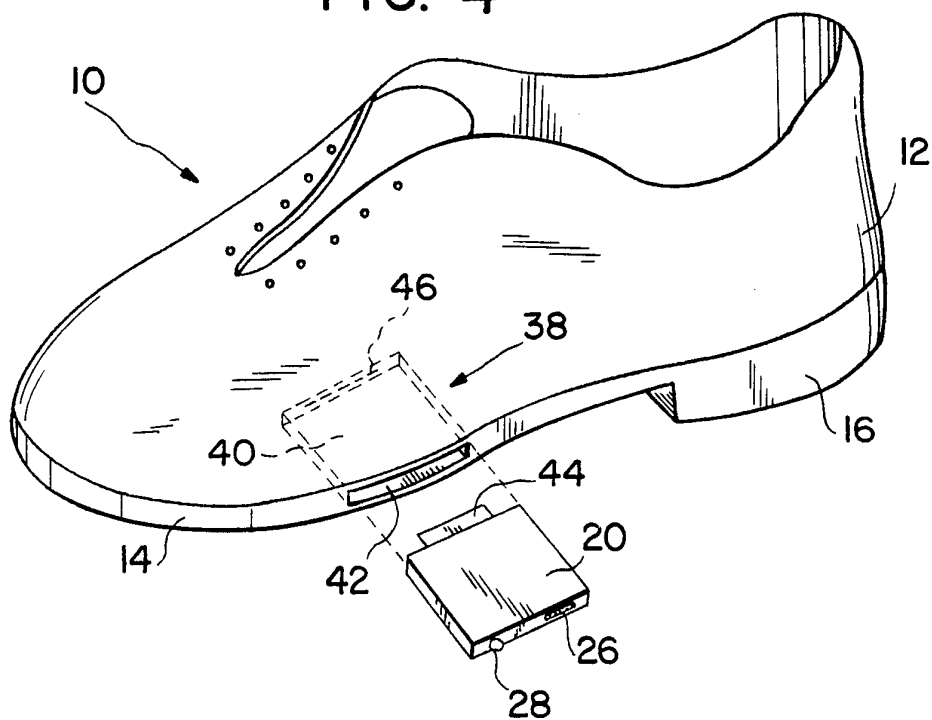


FIG. 4



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FIG. 5

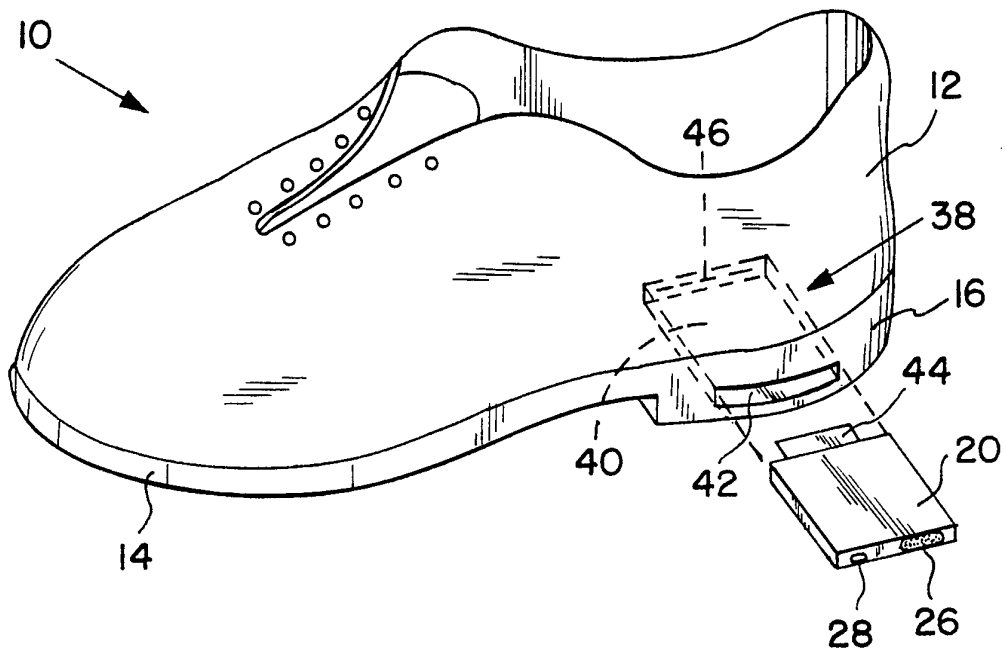
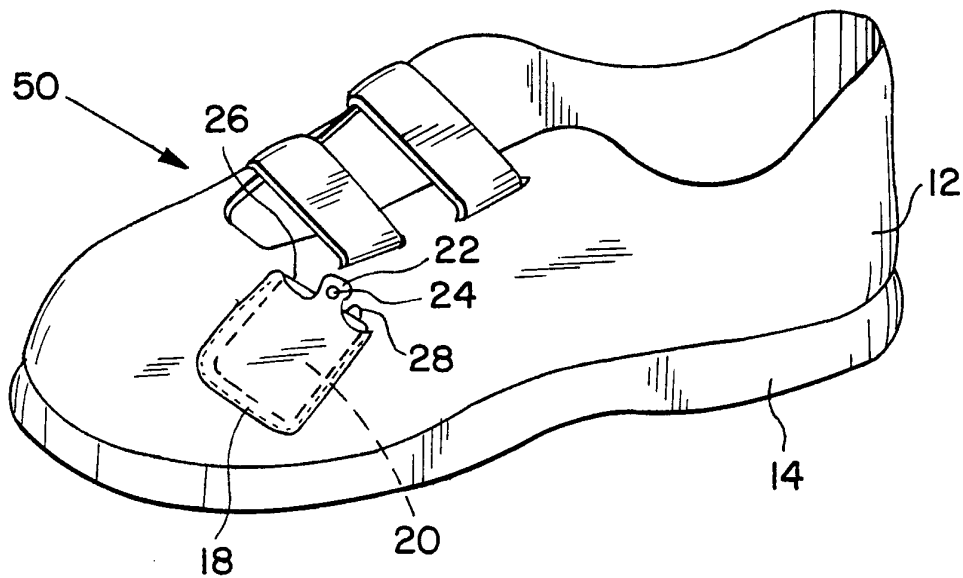


FIG. 6



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FIG. 7

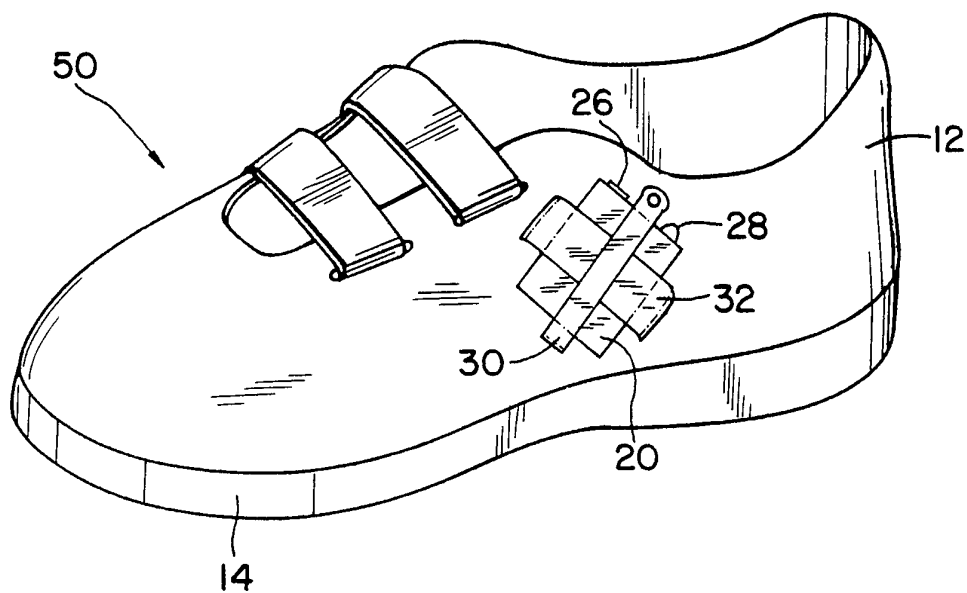
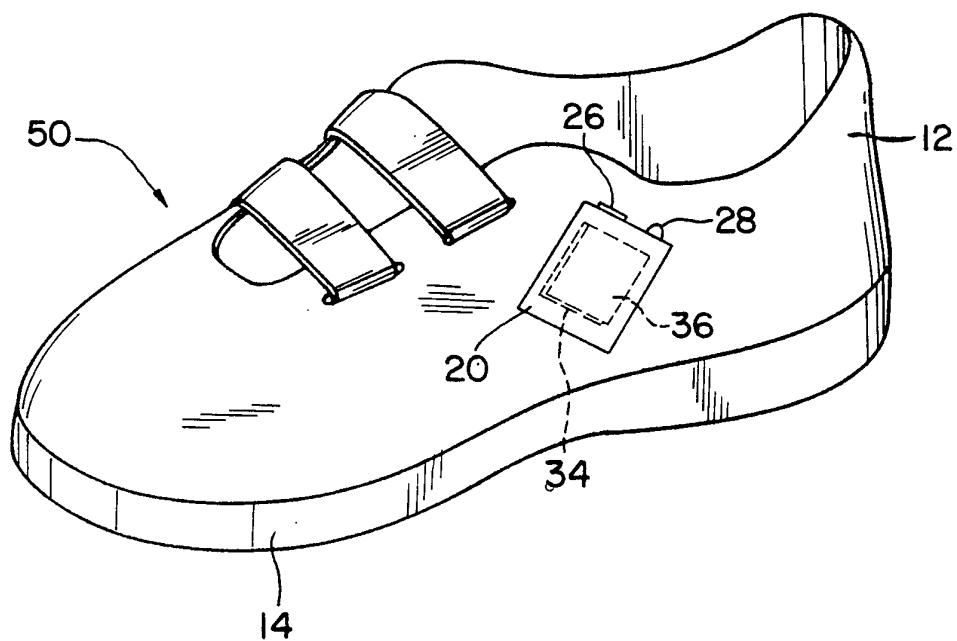


FIG. 8



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FIG.9

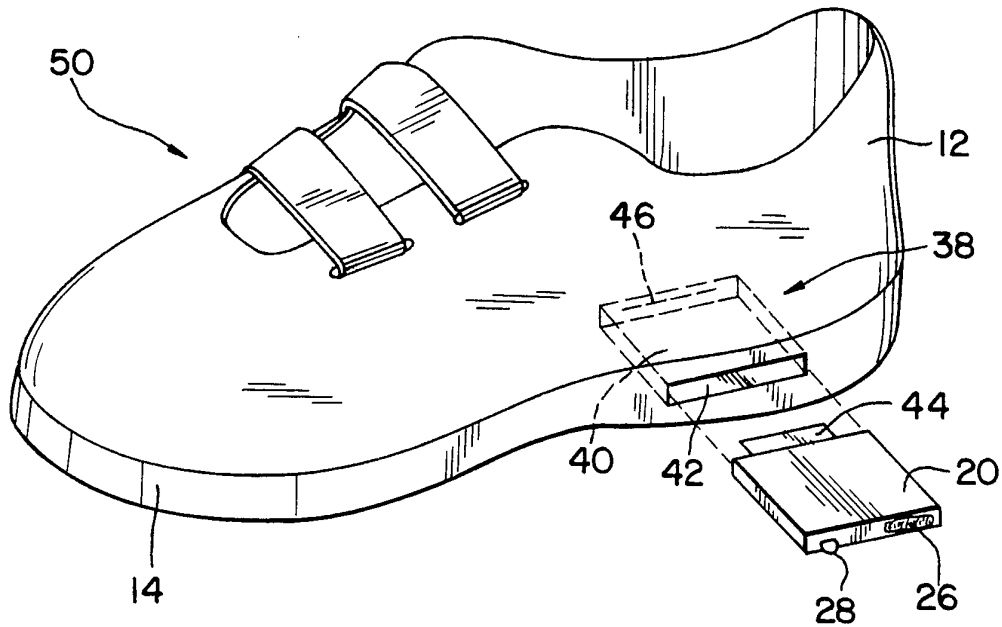
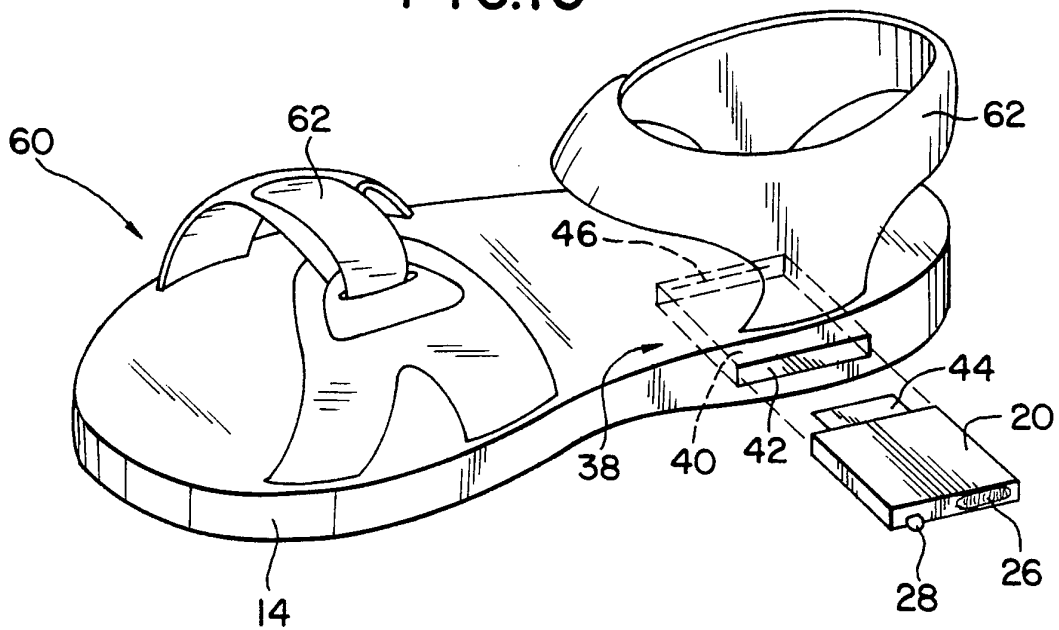


FIG.10



INTERNATIONAL SEARCH REPORT

Int. Appl. No.

PCT/US 95/03968

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A43B3/00 F21V33/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A43B F21V

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR-A-2 161 426 (STOJCIC) 6 July 1973	1,2,29, 30
Y	see the whole document	3,6,8, 31,34,36
Y	CH-A-652 281 (KANGAROOS U.S.A., INC.) 15 November 1985 see the whole document	3,6,31, 34
Y	DE-U-87 01 305 (KREUTZ) 27 May 1987 see page 4; figures	8,36
A	DE-A-89 11 741 (RASTU A.G. & CO.) 25 January 1990 see claims 3,4; figure 2	2-16
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

13 July 1995

Date of mailing of the international search report

02.08.95

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Mathey, X

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 95/03968

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US-A-4 438 482 (LEON ET AL.) 20 March 1984	1,8,29, 36
Y	see column 2, line 23 - line 64; figures 1,3,4	9-11, 37-39

Y	US-A-4 935 851 (WOOD) 19 June 1990	9-11, 37-39
	see figure 2	

X	WO-A-93 11681 (L.A. GEAR, INC.) 24 June 1993	23-28
Y	see the whole document	17-22, 45-56

Y	EP-A-0 589 607 (RODGERS) 30 March 1994	17-22, 45-56
	see figures 1,3	

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information on patent family members

International Application No

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