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(54) **CUSTOMIZABLE SHOE SOLE WITH  
REMOVABLE GRAPHICS PLATE**

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(52) **U.S. Cl. .... 36/100; 36/103; 36/136; 36/15**

(57) **ABSTRACT**

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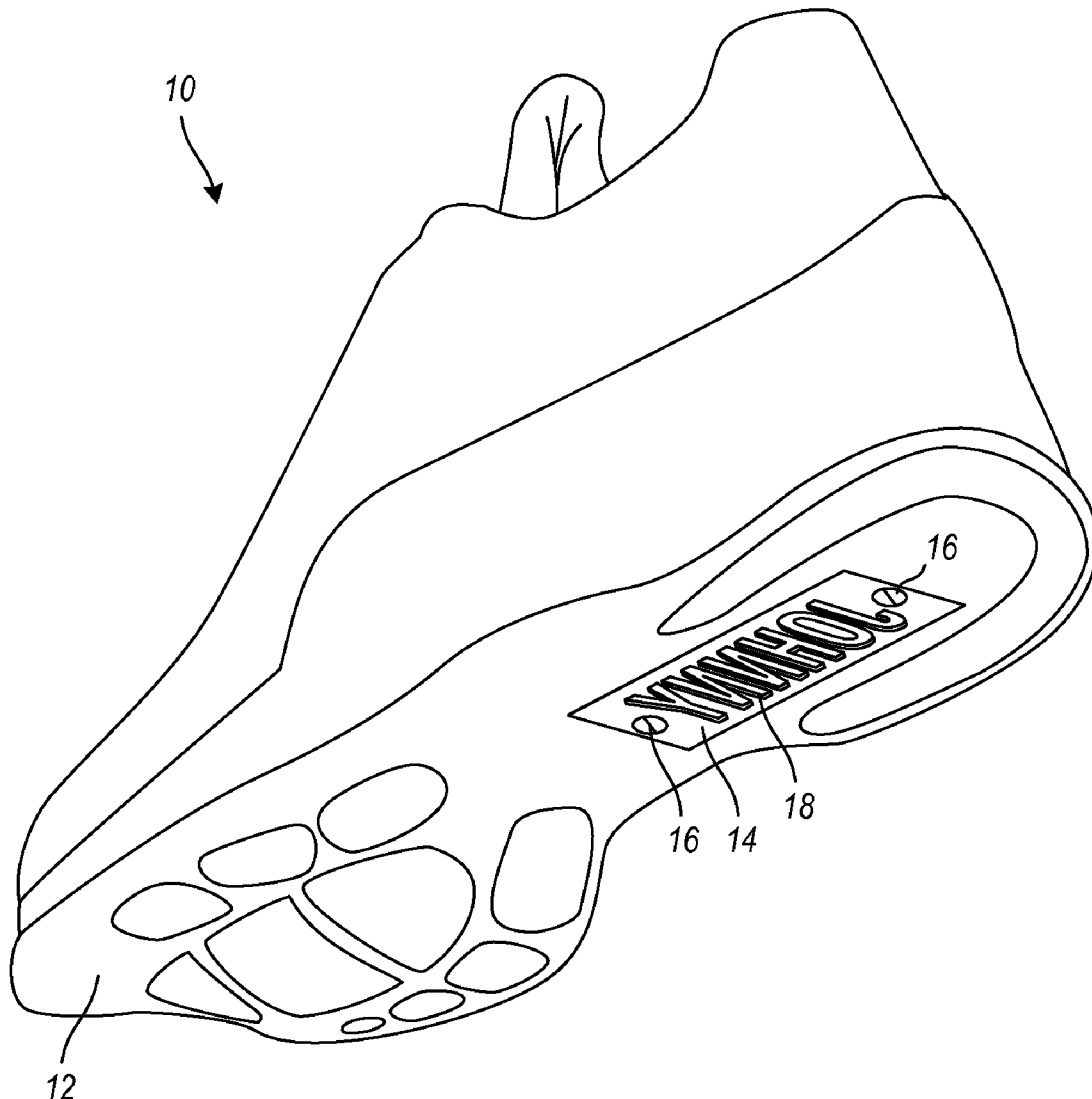
The technology described herein provides a graphics plate bearing a graphic and configured for placement on a bottom surface of a sole of a shoe. The graphics plate is removable and interchangeable. In a second embodiment, a shoe is provided having a graphics plate bearing a graphic and configured for placement in a shoe, a sole of the shoe being molded and configured for receipt of the graphics plate. In a third embodiment, a footwear system is provided for imprinting customized messages on a surface below. The footwear system includes a shoe having a molded sole and a graphics plate bearing a graphic and configured for placement on a bottom surface of the molded sole of the shoe. Once inserted into the shoe, the graphics plate leaves an imprint of a surface below the sole of the shoe as a wearer of the shoes walks and runs.

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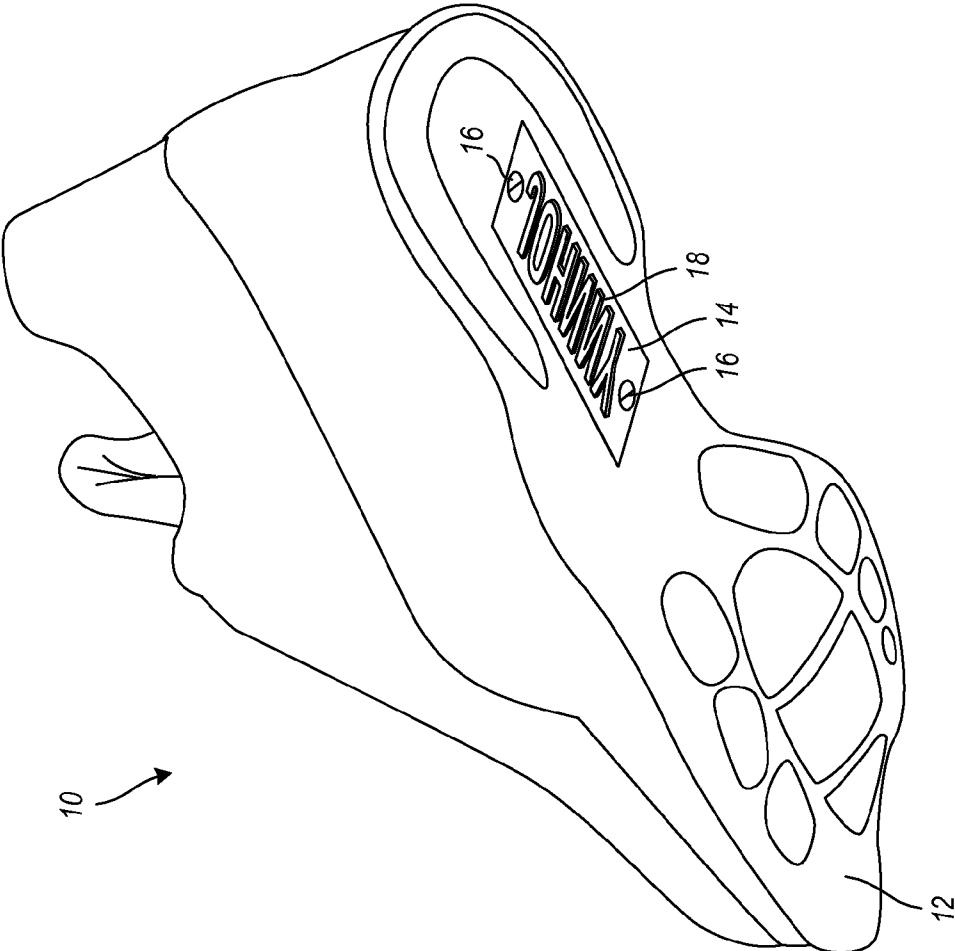


FIG. 1

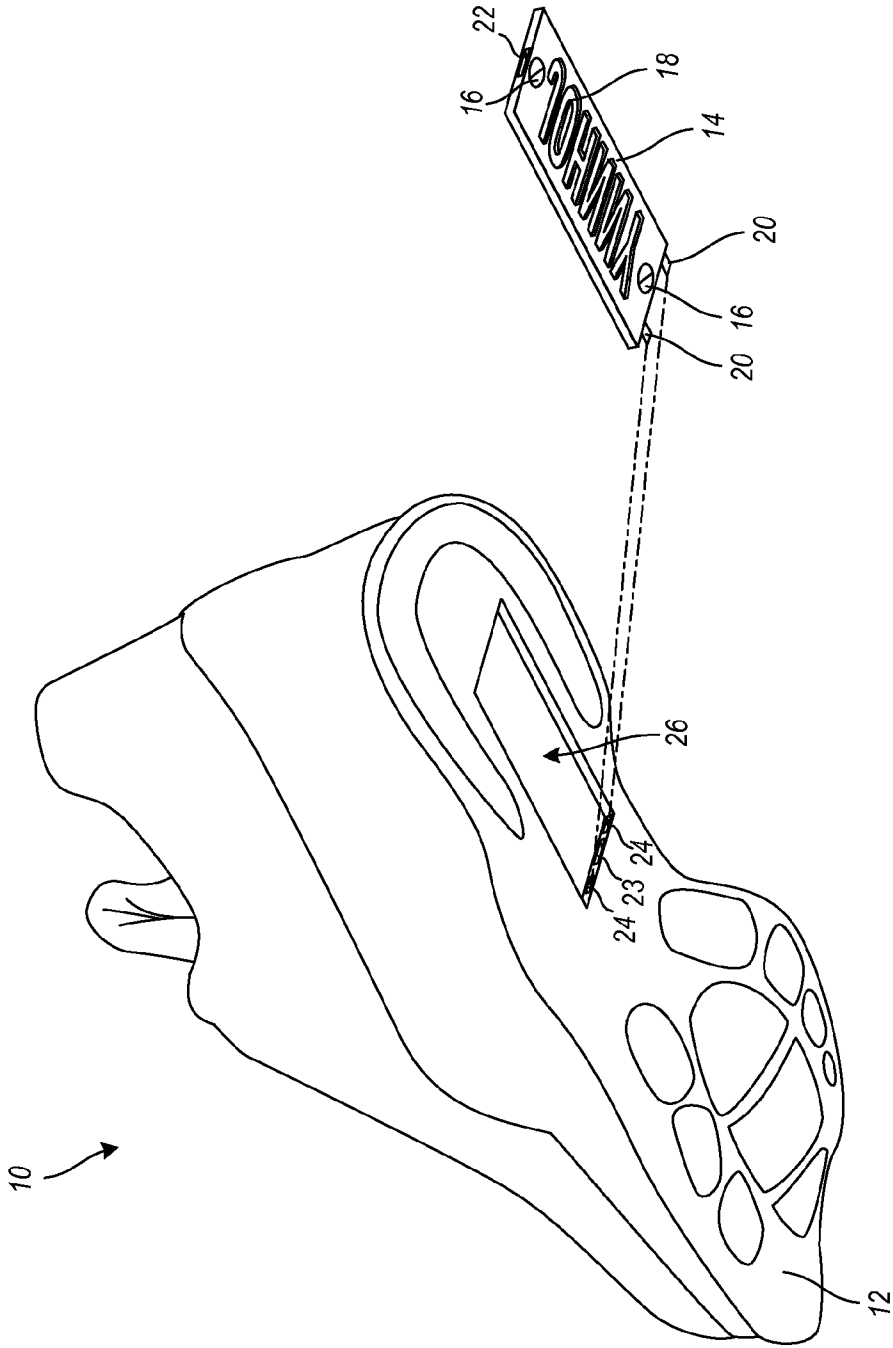


FIG. 2

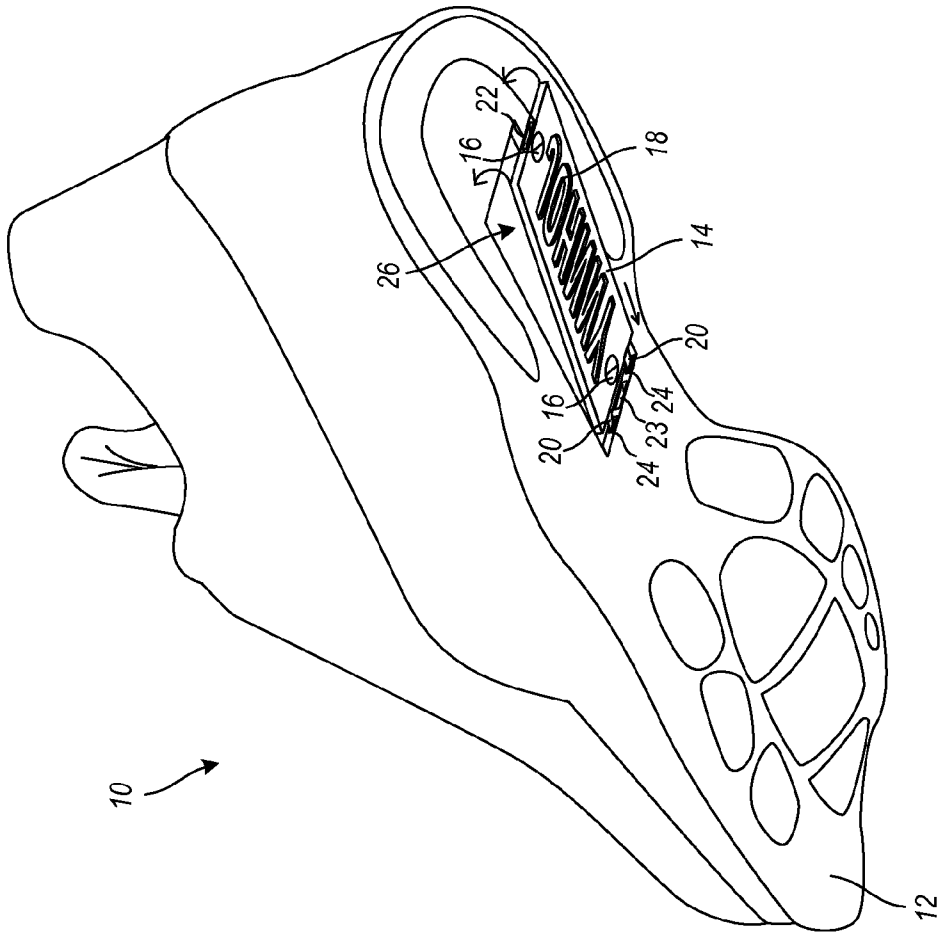


FIG. 3

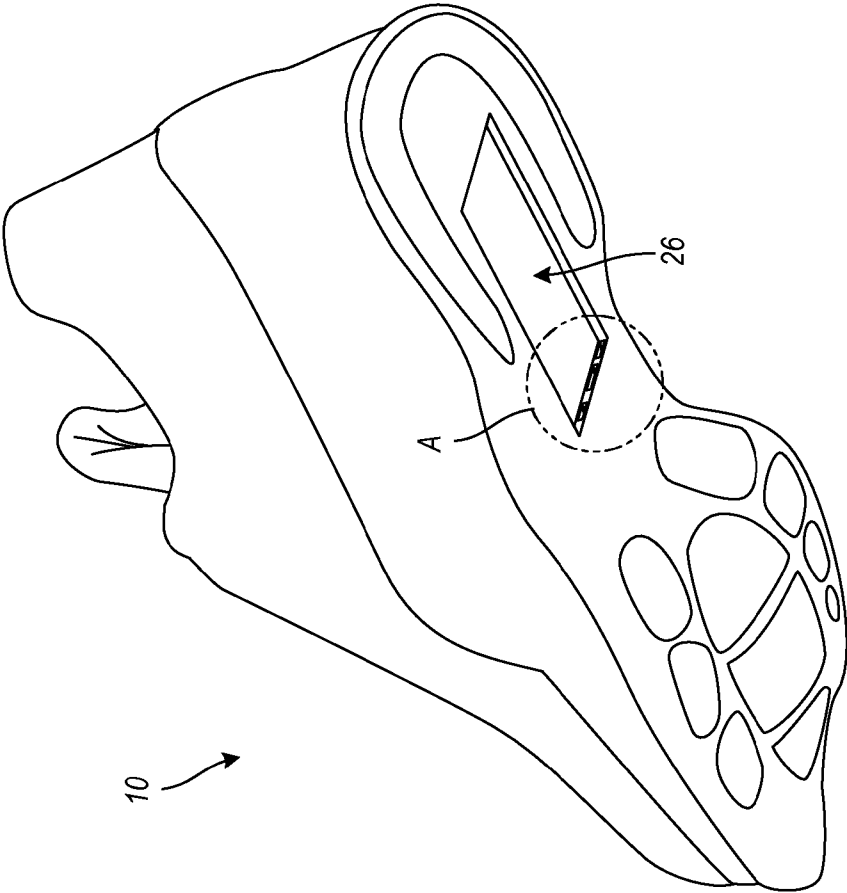
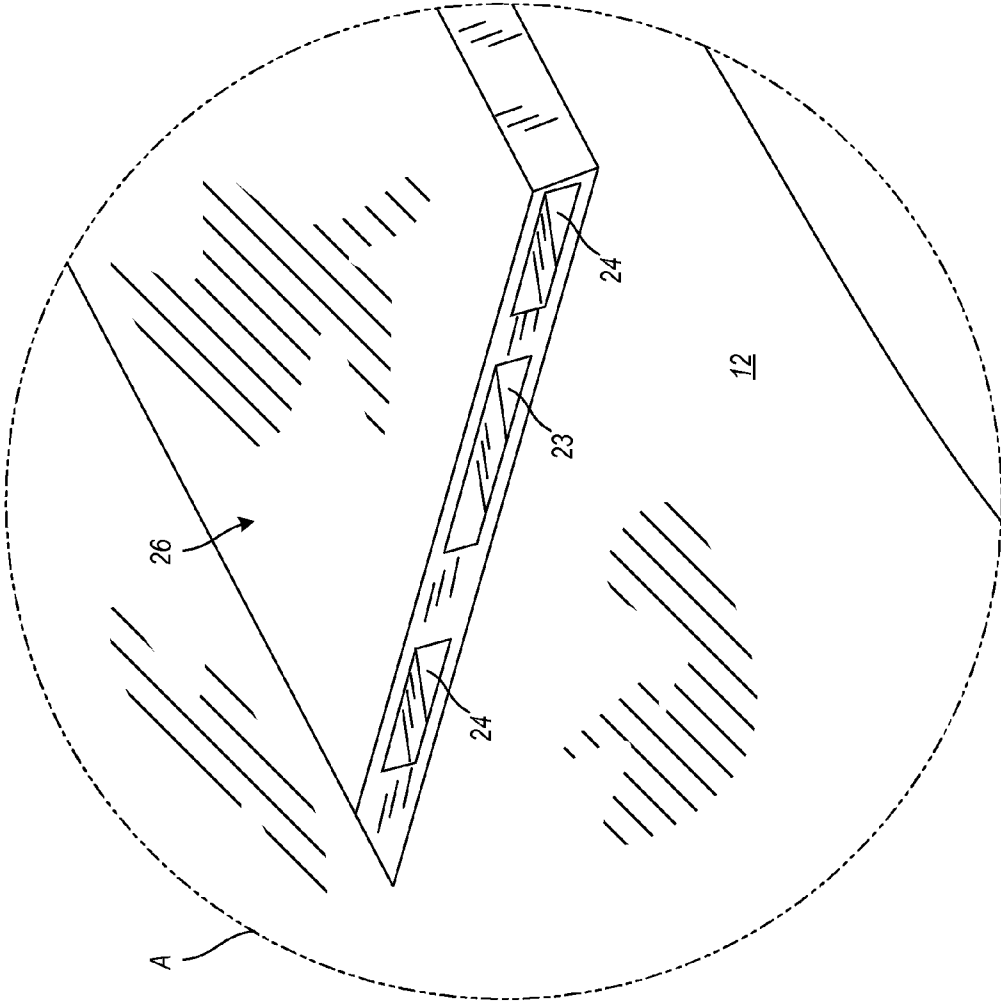


FIG. 4



**FIG. 5**

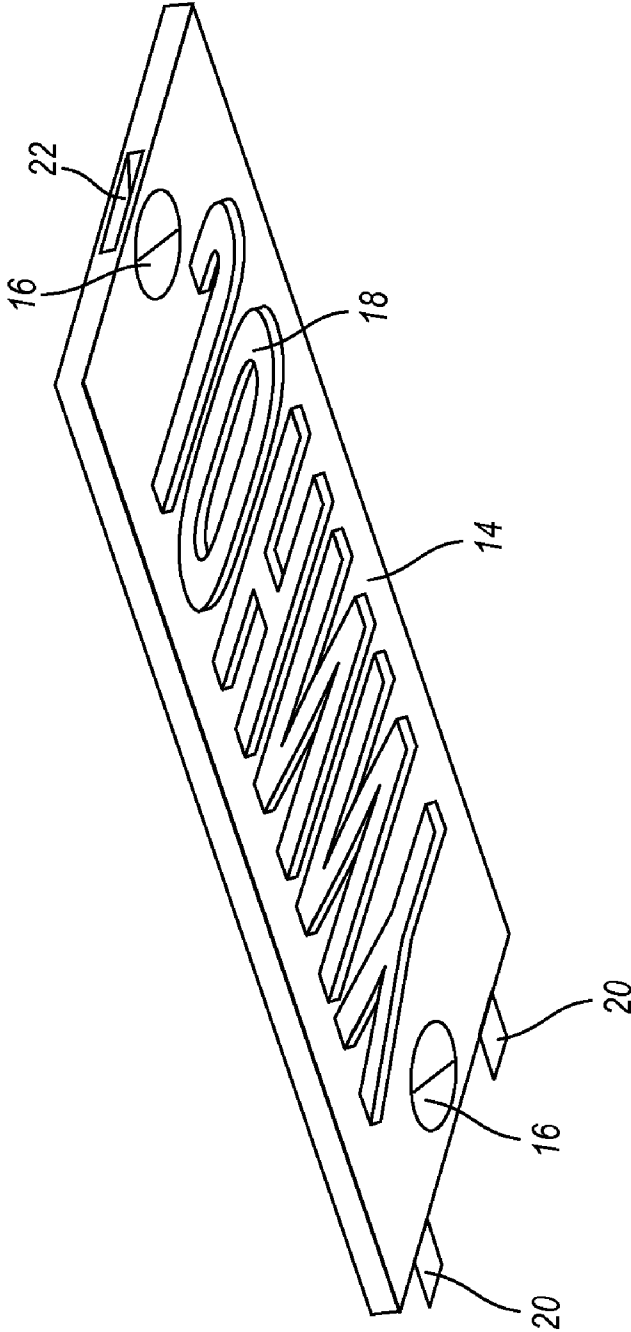
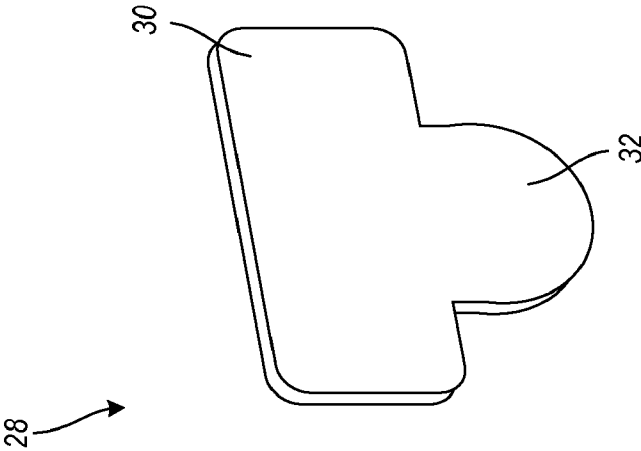


FIG. 6



**FIG. 7**



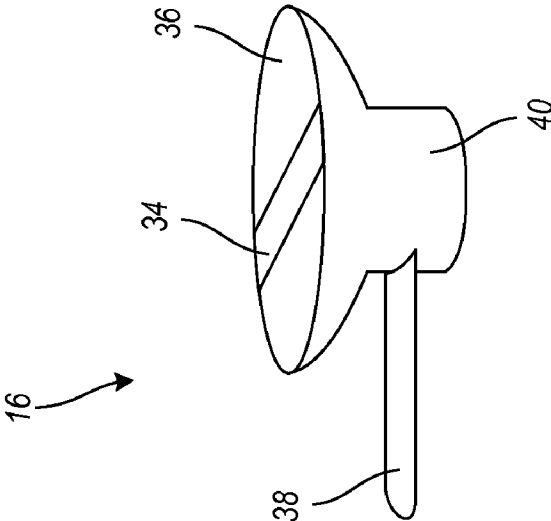


FIG. 8

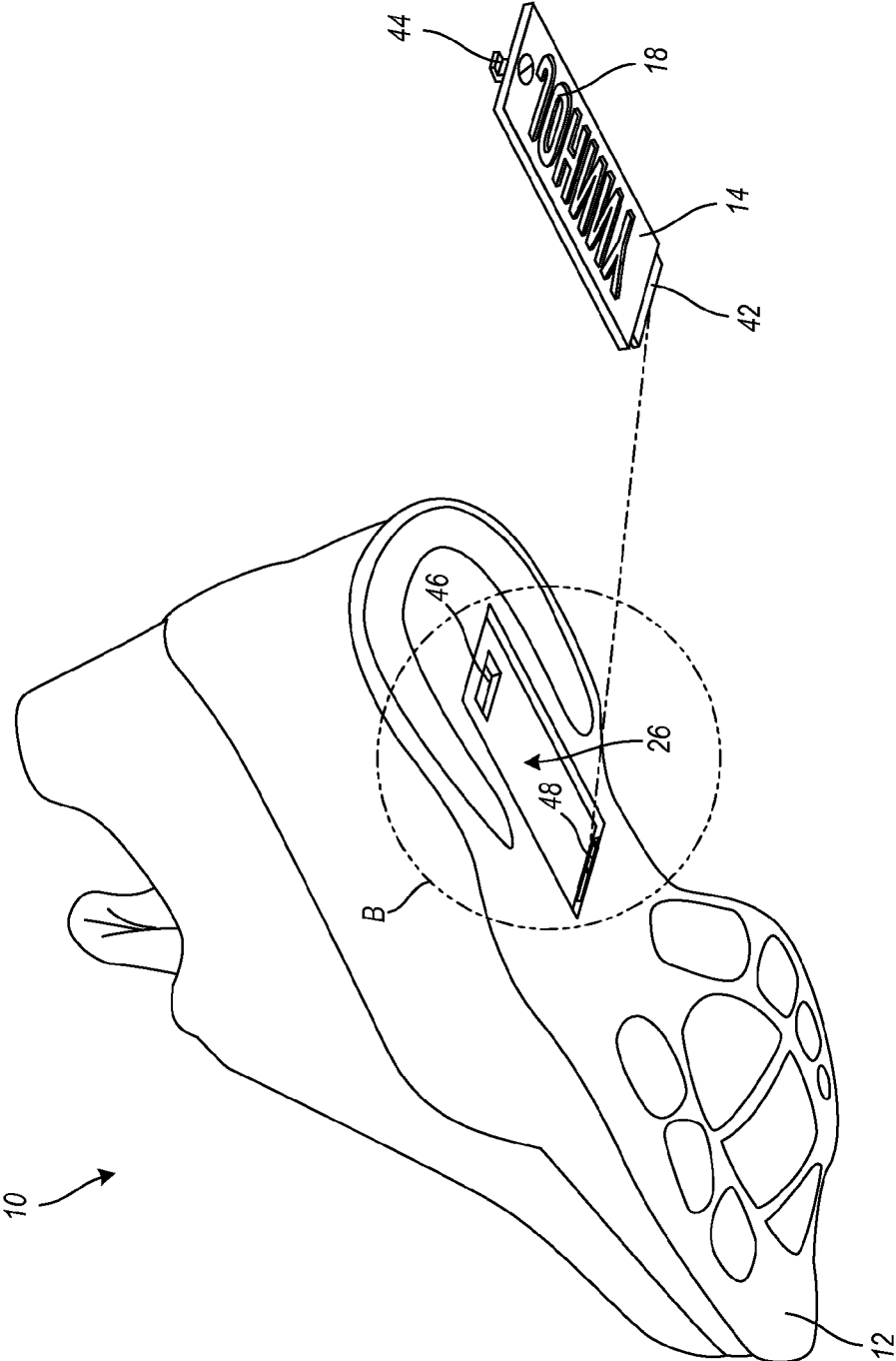
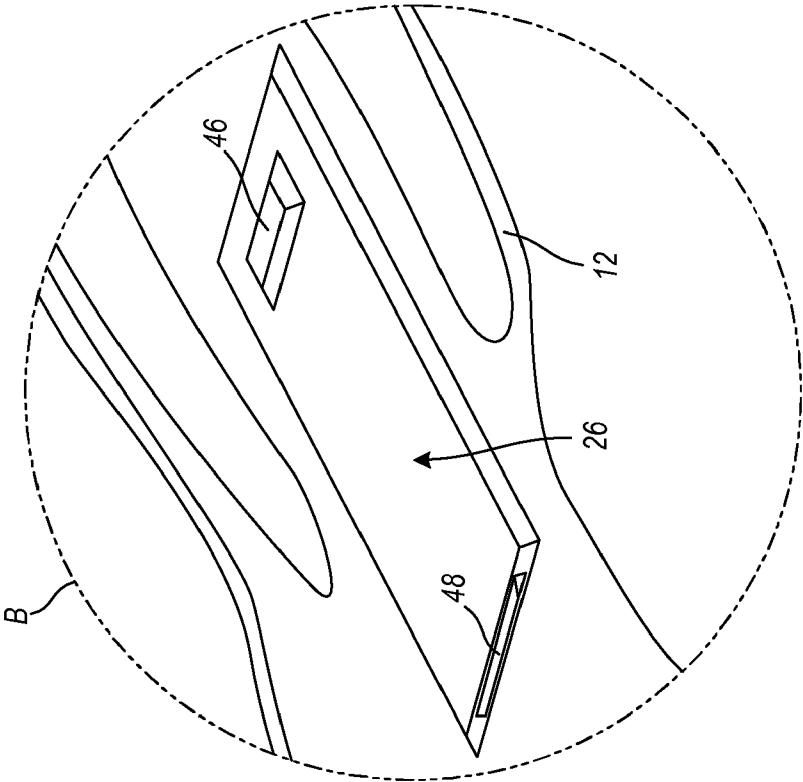


FIG. 9



**FIG. 10**

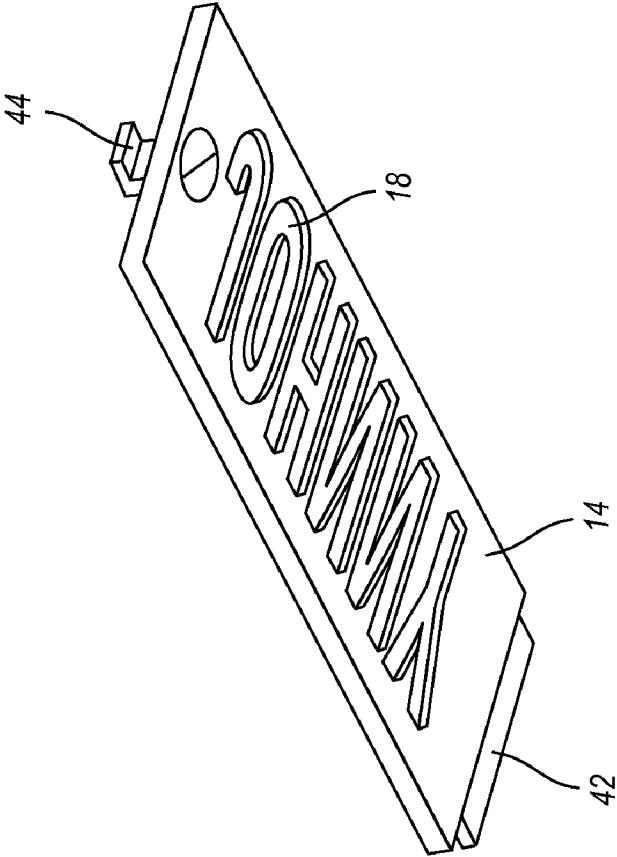
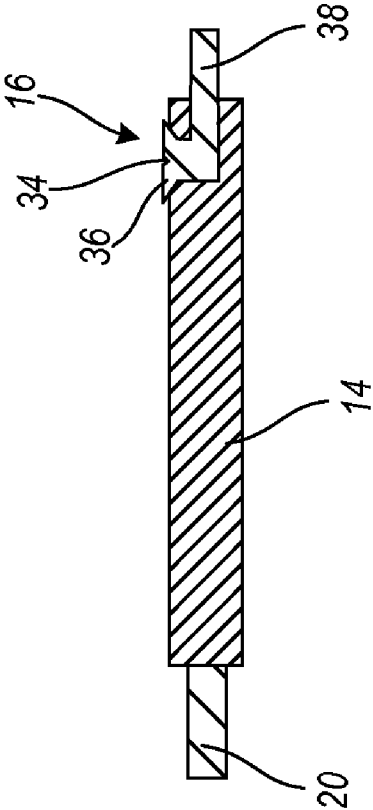
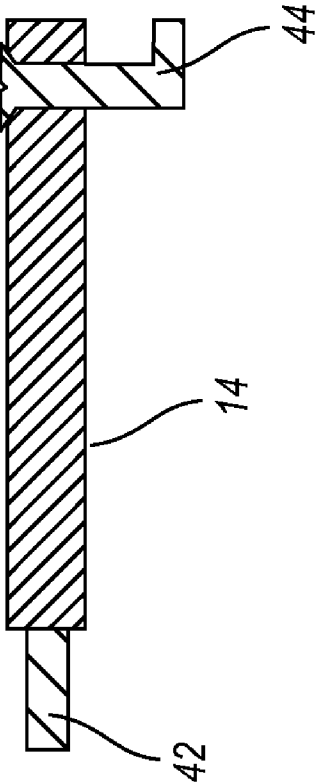


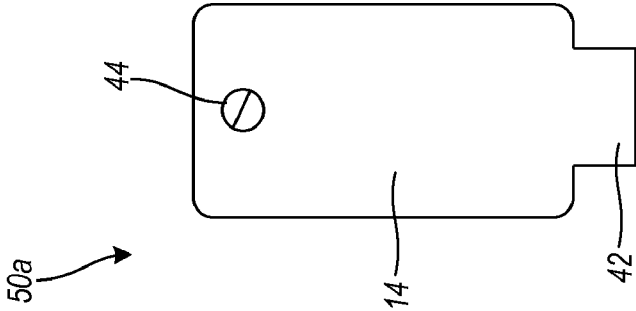
FIG. 11



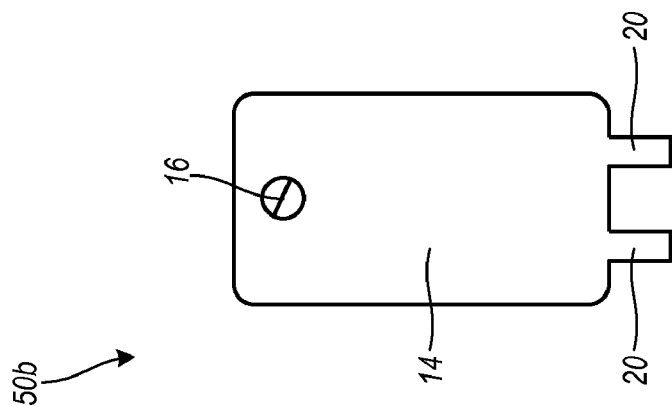
**FIG. 12**



**FIG. 13**

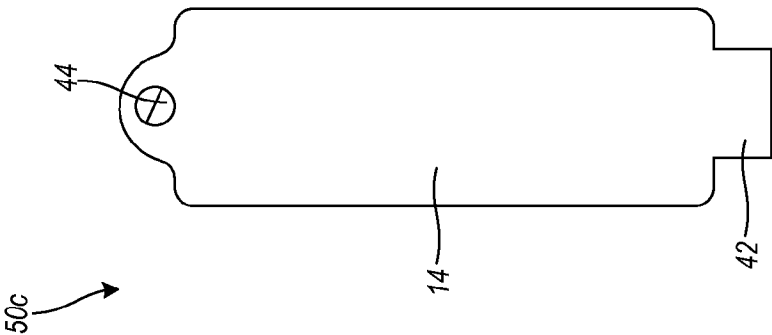


**FIG. 14**

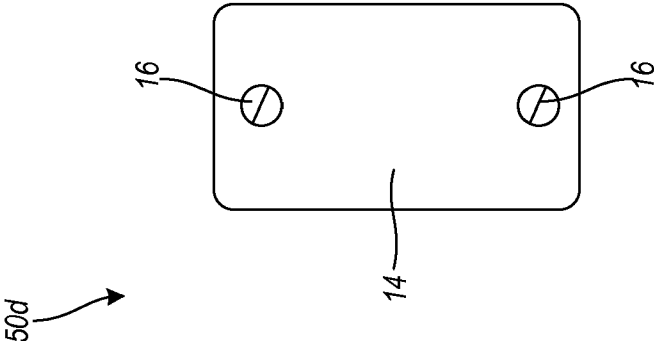


**FIG. 15**

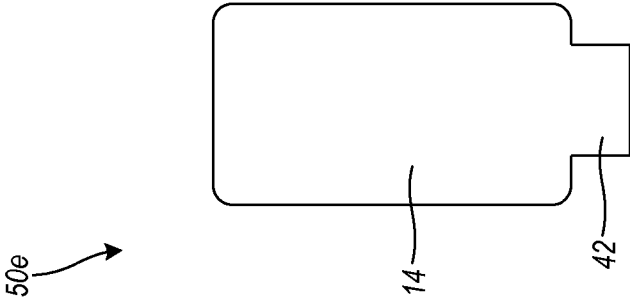




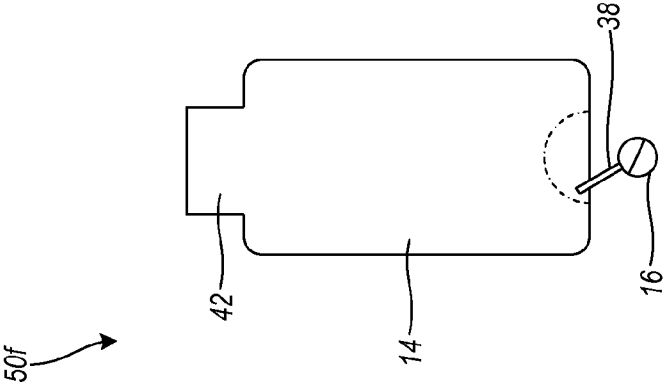
**FIG. 16**



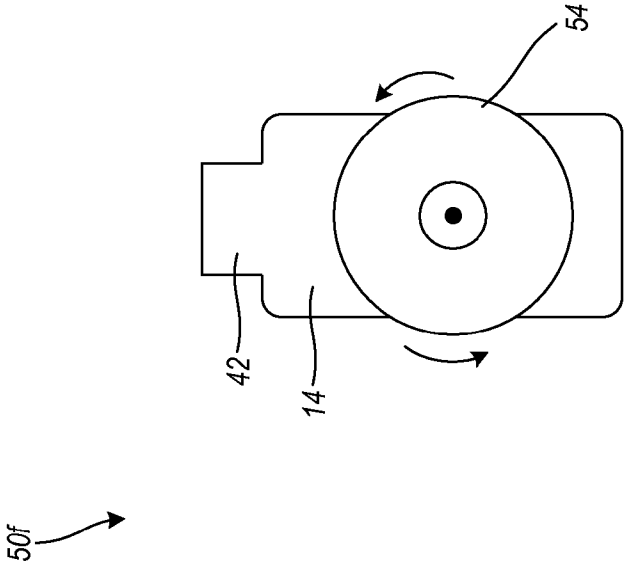
**FIG. 17**



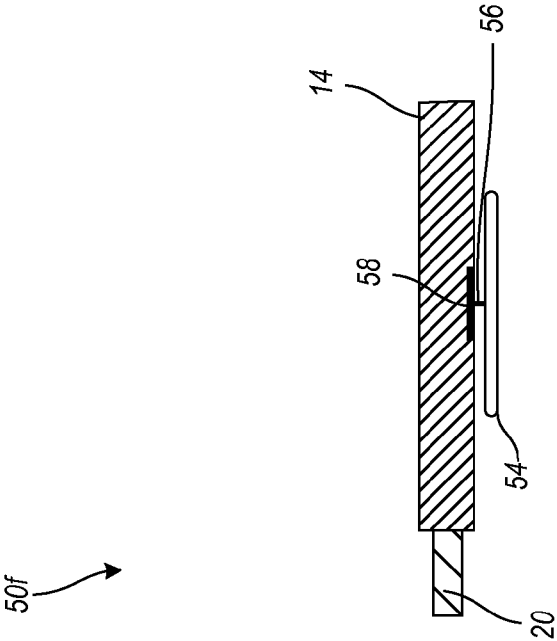
**FIG. 18**



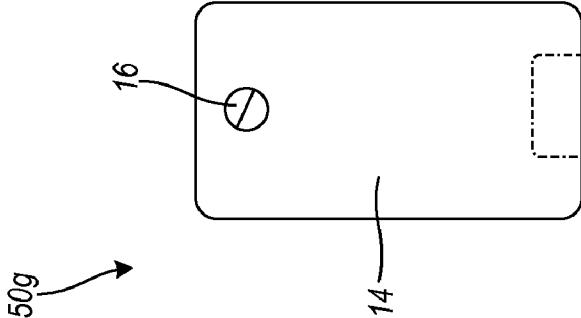
**FIG. 19**



**FIG. 20**



**FIG. 21**



**FIG. 22**

**CUSTOMIZABLE SHOE SOLE WITH REMOVABLE GRAPHICS PLATE**

**FIELD OF THE INVENTION**

[0001] The technology described herein relates generally to footwear. More specifically, this technology relates to a customizable shoe sole with a removable, interchangeable graphics plate.

**BACKGROUND OF THE INVENTION**

[0002] Many types and varieties of footwear are known in the art. Footwear customization can be utilized for the purposes of personalization, novelty, and vanity. Customization to the sole of the footwear can enable imprint of a word, graphical design, name, or the like, upon a surface underneath.

[0003] Related patents known in the art include the following: U.S. Pat. No. 5,331,753, issued to Rodibaugh on Jul. 26, 1994, discloses personalized signature shoes. U.S. Pat. No. 6,442,869, issued to Coomes on Sep. 3, 2002, discloses children's sandals having replaceable soles.

[0004] The foregoing patent and other information reflect the state of the art of which the inventor is aware and are tendered with a view toward discharging the inventor's acknowledged duty of candor in disclosing information that may be pertinent to the patentability of the technology described herein. It is respectfully stipulated, however, that the foregoing patent and other information do not teach or render obvious, singly or when considered in combination, the inventor's claimed invention.

**BRIEF SUMMARY OF THE INVENTION**

[0005] In various exemplary embodiments, the technology described herein provides a customizable shoe sole with a removable, interchangeable graphics plate.

[0006] In one exemplary embodiment, the technology described herein provides a removable, interchangeable graphics plate bearing a graphic that is raised from a surface of the graphics plate and configured for placement on a bottom surface of a sole of a shoe. The graphics plate is removable and interchangeable with the sole of the shoe. The graphics plate is configured for insertion into a cavity on a bottom surface of a sole of a shoe so that the graphics plate, once inserted, is flush with the sole of the shoe. The graphics plate also includes at least one locking screw configured for placement through a hole in the graphics plate. The locking screw, once the graphics plate is inserted into the sole of the shoe, is rotated to lock the graphics plate in place in the sole of the shoe. The graphics plate also includes a graphics plate key. The key comprises an edge for insertion into and rotating the locking screw. The graphics plate further includes at least one tab disposed upon the graphics plate configured for insertion into the sole of a shoe. The tab provides for and maintains secure placement of the graphics plate in the sole of the shoe. The graphic can include text, stylized designs, or a combination of both. The graphics plate can be manufactured from rubber, plastic, epoxy, wood, metal, and composite.

[0007] In another exemplary embodiment, the technology described herein provides a shoe. The shoe includes a graphics plate bearing a graphic that is raised from a surface of the graphics plate and that is configured for placement in a shoe. The sole of the shoe is molded and configured for receipt of the graphics plate. The graphics plate is removable and inter-

changeable with the sole of the shoe. The sole of the shoe includes a cavity on a bottom surface so that the graphics plate, once inserted, is flush with the sole of the shoe. The cavity can further include a recessed tab area to receive a tab disposed upon the graphics plate. The cavity can further include a recessed locking screw area to receive a portion of a locking screw inserted through the graphics plate and rotated to lock the graphics plate to the sole of the shoe.

[0008] In yet another exemplary embodiment, the technology described herein provides a footwear system for imprinting customized messages on a surface below the sole of the shoe. The footwear system includes a shoe having a molded sole, a graphics plate bearing a graphic that is raised from a surface of the graphics plate and configured for placement on a bottom surface of the molded sole of the shoe. The graphics plate is removable and interchangeable with the sole of the shoe. Once inserted into the shoe, the graphics plate leaves an imprint of a surface below the sole of the shoe as a wearer of the shoes walks and runs. The footwear system can also include a locking screw mechanism. At least one locking screw is utilized to secure the graphics plate to the molded sole of the shoe. The footwear system can also include a tab mechanism. The graphics plate includes at least one tab configured for insertion into the sole of the shoe. The tab provides for and maintains secure placement of the graphics plate into the sole of the shoe. The footwear system can further include a graphics plate key for securing the inserted graphics plate to the sole of the shoe and for removing the graphics plate from the sole of the shoe.

[0009] There has thus been outlined, rather broadly, the more important features of the technology in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the technology that will be described hereinafter and which will form the subject matter of the claims appended hereto. In this respect, before explaining at least one embodiment of the technology in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The technology described herein is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

[0010] As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the technology described herein.

[0011] Further objects and advantages of the technology described herein will be apparent from the following detailed description of a presently preferred embodiment which is illustrated schematically in the accompanying drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0012] The technology described herein is illustrated with reference to the various drawings, in which like reference numbers denote like device components and/or method steps, respectively, and in which:



[0013] FIG. 1 is a perspective view of a shoe having a customizable sole with a graphics plate, according to an embodiment of the technology described herein;

[0014] FIG. 2 is a perspective view of the shoe having a customizable sole with a graphics plate depicted in FIG. 1, illustrating, in particular, the removability and interchangeability of the graphics plate, according to an embodiment of the technology;

[0015] FIG. 3 is a perspective view of the shoe having a customizable sole with a graphics plate depicted in FIG. 1, illustrating, in particular, the insertion of the graphics plate, according to an embodiment of the technology;

[0016] FIG. 4 is a perspective view of the shoe having a customizable sole with a graphics plate depicted in FIG. 1, illustrating, in particular, the receptacles to receive tabs of the graphics plate;

[0017] FIG. 5 is a close up perspective view of the receptacles to receive tabs of the graphics plate depicted in FIG. 4;

[0018] FIG. 6 is a perspective view of a graphics plate, according to an embodiment of the technology;

[0019] FIG. 7 is a perspective view of a graphics plate key, according to an embodiment of the technology;

[0020] FIG. 8 is a perspective view of a graphics plate lock, according to an embodiment of the technology;

[0021] FIG. 9 is a perspective view of a shoe having a customizable sole with a graphics plate, according to an alternative embodiment of the technology described herein;

[0022] FIG. 10 is a close up perspective view of the graphics plate receptacle cavity depicted in FIG. 9 according to an alternative embodiment of the technology;

[0023] FIG. 11 is a perspective view of a graphics plate, according to an alternative embodiment of the technology;

[0024] FIG. 12 is a side view of the graphics plate depicted in FIG. 6;

[0025] FIG. 13 is a side view of the graphics plate depicted in FIG. 11; and

[0026] FIGS. 14 through 22 are views of varied graphics plates, illustrating, in particular, the number and type of tabs and the number and type of plate locks.

#### DETAILED DESCRIPTION OF THE INVENTION

[0027] Before describing the disclosed embodiments of this technology in detail, it is to be understood that the technology is not limited in its application to the details of the particular arrangement shown here since the technology described is capable of other embodiments. Also, the terminology used herein is for the purpose of description and not of limitation.

[0028] In various exemplary embodiments, the technology described herein provides a customizable shoe sole with a removable, interchangeable graphics plate.

[0029] Referring now to FIG. 1, shoe 10 is shown. Shoe 10 includes a customizable sole 12 with a removable, interchangeable graphics plate 14. The shoe 10 can utilize a specially designed sole 12 configured for the graphics plate 14. Alternatively, the shoe 10 can include a receptacle embedded within it to receive the graphics plate. The graphics plate 14 is removable and interchangeable with the sole 12 of the shoe 10.

[0030] The graphics plate 14 can be manufactured from rubber, plastic, epoxy, wood, metal, and composite. Additionally, as will be apparent to those in the art, alternative materials can be utilized for the graphics plate 14 that are suitable for use in and on the sole 12 of a shoe 10.

[0031] The graphics plate 14 includes permanent graphic 18. When worn in a shoe, the graphic 18 disposed upon the graphics plate 14 leaves an impression on a ground surface as a wearer walks. The graphic 18 is raised from the surface of the graphics plate 14 such that it can leave an imprint. The graphic 18 can include text, a stylized design, or both. For example, the graphic 18 can include a name, number, symbol, animate character, graphic, logo, animal track, graphical language characters such as Chinese language characters, and so forth.

[0032] As shoe 10 containing a graphics plate 14 is worn by a wearer, an impression of the graphic 18 is made on a surface (e.g., soil, snow, etc.) on which the wearer is walking or running. The graphic 18 is raised from a surface of the graphics plate 14.

[0033] The graphics plate 14 is easily removed by the wearer. Each graphics plate 14 is interchangeable, so a wearer can swap graphics plates 14 at will to change graphics 18. Multiple means are provided to attach the graphics plate 14 to the sole 12 of the shoe 10.

[0034] The graphics plate 14 can be inserted into a cavity on a bottom surface of a sole 12 of a shoe 10 so that the graphics plate, once inserted, is flush with the sole of the shoe. The graphic 18 is raised from a surface of the graphics plate 14 such that it can leave an imprint when in use.

[0035] The graphics plate 14 can include at least one locking screw 16 configured for placement through a hole in the graphics plate 14. The locking screw 16, once the graphics plate 14 is inserted into the sole 12 of the shoe 10, is rotated to lock the graphics plate 14 in place in the sole 12 of the shoe 10.

[0036] Referring now to FIG. 2, the graphics plate 14 bearing a graphic 18 is shown removed from a cavity 26 in the sole 12 of the shoe 10. The cavity 26 is preformed in the sole 12 to receive the graphics plate 14. As locking screws 16 are rotated to unlock the graphics plate 14 the graphics plate 14 can be removed. Locking screws 16 can be turned utilizing a graphics plate key (as shown in FIG. 7), a coin, an edge, and so forth. Locking screws 16 can be utilized on one or both ends of the graphics plate 14. A portion of each locking screw 16 slides through aperture 22 to secure the graphics plate 14 to the shoe 10. Locking screw aperture 23 is provided to receive the portion of each locking screw 16 as it slides through aperture 22.

[0037] The graphics plate 14 can include at least one tab 20 disposed upon the graphics plate 14 and configured for insertion into the sole 12 of a shoe 10. Each tab 20 provides for and maintains secure placement of the graphics plate 14 in the cavity 26 of the sole 12 of the shoe 10. Tab apertures 24 are disposed with cavity 26 to receive the tabs 20 of the graphics plate 14.

[0038] Referring now to FIG. 3, insertion of graphics plate 14 bearing graphic 18 is shown. Graphics plate 14 is inserted into cavity 26 in sole 12 of shoe 10. During insertion, tabs 20 are lined up with and inserted into tab apertures 24. Once the graphics plate 14 is inserted, the locking screws 16 are rotated such that a portion of the locking screws exits apertures 22 and enters locking screw apertures 23 in the cavity 26 in order to secure the graphics plate to the shoe 10.

[0039] Referring now to FIGS. 4 and 5, the apertures disposed within cavity 26 are shown. As depicted in FIG. 4, region A, at least one aperture can be formed into cavity 26 of sole 12 of shoe 10. As depicted in FIG. 5, those apertures can include tab apertures 24. Tab apertures 24 are configured to

receive tabs 20 of the graphics plate 14. As depicted in FIG. 5, those apertures also can include locking screw aperture 23. Locking screw aperture 23 is configured to receive a portion of locking screw 16 once rotated to secure the graphics plate 14 to the cavity 26.

[0040] Referring now to FIG. 6, one embodiment of graphics plate 14 is shown. The graphics plate 14 includes permanent graphic 18. The graphics plate 14 can include at least one locking screw 16 configured for placement through a hole (not shown) in the graphics plate 14. The locking screw 16, once the graphics plate 14 is inserted into the sole 12 of the shoe 10, is rotated to lock the graphics plate 14 in place in the sole 12 of the shoe 10. A portion of each locking screw 16 slides through aperture 22 to secure the graphics plate 14 to the shoe 10. The graphics plate 14 can include at least one tab 20 disposed upon the graphics plate 14 and configured for insertion into the sole 12 of a shoe 10. Each tab 20 provides for and maintains secure placement of the graphics plate 14 in the cavity 26 of the sole 12 of the shoe 10.

[0041] Referring now to FIG. 7, a graphics plate key 28 is shown. The graphics plate key 28 includes a tip 32 and a grip area 30. The tip 32 is inserted into a locking screw 16 to rotate it. Grip area 30 provides means for the user to grip the graphics plate key 28.

[0042] Referring now to FIG. 8, a locking screw 16 is shown. The locking screw 16 includes a trunk 40, a head 36, groove 34, and tongue 38. Tongue 38 is rotated through aperture 22 in the graphics plate 14 as the graphics plate is locked to a shoe 10. The graphics plate key 28 (depicted in FIG. 7) can be utilized in groove 34 to rotate the locking screw 16.

[0043] Referring now to FIGS. 9 and 10, the sole 12 of a shoe 10 having a customizable sole 12 with a graphics plate 14 bearing a graphic 18, according to an alternative embodiment, is shown. Disposed with the sole 12 is a cavity 26 configured to receive graphics plate 14. Depicted in enlarged area B are single tab aperture 48 and internal aperture 46. The single tab aperture 48 is configured to receive single tab 42 from graphics plate 14 having only one, larger tab. The internal aperture 46 is configured to receive elongated locking screw 44.

[0044] Referring now to FIG. 11, a graphics plate 14, according to an alternative embodiment, is shown. The graphics plate 14 bearing graphic 18 includes single tab 42 and elongated locking screw 44.

[0045] Referring now to FIG. 12, a side view of the graphics plate 14 depicted in FIG. 6 is shown. The graphics plate 14 includes tab 20 and locking screw 16. Locking screw 16 includes a head 36, groove 34, and tongue 38.

[0046] Referring now to FIG. 13, a side view of the graphics plate 14 depicted in FIG. 11 is shown. The graphics plate 14 includes single tab 42 and elongated locking screw 44.

[0047] Referring now to FIGS. 14 through 22, various views of varied graphics plates, illustrating, in particular, the number and type of tabs and the number and type of plate locks are shown. As depicted in FIG. 14, configuration 50a illustrates a graphics plate 14 having a single tab 42 and one elongated locking screw 44. As depicted in FIG. 15, configuration 50b illustrates a graphics plate 14 having two tabs 20 and a single locking screw 16. As depicted in FIG. 16, configuration 50c illustrates a graphics plate 14 having a single tab 42 and one elongated locking screw 44. The graphics plate 14 has a circular end for the locking screw 44. As depicted in FIG. 17, configuration 50d illustrates a graphics plate 14 having no tabs and having two locking screws 16. As depicted

in FIG. 18, configuration 50e illustrates a graphics plate 14 having no locking screws and a single tab 42. As depicted in FIGS. 19, 20, and 21, configuration 50f illustrates a graphics plate 14 having no internal locking screws and a tab. The graphics plate 14 can be locked into place with a locking screw mechanism 16 having a tongue 38 embedded into the sole of the shoe. In such an embodiment, graphics plate 14 can be secured to the sole utilizing a bearing 58, an axle 56, and a disc 54. With this configuration the graphics plate 14 can rotate and spin around in a manner analogous to an ice skater wearing skates. Rotational configurations can include the ability to rotate vertically or roll horizontally. As depicted in FIG. 22, configuration 50g illustrates a graphics plate 14 having a single locking screw 16 and no tabs. Configuration 50g utilizes a pocket to receive a tab from the shoe.

[0048] In various alternative embodiments, the sole 12 can include embedded accessories. By way of example, contained in a deeper cavity 26 covered by a graphics plate 14, items such as a lights and coins can be carried. In such a configuration the graphics plate 14 also serves as a lid to an embedded storage cavity in the sole 12 of the shoe 10. In other varied embodiments, the graphics plate 14 can be rotated within the sole 12. Still further embodiments include a noise producing graphics plate 14 and a scented graphics plate 14 for hunters.

[0049] Although this technology has been illustrated and described herein with reference to preferred embodiments and specific examples thereof, it will be readily apparent to those of ordinary skill in the art that other embodiments and examples can perform similar functions and/or achieve like results. All such equivalent embodiments and examples are within the spirit and scope of the invention and are intended to be covered by the following claims.

What is claimed is:

1. A removable, interchangeable graphics plate comprising:
  - a graphics plate bearing a graphic that is raised from a surface of the graphics plate, the graphics plate configured for placement on a bottom surface of a sole of a shoe; and
  - wherein the graphics plate is removable and interchangeable with the sole of the shoe; and
  - wherein, when worn in a shoe, the graphic disposed upon the graphics plate leaves an impression on a ground surface as a wearer walks.
2. The graphics plate of claim 1, wherein the graphics plate is configured for insertion into a cavity on a bottom surface of a sole of a shoe so that the graphics plate, once inserted, is flush with the sole of the shoe.
3. The graphics plate of claim 1, further comprising:
  - an at least one locking screw configured for placement through a hole in the graphics plate; and
  - wherein the locking screw, once the graphics plate is inserted into the sole of the shoe, is rotated to lock the graphics plate in place in the sole of the shoe.
4. The graphics plate of claim 3, further comprising:
  - a graphics plate key, wherein the key comprises an edge for insertion into and rotating the at least one locking screw.
5. The graphics plate of claim 1, further comprising:
  - an at least one tab disposed upon the graphics plate configured for insertion into the sole of a shoe, wherein the tab provides for and maintains secure placement of the graphics plate in the sole of the shoe.

6. The graphics plate of claim 1, wherein the graphic comprises text.

7. The graphics plate of claim 1, wherein the graphic comprises a stylized design.

8. The graphics plate of claim 1, wherein the graphic comprises text and a stylized design.

9. The graphics plate of claim 1, further comprising: an at least one locking screw configured for placement through a hole in the graphics plate; and an at least one tab disposed upon the graphics plate configured for insertion into the sole of a shoe, wherein the tab provides for and maintains secure placement of the graphics plate into the sole of the shoe.

10. The graphics plate of claim 1, wherein the graphics plate is comprised a material from the group consisting of rubber, plastic, epoxy, wood, metal, and composite.

11. A shoe comprising: a graphics plate bearing a graphic that is raised from a surface of the graphics plate, the graphics plate configured for placement in a shoe; a sole of the shoe, the sole being molded and configured for receipt of the graphics plate; wherein the graphics plate is removable and interchangeable with the sole of the shoe; and wherein, when worn in a shoe, the graphic disposed upon the graphics plate leaves an impression on a ground surface as a wearer walks.

12. The shoe of claim 11, wherein the sole of the shoe comprises a cavity on a bottom surface so that the graphics plate, once inserted, is flush with the sole of the shoe.

13. The shoe of claim 12, wherein the cavity further comprises a recessed tab area to receive a tab disposed upon the graphics plate.

14. The shoe of claim 12, wherein the cavity further comprises a recessed locking screw area to receive a portion of a locking screw inserted through the graphics plate and rotated to lock the graphics plate to the sole of the shoe.

15. A footwear system for imprinting customized messages on a surface below, the system comprising:

a shoe;  
a molded sole of the shoe;  
a graphics plate bearing a graphic that is raised from a surface of the graphics plate, the graphics plate configured for placement on a bottom surface of the molded sole of the shoe;  
wherein the graphics plate is removable and interchangeable with the sole of the shoe; and  
wherein, once inserted into the shoe, the graphics plate leaves an imprint of a surface below the sole of the shoe as a wearer of the shoes walks and runs.

16. The footwear system of claim 15, wherein the graphics plate comprises at least one of the group consisting of text and stylized design.

17. The footwear system of claim 15, further comprising a locking screw mechanism, wherein an at least one locking screw is utilized to secure the graphics plate to the molded sole of the shoe.

18. The footwear system of claim 15, further comprising a tab mechanism, wherein the graphics plate comprises an at least one tab configured for insertion into the sole of the shoe, wherein the tab provides for and maintains secure placement of the graphics plate into the sole of the shoe.

19. The footwear system of claim 15, further comprising a locking screw mechanism, wherein an at least one locking screw is utilized to secure the graphics plate to the molded sole of the shoe; and

a tab mechanism, wherein the graphics plate comprises an at least one tab configured for insertion into the sole of the shoe, wherein the tab provides for and maintains secure placement of the graphics plate into the sole of the shoe.

20. The footwear system of claim 15, further comprising a graphics plate key for securing the inserted graphics plate to the sole of the shoe and for removing the graphics plate from the sole of the shoe.

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