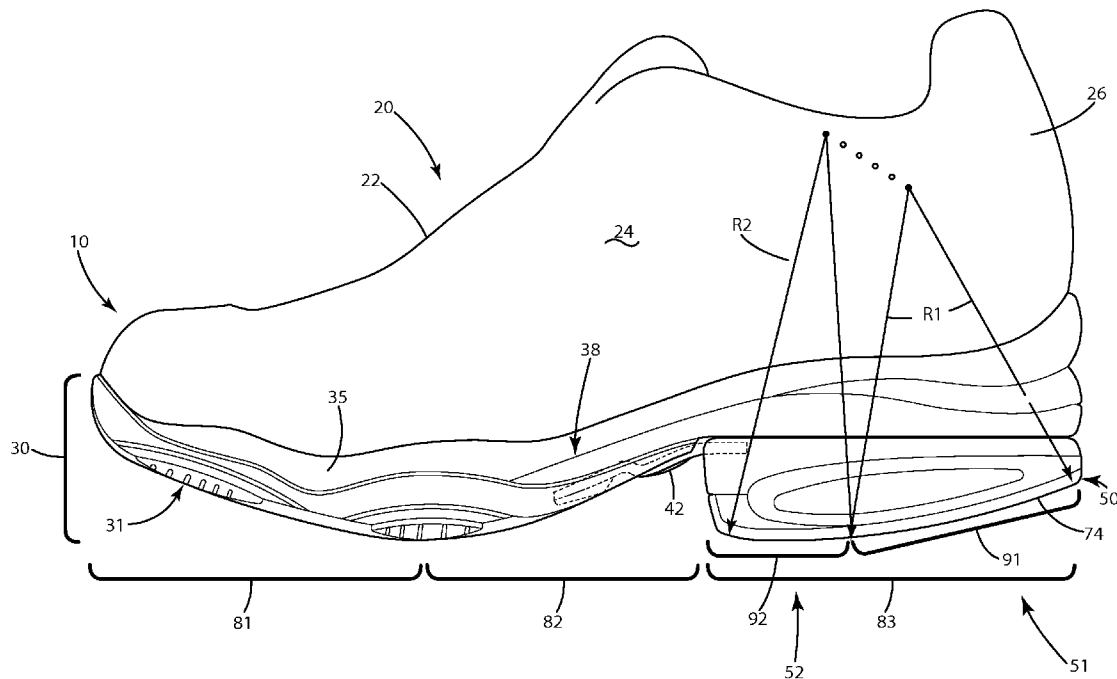




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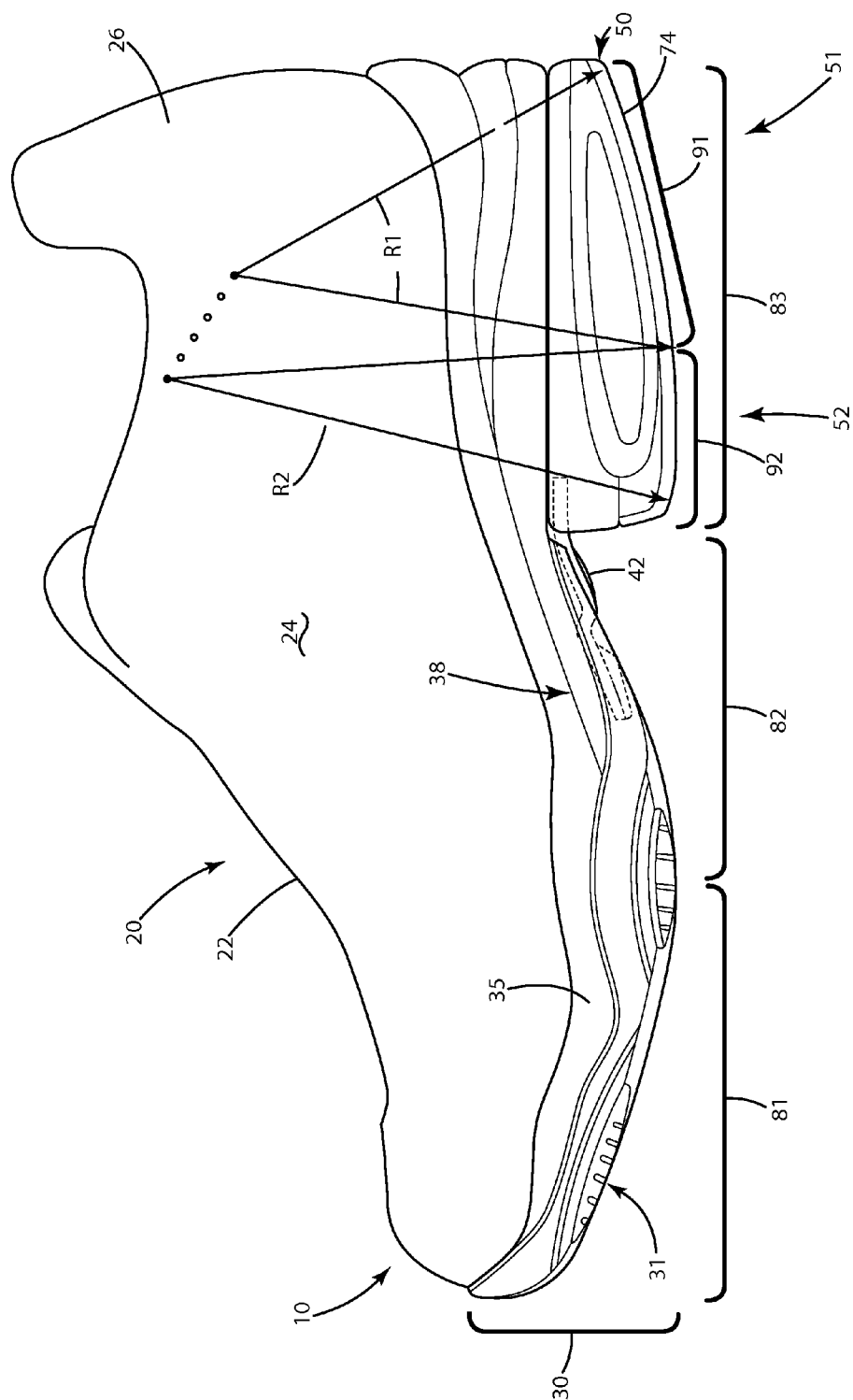


Fig. 1

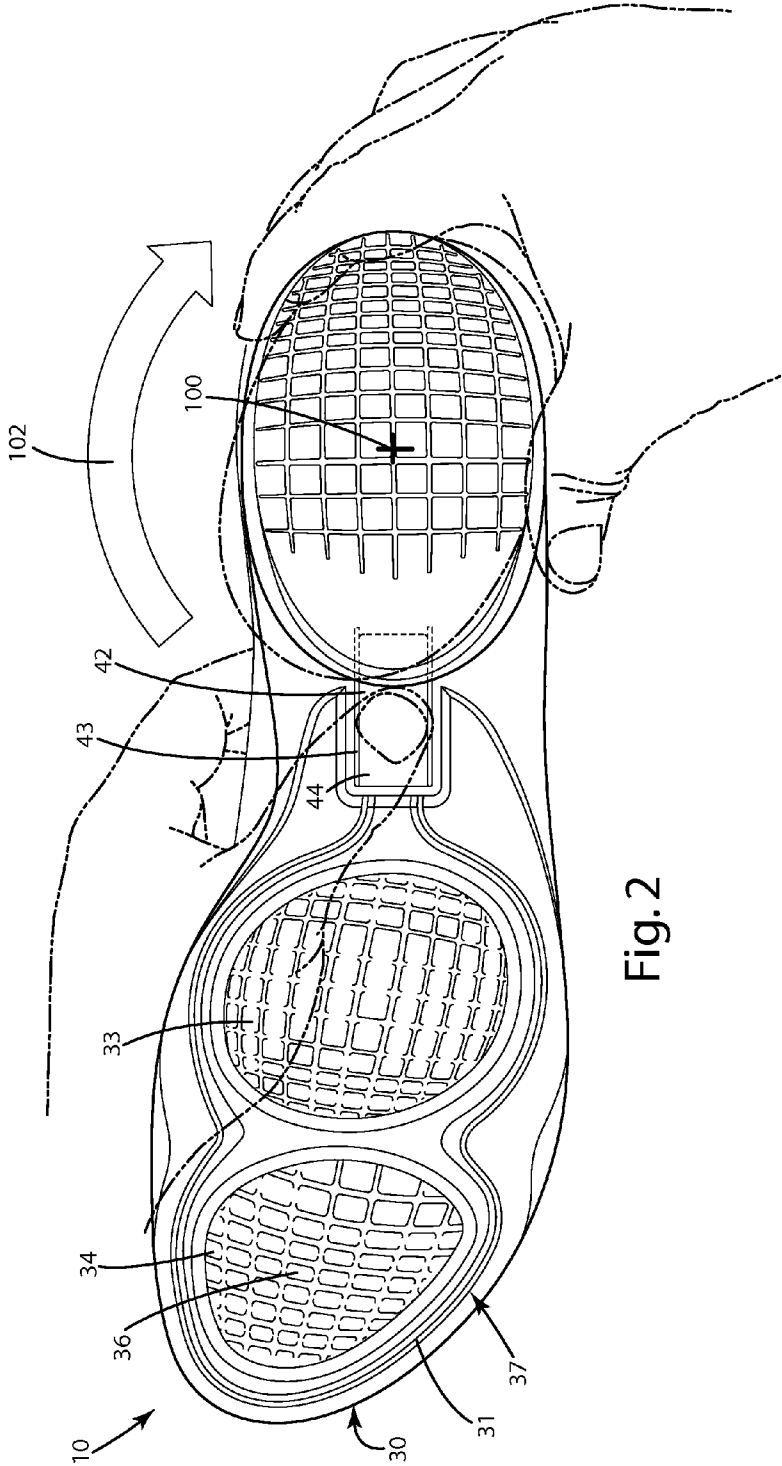


Fig. 2

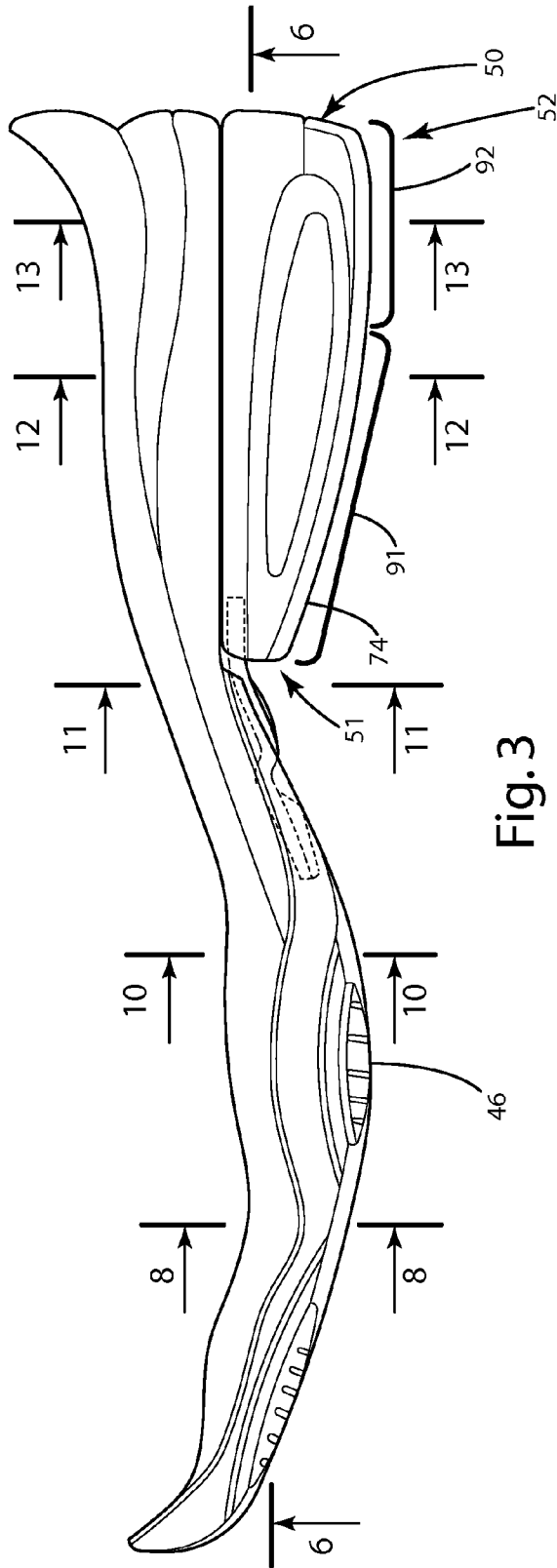
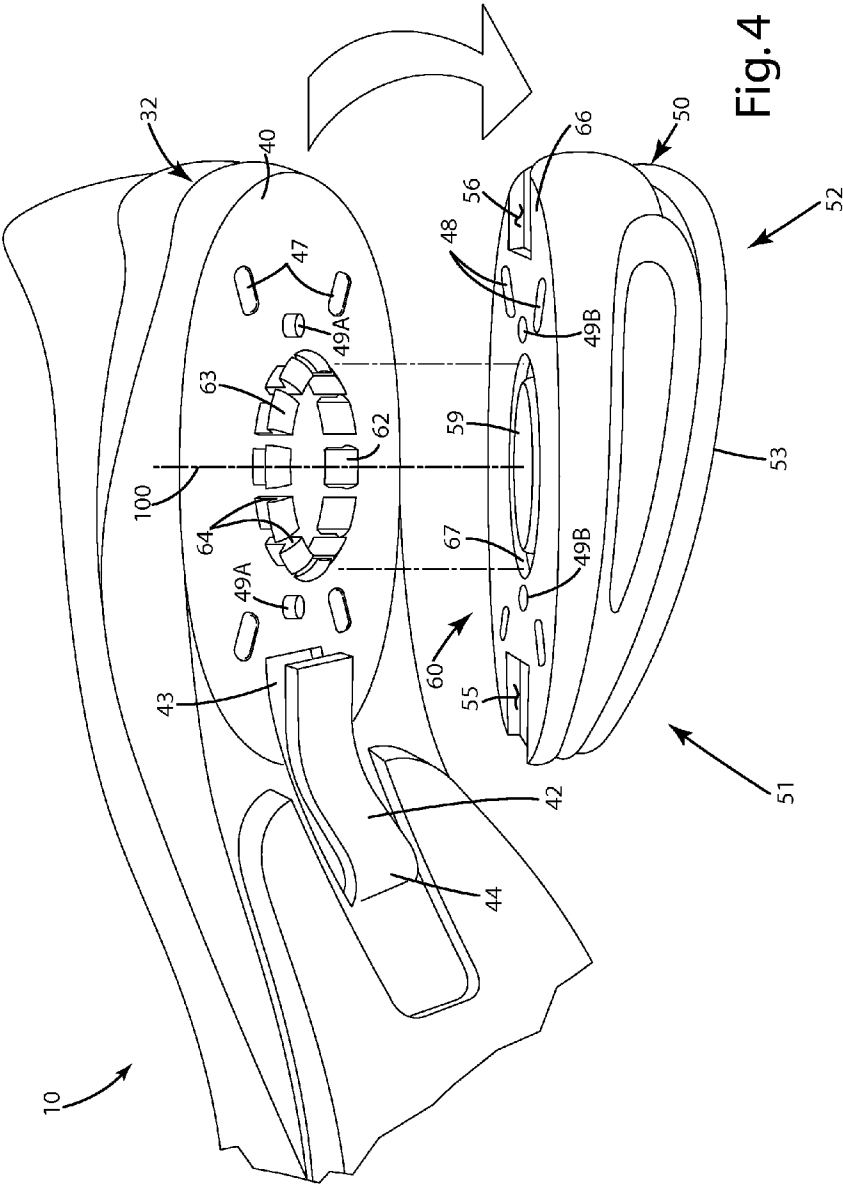
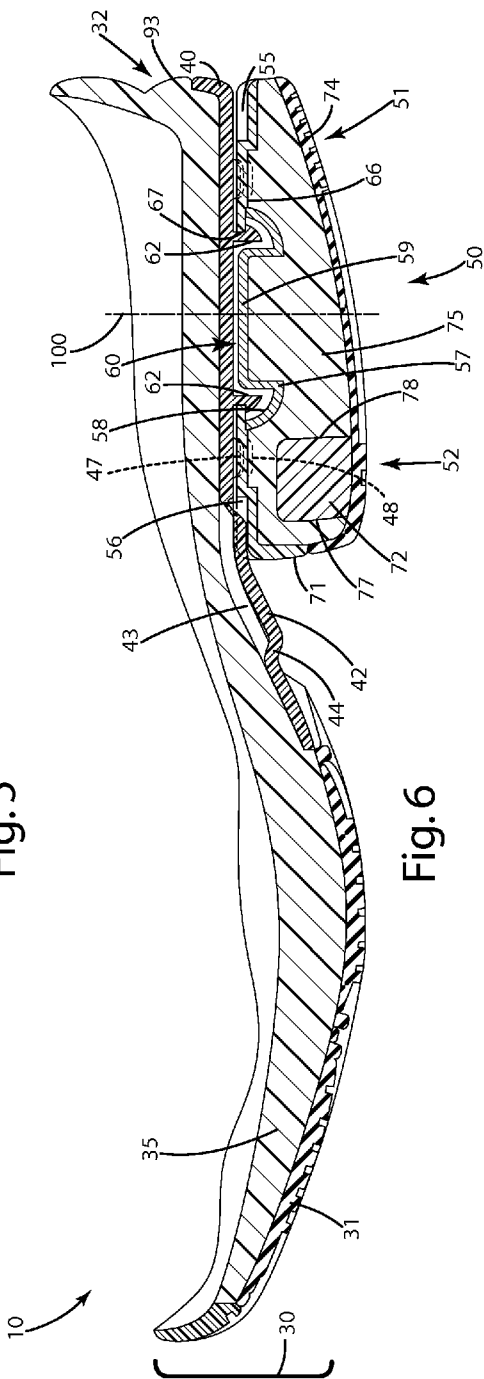
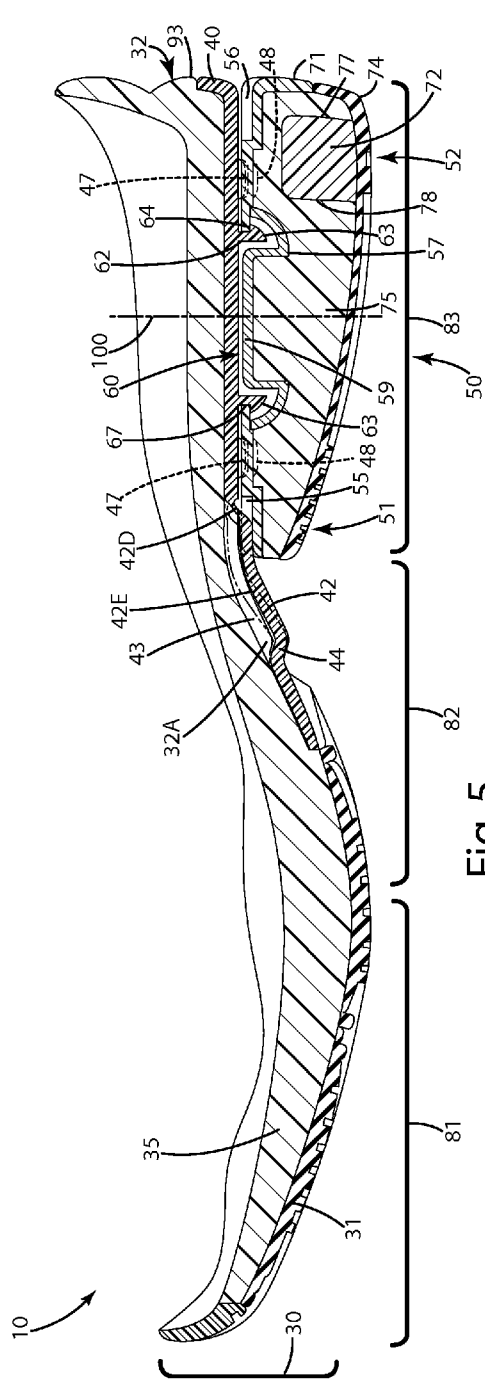


Fig. 3





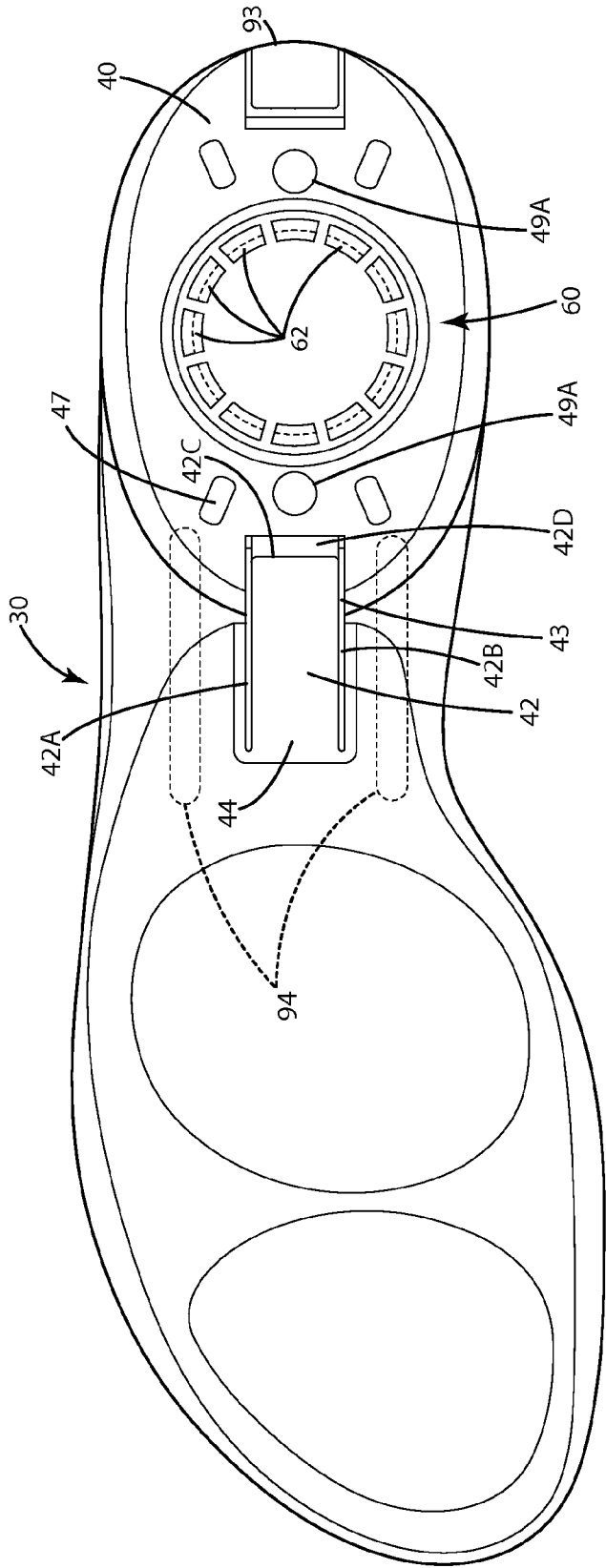


Fig. 7

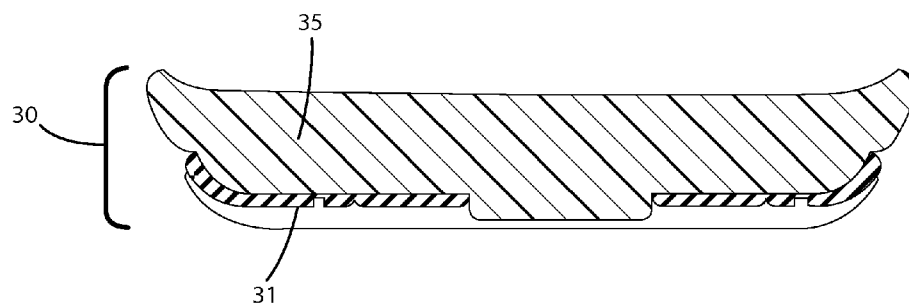


Fig. 8

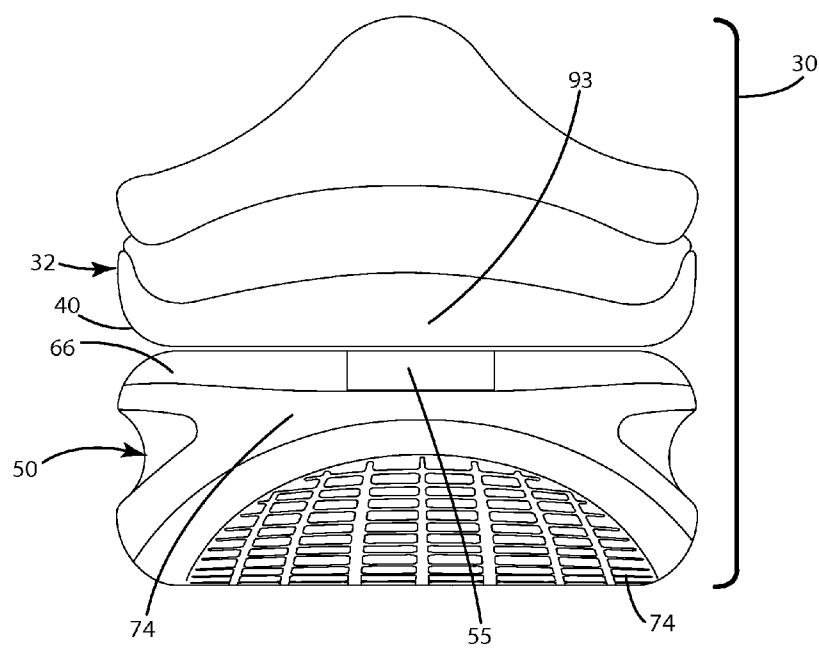


Fig. 9

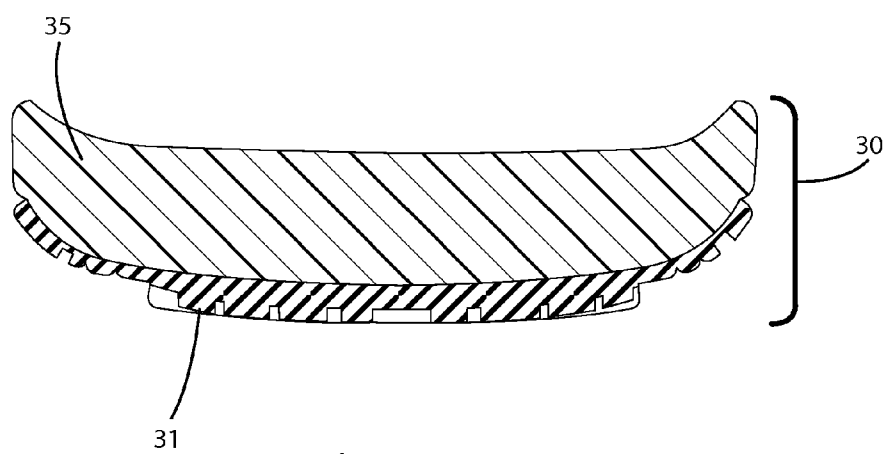


Fig. 10

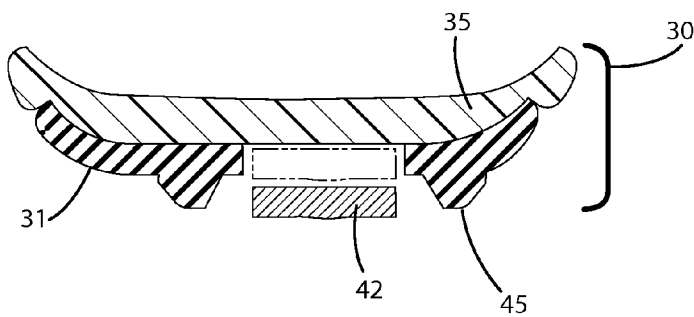


Fig. 11

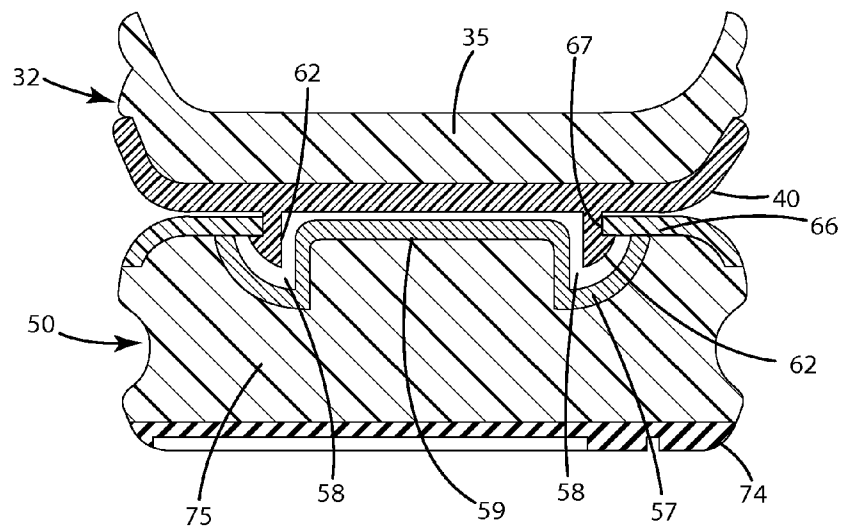


Fig. 12

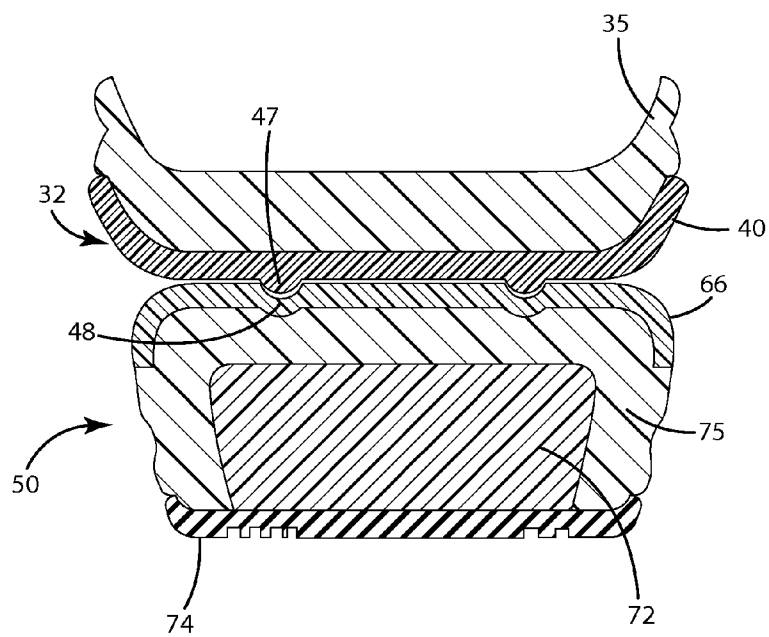


Fig. 13

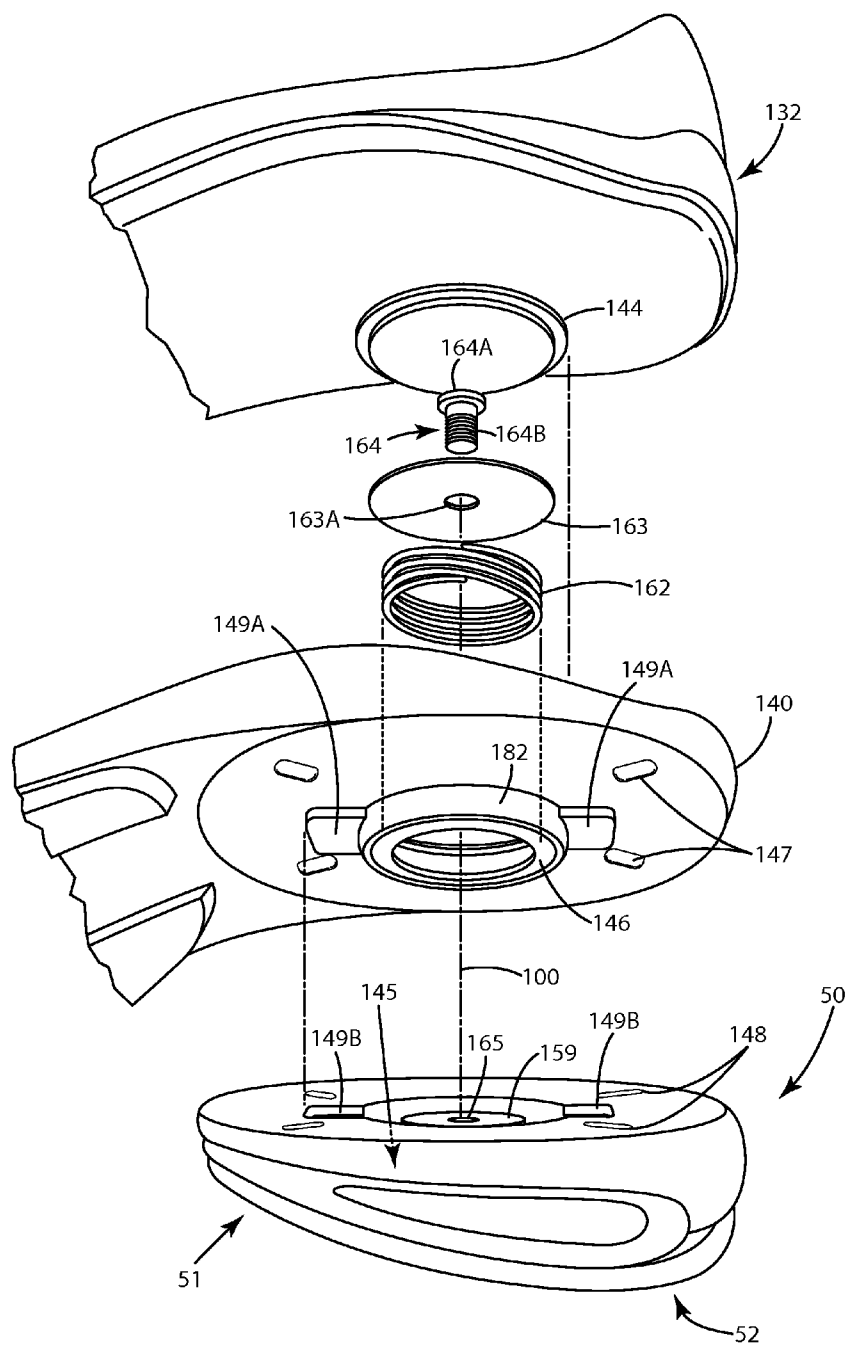


Fig. 14

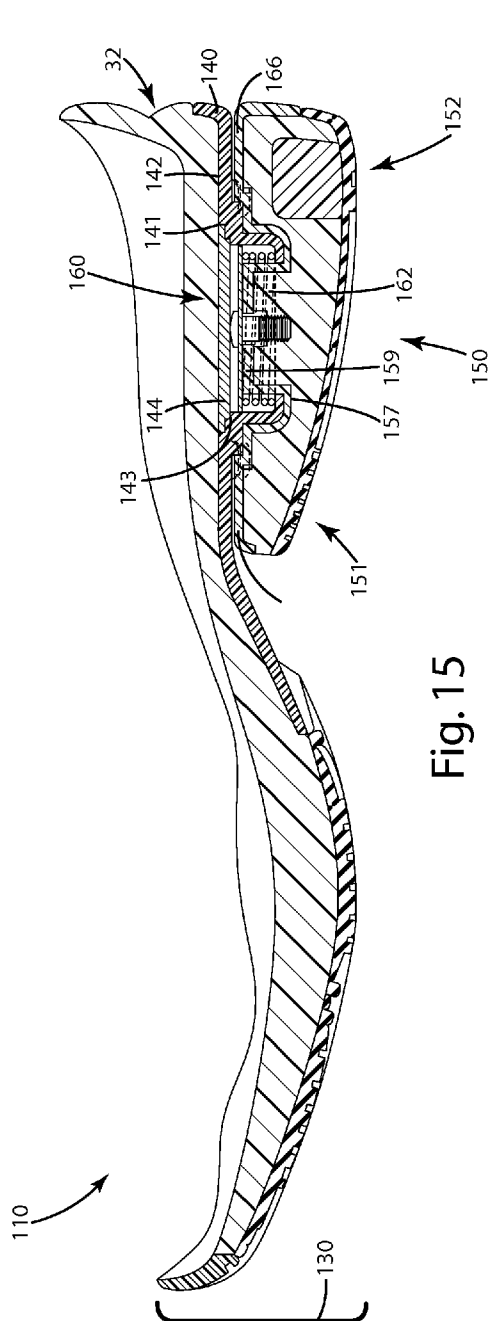


Fig. 15

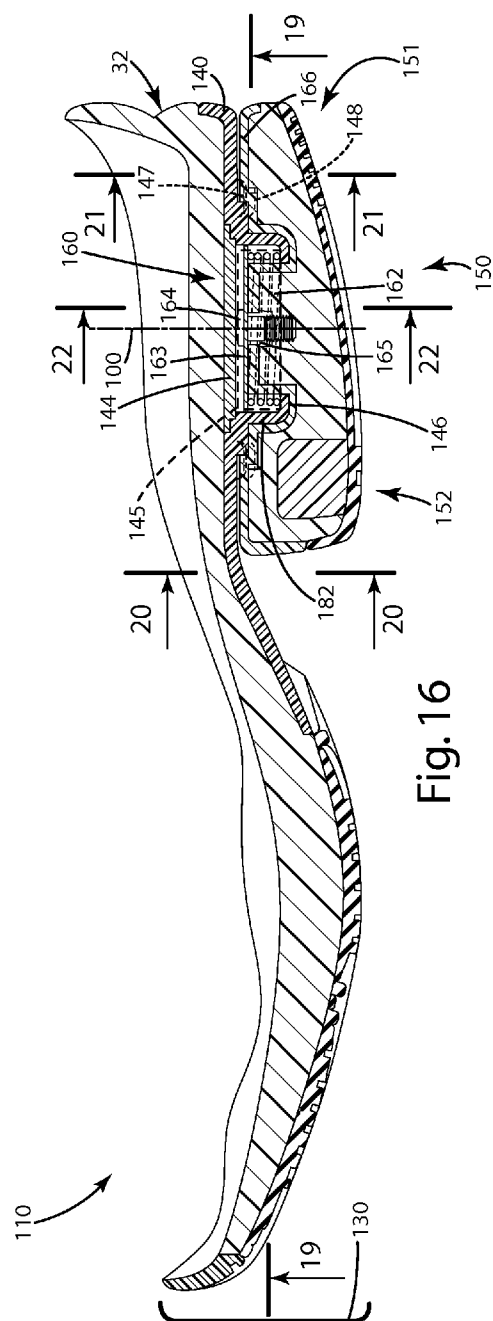


Fig. 16

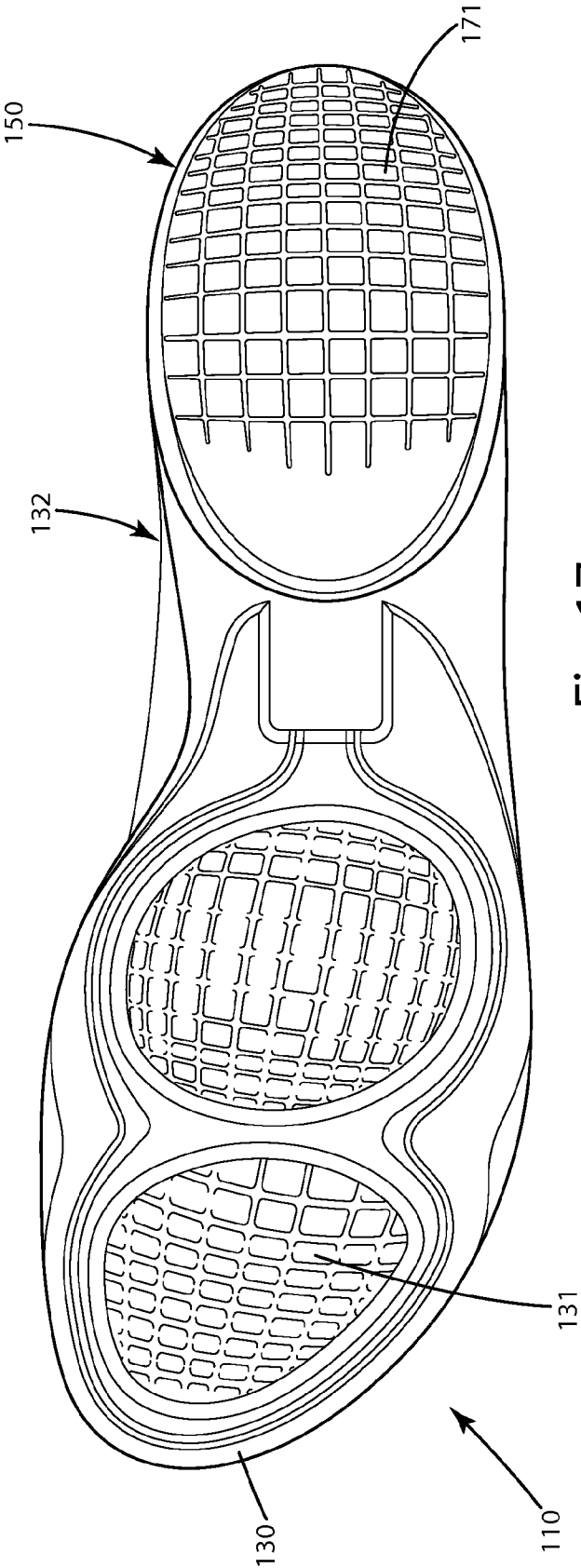
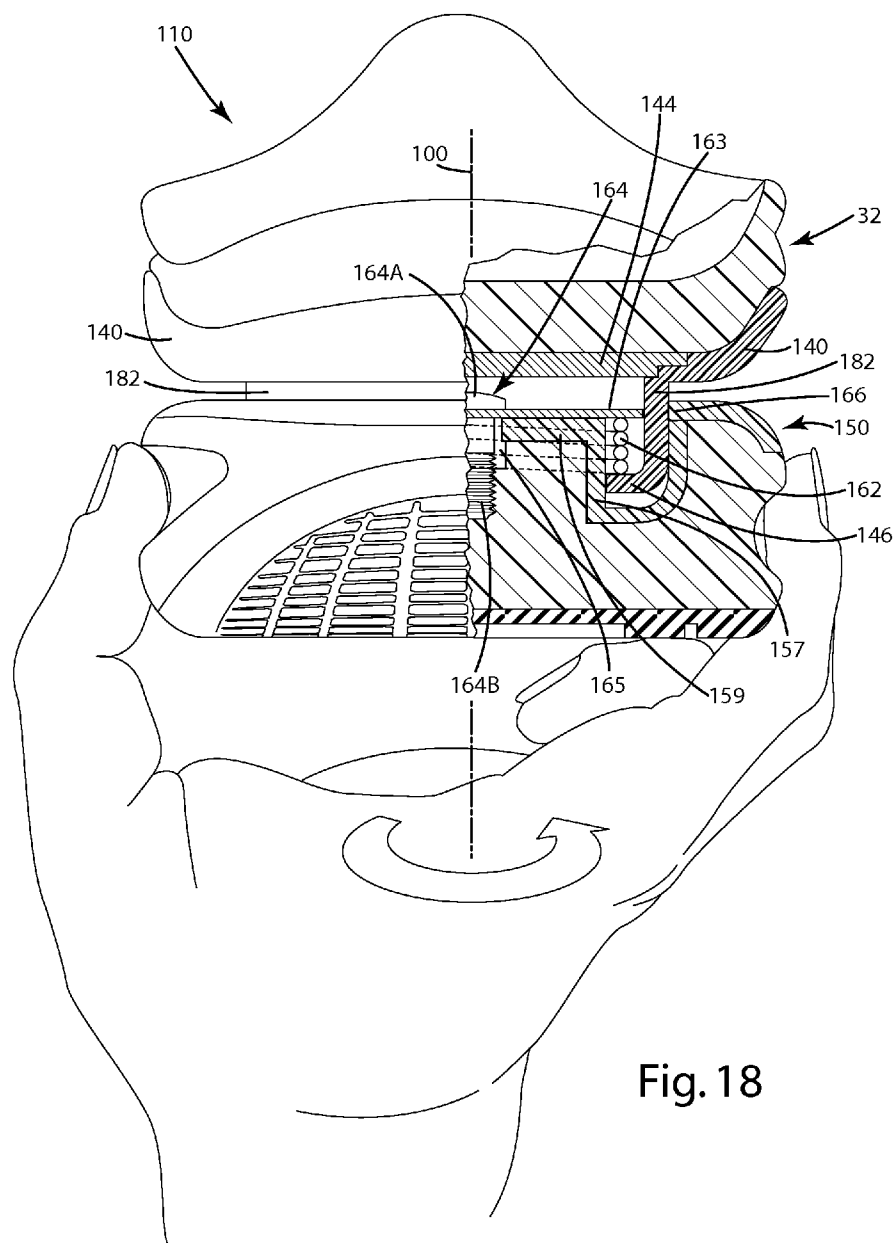


Fig. 17



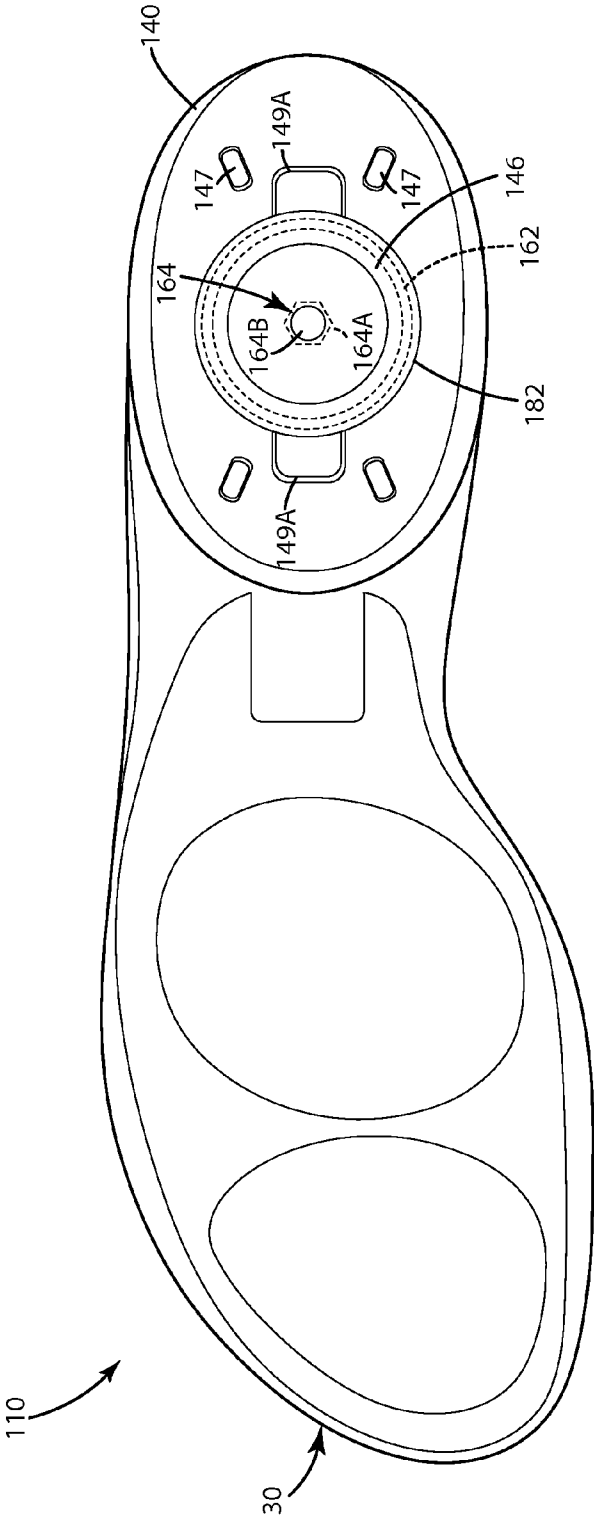


Fig. 19

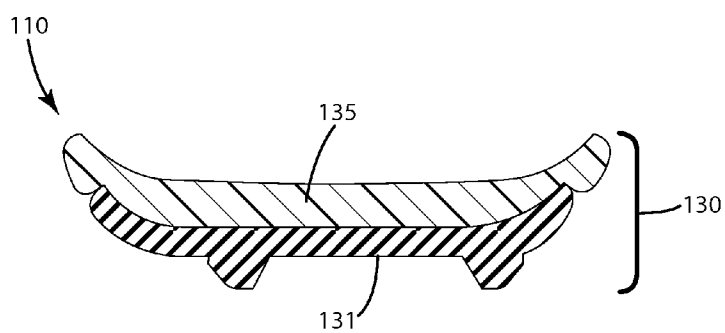


Fig. 20

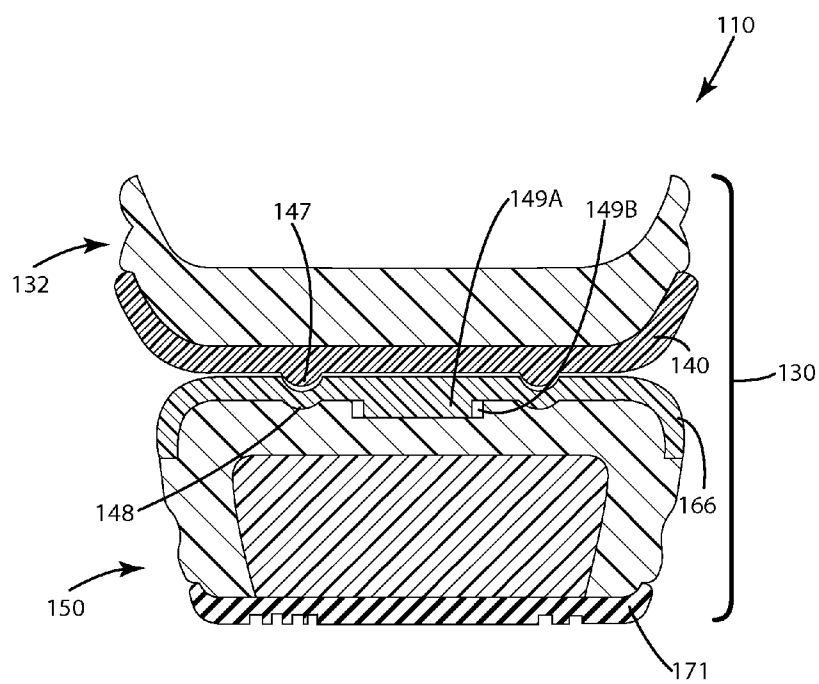


Fig. 21

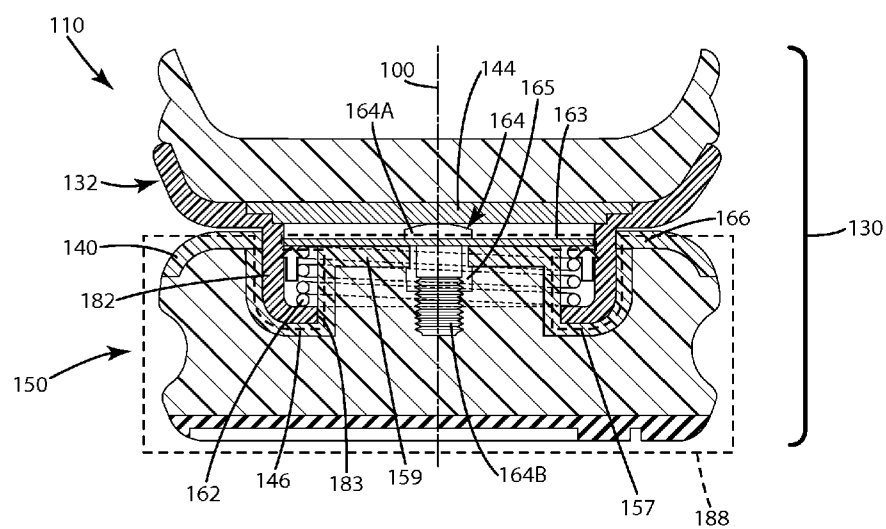


Fig. 22

ADJUSTABLE FOOTWEAR SOLE CONSTRUCTION AND RELATED METHODS OF USE

BACKGROUND OF THE INVENTION

[0001] The present invention relates to footwear, and more particularly, to a sole construction that is adjustable, and related methods of manufacture and use.

[0002] Recently emphasis has been placed on footwear that assists in better working the muscles of the wearer, improving the gait of the wearer and burning extra calories by wearing such footwear. Such footwear are generally designed to be worn while the wearer engages in a fitness activity, such as walking, running, or a sport.

[0003] Certain manufacturers have refined the soles of footwear to accomplish the above objectives. For example, some manufacturers offer a sole including a curved heel that provides a “rolling” effect, which trains a wearer’s body to maintain its natural balance by working the wearer’s leg muscles and core. This sole generally includes a wedge that is constructed from a soft, squishy material, and is positioned under the heel of a wearer in a fixed position that is adapted to engage the ground when the heel of the wearer strikes and continues to engage the ground. The lower surface of the wedge includes a large curved portion. With its resilient, compressible curved shape, the wedge apparently simulates uneven terrain typically found in nature, thereby creating a natural instability to which the wearer’s muscles respond with intuitive, small movements that compensate for the instability. In some cases, these movements can improve the muscular activity of the wearer’s calves, hamstrings, buttocks, lower back and abdominal muscles, and also can reduce stress on hip and knee joints.

[0004] While the above wedge shoes can train a wearer’s body to maintain its natural balance and can work various muscle groups harder, the shoes take time to become accustomed to, and may be unsuitable when a wearer desires more traditional footwear when traversing uneven terrain, or other terrain that is unsuitable for a easily compressible, low density and/or unstable curved heel. Sometimes, in addition to the aforementioned wedge shoes, a wearer may need to carry a pair of “normal” shoes, that is, a pair of shoes that has a better or more rigid sole, to wear after their fitness activity has ended and the wearer no longer needs or wants to wear the somewhat unstable wedge shoes.

[0005] In an unrelated field, there has been a wholly separate trend to provide footwear having portions of the sole that rotate. For example, some cleated footwear include rotatable elements, located under the ball of a wearer’s foot, in the forefoot, that are configured to rotate and decrease stress on joints of the legs, such as the ankle and the knee. These rotatable elements include a return feature that automatically rotates the elements back to a default position.

[0006] Yet other footwear include heel elements that are selectively rotatable to replace worn out, beveled heel strike areas with new, identical beveled heel strike areas to ensure the wearer experiences a consistent heel strike when engaged in activity. These rotatable heel constructions typically include a set of pins that can be moved laterally away from the axis of rotation of the rotatable heel element to release it and allow it to be rotated so that one beveled heel strike can be replaced with another identical beveled heel strike area. While this construction provides a way to replace worn out portions of footwear, it can sometimes be difficult to operate

the pins. Moreover, the mechanism and other features that provide the cushioning within the heel element can be overly complicated, costly and time consuming to assemble.

[0007] Accordingly, there remains much room for improvement to provide a footwear construction that includes an adjustable heel that is comfortable, and that is readily interchangeable between a first mode, such as a fitness mode, and a second mode, such as a stability mode, so that the user can quickly and efficiently transition from a fitness activity to other activities where more stability is desired.

SUMMARY OF THE INVENTION

[0008] A footwear construction is provided including a sole having an adjustable heel element that is selectively positionable in different orientations to provide different performance characteristics of that heel element, and subsequently of the footwear.

[0009] In one embodiment, the adjustable heel element includes a first end and a second end, each having different performance contours adjacent the respective ends. These performance contours optionally can form respective parts of the ground contacting portions of the adjustable heel element.

[0010] In another embodiment, the first end can include a first performance contour in the form of a somewhat pronounced curvilinear or arc shape having a rather small radius. The second end can include a second performance contour in the form of a somewhat less pronounced, curvilinear or arc shape having a large radius. Optionally, the curvilinear or other shapes of the contours can include multiple compound curvilinear surfaces and/or flat surfaces.

[0011] In yet another embodiment, the first end can include a relatively soft, low durometer cushioning first material that compresses or collapses relatively easily when the first performance contour engages the ground. The second end can be constructed of the same softening material, but optionally can also or alternatively include a second material that is harder or has a greater durometer than the first material. The second material optionally can be in the form of a block or bumper that is positioned adjacent the extremities of the second end.

[0012] In still another embodiment, the adjustable heel element can be selectively configurable in one of multiple modes, such as a fitness mode or a stability mode. When the adjustable heel element is configured in the fitness mode, the first end is located rearward of the second end, with the first performance contour oriented so that it engages the ground upon heel strike in a wearer’s natural gait cycle. In the fitness mode, a user wearing the footwear experiences a degree of instability and/or impaired movement as the foot begins and/or transitions through the gait cycle, which the user can overcome or compensate with increased muscle recruitment. In turn, this increased muscle recruitment can tone the recruited muscles, which otherwise might not have been used during the cycle, or simply might have been used to a lesser degree.

[0013] In still yet another embodiment, when the adjustable heel element is configured in the stability mode, the second end is located rearward of the first end, with the second performance contour generally oriented so that it engages the ground upon heel strike in the natural gait cycle of the wearer. In the stability mode, the second end and second performance contour can provide the user with a feeling of stability, much like a “normal” shoe, particularly upon initial heel strike at the beginning of the gait cycle. This increased stability can make the user feel more confident in their footing, so that they react and use muscles more like they would with a normal shoe.

[0014] In a further embodiment, the adjustable heel element includes an adjustment assembly. The adjustment assembly can include an actuator and one or more flexible tabs that join the heel adjustment element with the remainder of the sole or footwear. The actuator can be actuated to enable a user to reorient the first and second ends (or other portions if included) of the adjustable heel element. Optionally, the actuator can be removed from registration with a portion of the heel element so that the adjustable heel element can be rotated and converted from a fitness mode to a stability mode or vice versa.

[0015] In yet a further embodiment, the adjustable heel element can be joined with a generally rigid support element that is joined with the remainder of the sole. The support element can extend from the heel toward the arch of the footwear.

[0016] In still a further embodiment, the adjustable heel element and the support element can include or be joined with locking elements. These locking elements can be configured to interlock with one another when the adjustable heel element is in at least one of different modes, for example, a fitness mode and a stability mode. The locking elements can provide additional securement to prevent or impair inadvertent reorientation, such as rotation, of the adjustable heel element while the footwear is in use.

[0017] In still yet a further embodiment, the adjustable heel element can include a support element and a different adjustment assembly including a biasing element that urges the remainder of the adjustable heel element toward the sole. The biasing element can be in the form of a spring, for example a coil spring, that is compressed under force between an attachment plate and a wall or the rim support element. A fastener can extend from the attachment plate to another portion of the adjustable heel element, for example an anchor element. The spring can push the attachment plate away from the wall, which in turn draws the anchor element toward the remainder of the sole. Because the anchor element attaches to the fastener and the remainder of the adjustable heel element, the remainder of the adjustable heel element also is drawn toward the remainder of the sole element and/or the support element to provide additional securement and to prevent or impair reorientation of the heel element.

[0018] The footwear described herein provides a simple and efficient mechanism that enables a wearer to convert the footwear between different modes having different performance characteristics depending on the wearer's preferences. For example, rotation of the adjustable heel element can permit a sole to be converted from a fitness mode when a wearer desires to engage in a particular fitness activity or otherwise tone their muscles, to a stability mode when a wearer desires more stable performance from the footwear, or simply is finished with the fitness activity. Because the adjustable heel element can be adjusted by varying its orientation, the wearer need not carry around two or more pairs of shoes should the wearer desire to engage in a variety of activities.

[0019] These and other objects, advantages and features of the invention will be more readily understood and appreciated by reference to the detailed description of the embodiments and the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] FIG. 1 is a side view of footwear of a current embodiment in a first mode;

[0021] FIG. 2 is a bottom view of the footwear being actuated to adjust the footwear from the first mode to a second mode;

[0022] FIG. 3 is another side view of the footwear in the second mode;

[0023] FIG. 4 is an exploded view of a sole and a heel adjustment element of the footwear;

[0024] FIG. 5 is a sectional view of the sole taken along line 5-5 in FIG. 1;

[0025] FIG. 6 is a second section view of the sole taken along line 6-6 of FIG. 3;

[0026] FIG. 7 is a bottom view of the sole;

[0027] FIG. 8 is a section view of the sole taken along line 8-8 of FIG. 5;

[0028] FIG. 9 is a rear view of the footwear;

[0029] FIG. 10 is a section view of the sole taken along line 10-10 of FIG. 5;

[0030] FIG. 11 is a section view of the sole taken along line 11-11 of FIG. 5;

[0031] FIG. 12 is a section view of the sole taken along line 12-12 of FIG. 5;

[0032] FIG. 13 is a section view of the sole taken along line 13-13 of FIG. 5;

[0033] FIG. 14 is an exploded view of a sole of a first alternative embodiment of the footwear;

[0034] FIG. 15 is a section view of the sole of the first alternative embodiment in a first mode;

[0035] FIG. 16 is a section view of the sole of the first alternative embodiment in a second mode;

[0036] FIG. 17 is a bottom view of the sole of the first alternative embodiment;

[0037] FIG. 18 is a perspective view of a heel adjustment module of the first alternative embodiment being adjusted;

[0038] FIG. 19 is a bottom view of the sole of the first alternative embodiment;

[0039] FIG. 20 is a section view of the footwear of the first alternative embodiment taken along line 20-20 in FIG. 17;

[0040] FIG. 21 is a section view of the footwear of the first alternative embodiment taken along line 21-21 in FIG. 17; and

[0041] FIG. 22 is a section view of the footwear of the first alternative embodiment taken along line 22-22 of FIG. 17.

DETAILED DESCRIPTION OF THE CURRENT EMBODIMENTS

I. Overview

[0042] A current embodiment of fitness footwear or shoe is shown in FIGS. 1-13 and generally designated 10. The fitness footwear can include an upper 20 joined with a sole 30 which can include an outsole 31 and a midsole 35. The sole 30 can include an adjustable heel module or element 50 located in the heel and/or arch region of the footwear 10. The adjustable heel element 50 can include an adjustment assembly 60 that joins the adjustable heel element 50 with the primary portion 32 of the sole 30. The adjustable heel element 50 can include a first end 51 and a second end 52. The first end 51 can include a first performance contour on its lower portion, for example, the performance contour can be a relatively notable and a first curve 91 or angled portion such that the thickness toward the first end diminishes rather rapidly. The first performance contour can provide a gentle rolling or rocking motion upon heel strike when the first end 51 is oriented rearwardly relative to the footwear 10.

[0043] The second end 52 can be more squared-off or angular toward its extremity, and can include a second performance contour. As shown in FIG. 5, the second performance contour can be a different curve 92 (or even a flat surface) adjacent the squared-off extremity of the second end 52. The squared-off extremity can transition to the second curve 92 and also can include a small curvilinear portion. The second end 52 can generally impart a more rigid, and well defined heel strike to the wearer in the wearer's gait cycle as the wearer walks with the footwear.

[0044] The footwear can also include an adjustment assembly 60 that secures the adjustable heel element to the sole 30. The assembly can enable a wearer to rotate the adjustable heel element 50 about the axis of rotation 100, end-for-end, so that the first end can be replaced with the second end and vice versa, depending on the desired performance characteristic of the footwear.

[0045] For purposes of disclosure, the embodiments herein are described in connection with a fitness footwear. As will be appreciated, the embodiments also are well suited for any other type of footwear including other athletic footwear, sandals, casual footwear, work footwear, outdoor footwear, walking footwear and multi-sport footwear. Further, as used herein, the term "arch region" (or arch portion) refers generally to the portion of the footwear corresponding to the arch of the wearer's foot; the term "forefoot region" (or forefoot portion) refers generally to the portion of the footwear forward of the arch region corresponding to the forefoot (e.g., including the ball and the toes) of a wearer's foot; and the term "heel region" (or heel portion) refers generally to that portion of the footwear rearward of the arch region corresponding to the heel of the wearer's foot. The forefoot region 81, arch region 82 and heel region 83 are generally identified in FIG. 1, however, it is to be understood that delineation of these regions may vary depending upon the configuration of the footwear.

II. Structure

[0046] The components of the fitness footwear 10 will now be described in more detail. As shown in FIG. 1, the upper 20 can include a vamp 22, quarters 24 and a back stay 26. Optionally, a removable footbed (not shown) can be positioned in the upper as desired. The upper 20 can include a lower portion that transitions to an allowance that is folded generally inward toward the center of the footwear. The allowance can be fastened to a sole board (not shown) or Strobel stitched to an insole and/or a fabric sock liner (not shown).

[0047] The upper can be joined with a sole 30. As illustrated in FIGS. 5 and 6, the sole 30 can include a primary portion 32 which extends generally through the forefoot, arch and heel regions 81, 82, 83. In the heel region, the sole 30 can include a heel adjustment element or module 50, which will be described in more detail below. The sole 30 can also include a midsole 35 which can be constructed from a cushioning material, such as ethyl vinyl acetate (EVA) or other suitable cushioning materials. This midsole can be covered by an outsole 31, and in particular can be covered by an outsole first portion 37 (FIG. 2) in the forefoot 81 and/or arch 82 regions. The outsole first portion 35 can terminate short of the adjustable heel element 50. The outsole 31 and its portions can be manufactured from a relatively hard rubber or other sufficiently durable or wear-resistant material. The bottom of the outsole 31 can include an outer surface 36 that forms the

wearing surface of the outsole 31 and can be contoured to a desired pattern. The outer surface 36 can be textured to provide traction from the heel to the forefoot if desired, or it can be compartmentalized to include specific tread patterns in certain regions of the foot. For example, as shown in FIG. 2, the outsole 31 can include a first traction pod 34 that is generally disposed under the toes of the wearer wearing the footwear 10. It can also include a second traction pod 33 that is generally disposed under the ball of the foot of the wearer wearing the footwear 10. Of course these different types of pods can be replaced with other conventional tread or lug patterns, depending on the application.

[0048] As shown in FIGS. 4-6, the sole primary portion 32 can also be joined with a support element 40. The support element 40 can extend within the heel region 83 of the footwear 10, and optionally into the arch 82 and forefoot regions 82 and 83. The support element 40 can be constructed from a relatively hard, rigid and generally non-deflectable material such as a thermoplastic polyurethane, a composite, a carbon fiber material, a nylon or other polymeric material, metal, or combinations of the foregoing. The support element 40 can generally extend across the width of the bottom of the footwear 10 from the lateral side to the medial side, and it can extend rearward from the rearward most portion of the heel region 83 forwardly into the arch region 82, and optionally into the forefoot region 81 in certain applications. The support element 40 can be sufficiently rigid to provide a platform to which the adjustable heel element 50 can be sturdily and consistently mounted and reoriented relative thereto.

[0049] Optionally, as shown in FIG. 7, the support element can include reinforcing ridges 94, grids, or other structures to increase the rigidity of the support element, for example in the arch region. Of course, this increased rigidity can alternatively or additionally be provided by adding a shank (not shown), or by increasing the thickness of the support element 40 in the arch region where bulkiness or thickness of the shoe does not detract from its aesthetics.

[0050] The support element 40 can include an actuator 42 that extends adjacent a recess 43 further defined by the support plate 40. The actuator 42 can include a hinge or folding portion 44 about which the remainder of the actuator 42, which as shown is in the form of a tab, can move. As shown in FIG. 5, the actuator 42 can be manually depressed by a user, without the use of tools, from the configuration shown in solid lines to the configuration shown in phantom lines where the latter configuration allows the adjustable heel element to be rotated. The actuator can be fully depressed to allow rotation of the adjustable heel with optionally about 1 to about 20 pounds, further optionally about 3 to about 10 pounds, and even further optionally about 5 pounds of force applied by a user. Optionally, although not shown, the opposing edges 42A and 42B can be connected to the support element 40. The connection of the edges can add rigidity to the tab and can prevent inadvertent movement.

[0051] Further optionally, as shown primarily in the embodiment in FIGS. 5-7, the end 42C opposite the hinge 44 can be attached to and project upwardly toward and join with the support element 40 via an end connector 42D. This configuration can add rigidity to the tab so that the end 42C does not move substantially when subjected to rotational forces imparted through the heel element 50 and the recesses 55 and 56. Even further optionally, the tab can include a fastener (not shown) joined between it and the support element to establish

and fix the distance between the tab and the support element **40** so that it generally does not move unless actuated by the user.

[0052] Where the end **42C** is connected to the support element **40** via an end connector **42D** as shown in FIG. 5, the sole primary portion **32** can include material (not shown) that extends and optionally engages the underside **42E** of the actuator **42**. With such a construction, the recess **43** under the actuator **42** can be filled or at least partially filled with the material from which the sole primary portion is constructed or other material if desired. Where the sole primary portion **32** is constructed from polyurethane or some other soft material, the material adjacent the actuator can generally be easily compressed when the actuator is depressed manually by a user. Accordingly, it will not prevent the actuator from being depressed to disengage the adjustable heel element and facilitate rotation of the heel element.

[0053] If desired, however, the material under the actuator **42** can be profiled or otherwise configured to provide additional resistance to the depression of the actuator by a user. For example, the material can be trimmed, ground or otherwise formed so that it is positioned immediately adjacent or joined with the underside **42E** of the actuator, or more densely formed there. With this construction, a user will generally apply more force, for example, about 2 pounds to about 8 pounds of additional force to actuate the actuator so that the adjustable heel element can be rotated. Where less force or no additional force is desired for actuation of the actuator, the material can be scuffed, cut or ground down so that the recess **43** is formed adjacent the underside **42E** of the actuator, with that material generally not interfering with the depression of the actuator.

[0054] The actuator can be configured to register within and engage portions of a first recess **55** located in the first end **51**, as well as a second recess **56** located in the second end **52** of the adjustable heel element **50**. When the actuator **42** is registered within the respective recesses **55** or **56**, it can operate to prevent movement or rotation of the heel adjustment module **50** about the axis **100**. Alternatively, the actuator **42** can interfit with some tolerance between it and the respective recesses when registered therein. In such a configuration, the adjustable heel element **50** and/or support plate **40** or other components of the footwear can be outfitted with additional locking elements to prevent or impair the adjustable heel element **50** from rotating about the axis **100**.

[0055] As shown in FIG. 11, the support plate **40** and/or the outsole **31** can include ribs or other contours **45** that extend downwardly adjacent the actuator **42**. The ribs **45** can extend a distance from the support plate that is greater than the distance the locking tab **42** extends from the plate. These ribs **45** can prevent inadvertent depression of the actuator into the recess **43**, which could possibly cause inadvertent rotation or movement of the adjustable heel element **50** relative to the sole **30**. Of course, other locking mechanisms may be used in conjunction with the actuator **42** to prevent its depression or actuation. For example, another part of the support plate **40** could be temporarily lodged behind the tab **42** to prevent its inadvertent depression. As another example, the adjustable heel element **50** might include a pin (not shown) that registers with the actuator **42** to lock it in place in the respective recesses **55**, **56**. Other constructions are contemplated to keep the actuator from moving and can be implemented as desired.

[0056] As shown in FIGS. 4-7, the adjustable heel element **50** can be joined with the support plate **40** via flexible tabs **62**.

These tabs **62** can be in the form of multiple independent tabs as shown in FIG. 4, or can be in the form of a single, continuous annular ring that extends around the axis of rotation **100**. Generally, the tabs can be configured in the form of an annular shape to provide unimpeded rotation of the adjustable heel element **50** about the axis. Each of the tabs **62** include heads **64** distal from the support plate **40**. The heads **64** can project outwardly away from the axis **100** of rotation. The heads **64** can be of sufficient dimension and depth to sufficiently engage the upper plate **66** of the adjustable heel element **50** as shown in FIGS. 5 and 13. The head **64** can also include a tapered or curved installation engagement surface **63** that can assist in urging the respective tabs to flex or move during an installation operation. For example, as shown in FIG. 4, when the heel adjustment element **50** is joined with the support plate **40**, the tabs **62** are initially positioned adjacent the aperture **67** defined by the upper plate **66** of the adjustable heel element **50**. The installation engagement surfaces **63** of the tabs engage the inner most boundary or rim of that aperture **67**. With further force exerted on the adjustable heel element **50**, bringing it toward the support plate **40**, the installation engagement surfaces **63** urge the tabs toward the axis **100**. The tabs flex or bend toward the axis **100** until the installation engagement surface **63** clears the depth or large dimension or thickness of the plate **66**, at which point the tabs can snap outward, away from the axis **100**, so that the head **64** sufficiently engages the rim about the hole **67** of the upper plate **66** of the adjustable heel element. The inner rim of the aperture may be of a uniform cross section, or it may be rounded or angled to facilitate entry and guiding of the tabs into the aperture, generally decreasing the amount of force required to install the tabs in the aperture.

[0057] Optionally, after the heads **64**/tabs **62** snap into place and engage the rim, the adjustable heel element **50** is permanently secured to the support plate **40**, and cannot be removed therefrom without at least partially destroying one or more components of the footwear **10**. Further, with the construction of the flexible tabs **62** and their interaction with the rim about the aperture **67** defined in the upper plate **66**, after initial assembly and joining of these elements, the head **64** effectively locks in place and engages the upper plate **66**. Accordingly, the adjustable heel element **50** is no longer detachable or removable from the support plate **40**. This added feature can prevent consumers from tampering with the adjustment assembly **60** and inadvertently altering it to make the footwear less safe.

[0058] Of course, if, in a particular application, it is suitable to have the adjustable heel element **50** removable or detachable from the support plate **40** and footwear **10**, the flexible tabs **62** can be outfitted with a mechanism that engages the heads **64** or other portions of the tabs **62** to pull and/or flex them inwardly so that they can be removed from the hole **67** defined by the upper plate **66**, and thereby detach the adjustable heel element **50** from the support plate. Where other assemblies are used to attach the heel element to the support plate, those other assemblies optionally can include mechanisms to allow the heel element to be detached from the remainder of the shoe if appropriate for the application.

[0059] Further optionally, although the aperture **67** is shown associated with the upper plate **66**, or generally the adjustable heel element **50**, and the tabs are shown associated with the support element **40**, these features can be reversed, with the tabs associated with the upper plate and heel element, and the aperture defined by the support element.

[0060] The tabs 62 can be made flexible by varying their thickness, or by selecting an appropriate material from which they are made. Generally they are configured to flex at their base or at a location distant from the support element 40. After flexing or bending, the tabs 62 can regain their original downwardly extending configuration.

[0061] As shown in FIGS. 4, 6, 7 and 12, the support plate 40 and the adjustable heel element 50 can include corresponding interlocking lugs 47 and recesses or holes 48 which receive the lugs. The cooperation of these elements, also referred to as locking elements, can further impair or prevent rotation of the adjustable heel element 50 about the axis 100. The number of locking elements, the depth and height of the recesses and lugs, and the general location of these elements can vary depending on the application. Further, the lugs and recesses can be included on either the support element 40 or the adjustable heel element 50. As shown in FIG. 7, additional locking elements in the form of locking posts 49A that engage corresponding apertures 49B can be included in the construction, joined with the support plate 49 and adjustable heel element 50. Of course, these locking elements, that is, the posts and corresponding holes, can be reversed on the respective support plate 40 and heel element 50 as well. Optionally, other locking mechanisms also can be used in connection with the adjustable heel element 50 to prevent it from rotating as desired.

[0062] Further optionally, the surfaces of the respective locking elements, for example the lugs 47, the recesses 48, the posts 49A and post holes 49B can project outwardly from the respective surfaces so that they can both prevent unintended movement or rotation of the adjustable heel element 50 about the axis 100, but do not prevent rotation of the adjustable heel element 50 when subjected to a rotating force intentionally presented by a user also depressing or moving the actuator 42 in an effort to rotate the adjustment element. The precise heights and dimensions of the locking elements can be adjusted depending on the desired level of ease in rotating the heel element, or the expected level of twisting action to be exerted on the heel during an intended activity of the wearer.

[0063] The adjustable heel element 50 can also include a trough element 57 that generally defines a groove 58 into which the flexible tabs 62 extend when the adjustable heel element 50 is joined with the primary portion 32 of the sole 30. The trough element 57 can extend annularly about a portion or all of the axis of rotation 100. Likewise, the groove 58 can extend around a portion or all of the axis 100. The groove 58 can be of a depth sufficient to accommodate the respective heads 64 of the tabs and provide clearance for the installation engagement surfaces 63 while the adjustable heel element 50 is rotated about the axis 100.

[0064] The groove or internal space 58 defined by the trough element 57 generally can be unsealed, so that air can flow freely therefrom to the environment. Accordingly, if water or other debris becomes located in the space, it can be removed by washing the footwear with water which flushes out the space and the corresponding debris.

[0065] As shown in FIGS. 5 and 13, the trough element 57 can include an upwardly extending center portion 59 that generally extends upwardly from the lower most portion of the trough element 57. This central portion 59 can be in the same shape as the trough and/or configuration of the flexible tabs 62. Generally, it is configured so that it does not interfere with the rotation of the adjustable heel element 50 about the rotation axis 100, and in particular, does not interfere with

movement of the flexible tabs 62 as they rotate and move about the axis 100. Of course, in certain applications, it could be modified to provide some interference with the tabs or other elements to impair or prevent rotation if desired.

[0066] As mentioned above, the adjustable heel element 50 can include an upper plate 66. This upper plate 66 can be constructed from the same materials as the support plate 40 or different materials. If desired, the upper plate 66 can transition toward the second end 52 and can include a downwardly extending wall 71 that covers a rearward portion of the adjustable heel element at the second end 52. The upper plate 66 can be integrally or otherwise joined with the trough element 57. Alternatively, the trough element 57 can be locked in place with a physical or mechanical interlock to the bottom of a upper plate 66. The upper plate 66 also can define the respective actuator recesses 55 and 56 with which the actuator 42 registers.

[0067] As shown in FIG. 5, the upper plate 66 can include a downwardly extending wall 71 at the second end 52. This wall 71 can terminate adjacent an outsole cover 74 joined with the adjustable heel element 50. Optionally, the wall 71 can provide additional rigidity to the second end 52 of the heel element 50.

[0068] Although not shown, the adjustable heel element 50 may optionally be secured to the support plate 40 by a fastener. The fastener may be used to supplement the flexible tabs 62 and provide further resistance to separation of the adjustable heel element 50 from the support plate 40. The fastener may be positioned concentric with the axis of rotation of the adjustable heel element 50 so that the adjustable heel element 50 may be rotated about the fastener or the adjustable heel element 50 and the fastener may rotate together with respect to the support plate 40. The fastener may be essentially any structure capable of rotatably interconnecting the adjustable heel element 50 with the support plate 40, such as a rivet, screw or bolt/nut combination. The fastener may extend between any two components with sufficient structural strength. For example, with the embodiment of FIG. 1, the fastener may extend from the support plate 40 to the center portion 59 of the trough element 57. The fastener may be separate component(s) (e.g. a separate bolt and nut) or it may be partially or fully integrated into the existing components. For example, in those embodiments in which the fastener is a bolt/nut combination, a threaded shaft may be integrated into one of the support plate 40 and the trough element 57 and/or an internally threaded screw boss may be integrated into one of the support plate 40 and the trough element 57.

[0069] With reference to FIGS. 5, 6, 12 and 13, the adjustable heel element 50 can include a first material 75 that can provide cushioning to the heel of a wearer. The first material can be polyurethane or any other suitable polymers. Optionally, the first material 75 can be of a first hardness, for example, a first durometer in the range of optionally 35 to 40 on the Asker C Scale, further optionally 45 to 50 on the Asker C Scale. In general, this first material could be somewhat soft or of a low density, and provide a "squishy" or easily compressible effect when loaded that is translated to a wearer when the adjustable heel element 50 is in the configuration shown in FIG. 6. The first material 75 can extend from the first end partially or fully to the second end, generally filling the space between the upper plate 66 through element 57 and the outsole covering 74.

[0070] Optionally, a block or bumper 72 can be positioned within the second end 52 or elsewhere in the heel element 50. As shown, the bumper 72 generally includes front and rear vertical walls 77, 78. These vertical walls are generally fully encapsulated by the first material 75. The bumper 72 can be constructed from a second material that is harder than the first material. For example, the second material can be of a durometer of optionally about 60 to 65 on the Asker C Scale, further optionally about 65 to 70 on the Asker C Scale. The second material can be polyurethane or some other suitable polymer. Accordingly, the adjustable heel element can include cushioning constructed from first and second materials, where the first material has a different hardness or durometer than the second material. This can provide a differential effect upon heel strike and through at least an initial portion of the gait of the wearer, depending on which end 51, 52 of the adjustable heel element is most rearwardly positioned. Generally, due to the different hardness or durometer materials in different locations within the adjustable heel element 50, the adjustable heel element can compress near the first end 51 differently than the adjustable heel element compresses near the second end. For example, near the first end, the compression can be significant so that the first end provides a notable cushion effect. Near the second end, the compression of the heel element can be subdued and insignificant, for example, less than 1 to 10 mm, so that this end provides some cushion effect, but less than the first end.

[0071] The bumper 72 can be of a height so that when the adjustable heel element 50 is in the configuration shown in FIG. 5, upon initial heel strike, the bumper will prevent further compression of the second end 52 within its thickness. Accordingly, the user can experience a feeling of stability upon heel strike of the second end 52 with the ground. Of course, this is opposed to the wearer's experience when the adjustable heel element 50 is oriented as shown in FIG. 6. In this configuration, when the first end 51 initially strikes the ground, the feeling is a generally squishy, soft feeling as the user rotates the foot forwardly about the initial point of impact along the curvilinear contours.

[0072] Optionally, the wearer may experience a "bottoming" or feel the effect of the bumper or block solidifying the second end of the adjustable heel element as the wearer transitions through the gait cycle when the adjustable heel element is configured as shown in FIG. 6. In other cases, the wearer may simply transition over the block through their gait so rapidly that the weight of the wearer is transferred to the forefoot region 81 or ball of the foot, and the effect or presence of the bumper is never felt by the wearer.

[0073] As illustrated, the current embodiment of the footwear 10 generally is void of any substantial air pockets, sealed air chambers, or air cushions located within the adjustable heel element 50. In some cases, these types of air cushions can add somewhat too much instability to the performance of the adjustable heel element when the heel element is in the fitness mode. Of course, in certain applications, such air pockets, sealed air chambers, or air cushions optionally may be added to the adjustable heel element 50 to provide such desired additional instability, or simply where it is desired to make the adjustable heel element 50 lighter or more springy.

[0074] Referring to FIG. 1, the first end 51 and second end 52 can include lower surfaces, which can be covered by the outsole covering 74. The first end 51 can include a first performance contour which can be in the form of its lower most surface or ground engaging surface having a first curvilinear

shape. This curvilinear shape can be one or more portions of an arc or curve 91 having a first radius R1. The second end 52 can include an arc or curve 92 having a radius R2. The radius R1 can be less than the radius R2. Of course the radii of each of the curved portions 91 and 92 can vary, depending on the desired performance characteristic of the footwear. Moreover, the curvilinear portions 91 and 92 can include differently curved portions or regions. For example, the bottom surface of the adjustable heel element 50 can include multiple compound curvilinear portions that transition into one another from the first end 51 to the second end 52.

[0075] With the curves 91 and 92 in the first end 51 and second end 52, respectively, the adjustable heel element 50 includes a bottom surface that is continuously curved and void of any flat portions. Of course, as noted below, the bottom surface of the adjustable heel element 50 can be modified to include flat portions where desired.

[0076] If desired, the bottom of the adjustable heel element 50 can include a flat portion. For example, the curved portion 92 at the second end 52 could be replaced with or include a flat portion to even further provide a slightly different performance characteristic of that end of the adjustable heel element 50. This flat portion can transition in to the curvilinear portion 91 at a preselected location and interface. Other configurations for the performance contours can be readily substituted for those illustrated in the current embodiment.

III. Method of Assembly and Operation

[0077] A method of assembly and a method of operation of the footwear 10 will now be described with reference to FIGS. 1-6. In general, the upper 20 can be manufactured using conventional techniques and apparatus. For example, the desired upper material (not shown) can be cut to form the upper 20. The multiple elements of the upper, such as the vamp 22, quarters 24 and back stay 26 can be fitted and sewn or glued or otherwise fastened together. Optional waterproof membranes or liners can be secured within the upper via adhesives or stitching. The lower portion of the upper can be Strobel stitched or otherwise lasted or attached to an insole (not shown). The sole 30 can be directly attached, glued, fastened or otherwise joined with the lowermost portion of the upper and any insole that is included therewith. The various components of the outsole 31, midsole 35, support element 40 and adjustable heel element 50, including the features of the adjustment assembly 60, can be manufactured using injection molding, compression molding or other molding techniques to include the features described in connection with each of these elements above.

[0078] The midsole 35 can be joined with the outsole 31 via stitching, gluing, cementing or molding these components together. Likewise, the support element 40 can be joined with the midsole, and the remainder of the primary portion 32 of the sole 30. Optionally, the support element 40 can be integrally molded within the midsole 35 or portion of the outsole 31.

[0079] To assemble the adjustable heel element, the upper plate 66 can first be molded. The hole 67 can be defined in the plate 66. The trough element 57 can be brought into engagement with the upper plate so that the groove 58 defined by the trough element 57 can be aligned and centered on the hole. While these two components brought adjacent one another, the first material 75 can be injected or pour molded over these elements. In the same mold, the bumper or block 72 can be positioned so that the first material 75 encapsulates that

bumper or block 72 within the first material 75. The first material 75 can fill in the central portion 59 of the trough element 57 and can act to hold the trough element 57 into engagement with the upper plate 66. In the molding operation, the performance contours, for example the first curve 91 and second curve 92 can be formed. After the first material 75 is allowed to cure, the adjustable heel element 50 can be removed from the mold.

[0080] In another operation, the outsole covering 74 can be joined with the first material and/or bumper 72. Of course alternatively, the covering 74 can be included in the mold along with the other components and joined with the first material 75 in the molding operation. With the heel element assembled, it is readied for being joined with the primary portion 32 of the sole 30.

[0081] In particular, the hole 67 of the heel element can be aligned with the flexible extending tabs 62. The installation engagement surfaces 63 can be brought into engagement with the rim of that hole 67. With an amount of force ranging from 10 to 150 pounds, or other forces depending on the application, the adjustable heel element 50 can be pressed toward the support element 40. This action can cause the flexible tabs 62 to flex inwardly toward the axis or rotation 100 and effectively clear the inside of the rim of the hole 67. The installation engagement surface 63 facilitates this insertion of the flexible tabs 62 into the hole 67. After the heads 64 have cleared the thickness of the upper plate 66, the flexible tabs resiliently spring back so that the heads 64 lockingly engage that plate 66 and secure the adjustable heel element to the support plate 40 and the primary portion 32 of the sole 30.

[0082] Operation of the footwear of the current embodiment, and more particularly, the reorientation of the adjustable heel element 50 will now be described with respect to FIGS. 1-6. To rotate the adjustable heel element about the axis of rotation 100, and thereby change from one performance contour to another performance contour, depending on the terrain or desired stability of the wearer, the wearer can depress the actuator 42 as shown in FIG. 2. By depressing the actuator 42, that actuator disengages from the first actuator recess 55 as shown in FIG. 5, generally moving upward into a recess defined by the support plate 40. This action thereby removes the actuator from engagement with the adjustable heel element 50. The wearer then grasps the adjustable heel element and exerts a rotating force as shown by arrows 102 about the axis of rotation 100. The wearer also exerts a moment about the rotational axis 100 sufficient to overcome the locking action provided by the locking elements 47 and 48 as well as 49A, 49B. Optionally, the range of torque that can be supplied to overcome these locking features can range from optionally about 10 ft-lbs to about 150 ft-lbs, further optionally about 30 ft-lbs to about 75 ft-lbs, or other torques, depending on the application. The wearer then continues to rotate the adjustable heel element about the axis 100.

[0083] In the above operation, the user effectively can adjust the adjustable heel element 50 convert between first and second modes, for example a fitness mode and a stability mode. As an example, a wearer can transition from a first mode, such as a stability mode, shown in FIG. 5, where the second end 52 is positioned rearward of the first end 51, to a second mode, such as a fitness mode shown in FIG. 6, where the first end 51 is positioned rearward of the second end. Generally, in moving the respective ends in this manner, the second end 52 initially is positioned adjacent the rearwardmost portion 93 of the sole primary portion 32, but after a

rotation of the heel element 180 degrees, the first end 51 is positioned adjacent the rearwardmost portion 93 of the sole primary portion 32. The operation can be reversed to switch from the fitness mode back to the stability mode and vice versa again.

[0084] Optionally, the adjustable heel element 50 is rotatable in 180 degree increments about the axis 100 so that either the first end 51 or the second end 52 face the rear of the footwear and form the heel strike region of the sole. Of course, if desired, the adjustable heel element can be modified so that it is rotatable in other increments, for example 120 degree increments, in which case the ground contacting surface of the element could be modified to include corresponding performance contours for each increment of rotation. Further optionally, during rotation, the first and second ends of the heel element are swapped along a lengthwise axis of the footwear, which generally extends from the heel region through the forefoot region, so that these ends are substituted for one another during each respective rotation of the heel element.

[0085] Where the adjustable heel element only includes two opposing performance contours, the user can rotate the adjustable heel element about 180°. During this action, the user may pull downwardly on the adjustable heel element 50, away from the support element 40, to overcome friction caused by the lugs 47 moving across the upper plate 66. When the adjustable heel element 50 has obtained the position as shown in FIGS. 3 and 6, the actuator 42, which again remains in an upwardly extending position as shown in FIG. 5 during the rotation, will resiliently move into the other recess 56. Generally, the actuator will audibly snap into that recess which will indicate to the wearer that the adjustable heel element 50 has obtained its desired amount of rotation, and it is securely and fixedly positioned relative to the support element 50. Optionally, the entire adjustment of the heel element can be performed while the footwear is worn by the user.

[0086] After the adjustment, the wearer can don the footwear and experience the newly selected performance contour.

IV. First Alternative Embodiment

[0087] A first alternative embodiment of the footwear is illustrated in FIGS. 14-22 and generally designated 110. This footwear 110 and its corresponding sole 130 is similar to the embodiment described above with several exceptions. For example, the support element 140 and adjustment assembly 60 and certain components of the adjustable heel element 150 differ from the embodiment above.

[0088] As shown in FIGS. 14-16 and 22, the support plate 140 is configured to define a hole 141 within its upper surface 142 which generally faces the interior of the footwear 110 or upper. This hole can include a rim 143. Placed atop the rim and generally covering the hole is a support plate 144, which is generally configured in the same shape as the hole 141. The support plate can be generally rigid, inflexible and non-deflectable, and can cover the hole and make the upper surface 142 of the support plate 140 generally continuous and flat. The rigid plate 144 optionally can be glued, cemented or otherwise fastened down to the rim 143 or the support plate 140 so that it is not detachable after the footwear 110 is assembled as described below.

[0089] To further increase the rigidity of the support plate 144, it can be constructed from a slightly more dense or harder material. In one example, the support plate 140 can be constructed from a first TPU or other polymeric material as

described above, while the support plate **144** can be constructed from a second, more dense or higher durometer TPU or other material. The support plate **144** further can be constructed to prevent the fastener **164** from being felt by a wearer of the footwear when extreme forces are placed on the adjustable heel element **150**.

[0090] The support plate **140** can cover a biasing compartment **145** located below it in FIG. **16**. Within the biasing compartment **145**, a biasing element **162** can be located. The compartment **145** can be bounded by a downwardly extending wall **182**. This downwardly extending wall can be a continuous wall in a circular or cylindrical configuration so that the compartment **145** is of a generally cylindrical or circular configuration to accommodate the spring **162**. Of course, where the spring is not cylindrical, and is of another configuration, for example, the leaf spring or a coil spring that is generally rectangular, oval or of some other shape, the recess can be of a corresponding geometric shape. The compartment **145** and sidewall **182** can be of a corresponding geometric shape as well.

[0091] Returning to FIGS. **16** and **22**, the wall **182** extends downwardly from the support plate **140** a distance and transitions at its opposing end to an inwardly extending rim or flange **146**. This inwardly extending flange **146** terminates a distance from the rotational axis **100**, and generally forms a hole **183** within the bottom of the biasing element compartment **145**. The size of the hole **183** can vary, but can generally be configured to receive therewithin the central portion **159**, also referred to as an anchor element, of the adjustable heel element **150**. This central portion **159** can be further joined with or form a portion of the trough element **157**. The trough element **157** can generally extend upwardly from a position adjacent the lower rim **146** toward the upper plate **166** of the adjustable heel element **150**. Optionally, the downwardly extending wall **182** and lower rim **146** can be concentrically located within the trough element **157**, riding on, within or adjacent the trough element **157**. The tolerance between the trough element and the downwardly extending wall **145** and rim **146** can be tight to prevent any undesirable slop or movement between the support plate **140** and the adjustable heel element **150**.

[0092] The biasing element **162** can be positioned within the biasing element compartment **145** as illustrated in FIGS. **16** and **22**. The biasing element can be in a configuration of a coil spring, but as described above can be substituted for other types of biasing elements depending on the application. The biasing element **162** can be positioned within the biasing element compartment **145** so that it engages the lower rim **146** of the support element **140**. In general, almost all of the lower portion of the biasing element rests on the lower rim **146**. The biasing element also can be configured so that it is slightly larger than or at least the same size as the dimension of the hole **183** formed in the bottom of the biasing element compartment **145**.

[0093] Mounted atop the biasing element **162** can be a transmission member **163** which generally can be in the form of a plate which engages the uppermost coils. The plate **163** can be of the same geometric shape as the biasing element **162**, or can vary in geometric shape if desired. The plate **163** can be configured in the shape of a washer, with a central aperture **163A** through which the fastener **146** protrudes. The plate can include, be integral with, or be joined with a fastener **164**. In this construction, as shown in FIGS. **14** and **22**, the head **164A** can be positioned atop the plate **163** preventing it

from being drawn through the aperture. The shaft **164B** of the fastener **164** can extend downwardly from the plate **163**. This shaft **164** optionally can be threaded into a corresponding attachment element **165**, which generally is shown as a nut. This attachment element **165** can be further joined with the anchor element or central portion **159** of the adjustable heel element **150**. With this construction, the plate **163** is generally anchored in a fixed orientation relative to the central portion **159**.

[0094] Further illustrated in FIG. **22**, the biasing element or coil spring **162** can be located between the plate **163** and the rim **146**. The biasing element **162** is placed in this position under compression. Accordingly, the biasing element **162** engages both the plate **163** and the lower rim **146** and pushes these elements away from one another. In turn, this urges the plate **163** upward, or generally away from the rim **146**. This force can be transmitted to the anchor element **159**, the trough element **157** and the upper plate **166**. This urges the remainder of the adjustable heel element **150** upward toward the support plate **140**.

[0095] As shown in FIG. **22**, the components that are all attached to one another forming a unit **188** move upward under the force of the spring of a biasing element **162**. This, in turn causes the upper plate **166** to come into solid engagement with the bottom of the support element **140**. Additionally, the locking elements **147** and **148** seat firmly within one another to provide a locking force for the adjustable heel element **150** so that it is impaired or prevented from rotating about the axis **100**. In addition, this urging of the adjustable heel element **150** toward the support plate **140** further engages the additional locking tabs **149A** within locking recesses **149B** (FIGS. **19** and **21**) so that they register within one another and act to prevent or impair rotation of the adjustable heel element **150** about the axis of rotation **100**.

[0096] The biasing element **162** can be selected to be of a compressive force of optionally about 5 lbs to about 150 lbs, or some other suitable force depending on the application. These forces can be selected so that most wearers can manually grasp the adjustable heel element, pull downward on the heel element to further compress the biasing element, and slightly separate the adjustable heel element from the support plate **140**, thereby disengaging the locking elements **147**, **148** and **149A/149B** so that the wearer can subsequently rotate the adjustable heel element **150** about the axis **100**.

[0097] In operation, the user can adjust the adjustable heel element **150** to readily convert between one performance contour and another thereby switching between a first and second modes, for example a fitness mode and a stability mode. As an example, a wearer can transition from a first mode, such as a stability mode, shown in FIG. **15**, where the second end **152** is positioned rearward of the first end **151**, to a second mode, such as a fitness mode shown in FIG. **16**, where the first end **151** is positioned rearward of the second end. To do so, a user grasps the adjustable heel element **150**, and as shown in FIG. **18**, pulls downwardly on that element. The amount of force suitable to pull the adjustable heel element down can be dictated by the force stored in the biasing element **162**. After the user overcomes that force of the biasing element **162**, the upper plate **166** separates slightly from the support plate **140**. In turn, this reduces the registration and general engagement of the locking features **147** and **148** as well as the engagement and registration of a locking tabs and corresponding recesses **149A** and **149B**.

[0098] With the disengagement or de-registration of these elements, a user can then supply a moment and rotate the adjustable heel element about the axis 100. The user can continue rotation until the second end 152 is swapped for the first end 151, and the first end 151 is positioned to face the rear of the footwear generally forming the heel strike area of the footwear. After the rotation has been completed, the user can discontinue application of the force to overcome the compression spring. Accordingly, the compression spring force will then urge the plate 163 upward within the biasing element compartment 145 thereby pulling along with it the central portion and the upper plate 166 and the remainder of the adjustable heel element 150. This in turn, will reengage the locking elements 147 and 148 with one another as well as the locking tabs and recesses 149A and 149B with one another. Accordingly, the adjustable heel element will be satisfactorily repositioned in the configuration shown in FIG. 16.

[0099] When in this position or that shown in FIG. 15, it is noted that the force exerted by a wearer downwardly through the sole 30 and the adjustable heel element 150 urges the support plate 140 and adjustable heel element 150 toward one another. In turn, the locking elements 147 and 148 as well as the locking tabs and recesses 149A and 149B are also maintained or further urged in a registration with one another. This can provide additional locking between the features that resists rotation of the adjustable heel element 150 relative to the support element 140 and the remainder of the sole 130.

[0100] The above descriptions are those of the preferred embodiments of the invention. Various alterations and changes can be made without departing from the spirit and broader aspects of the invention as defined in the appended claims, which are to be interpreted in accordance with the principles of patent law including the doctrine of equivalents. Any references to claim elements in the singular, for example, using the articles “a,” “an,” “the,” or “said,” is not to be construed as limiting the element to the singular. Any reference to claim elements as “at least one of X, Y and Z” is meant to include any one of X, Y or Z individually, and any combination of X, Y and Z, for example, X, Y, Z; X, Y; X, Z; and Y, Z.

1. A footwear construction including a forefoot region, an arch region and a heel region, the footwear construction comprising:

- an upper;
 - a sole primary portion joined with the upper, the sole primary portion including a rearwardmost portion;
 - a support element joined with the sole primary portion in the heel region;
 - an adjustable heel element joined with the support element in the heel region, the adjustable heel element defining an axis of rotation, a first end and a second end located on opposite ends of the adjustable heel element, the adjustable heel element including a ground contacting surface having a first performance contour proximal the first end and a second performance contour proximal the second end, the first performance contour being different from the second performance contour; and
 - a locking element adapted to selectively engage the adjustable heel element;
- wherein the adjustable heel element is selectively rotatable about an axis 180 degrees, with the adjustable heel element remaining attached to the support element during rotation, to configure the adjustable heel element in either a fitness mode or a stability mode,

wherein in the fitness mode, the first performance contour is positioned rearward of the second performance contour and proximal the rearwardmost portion of the sole primary portion, whereby the first performance contour is positioned to provide at least one of a rolling motion and rocking motion when the heel region engages a walking surface in a wearer's natural gait cycle,

wherein in the stability mode, the second performance contour is positioned rearward of the first performance contour and proximal the rearwardmost portion of the sole primary portion, whereby the second performance contour is positioned to provide a stable engagement when the heel region engages the walking surface in a wearer's natural gait cycle,

wherein the locking element selectively engages the adjustable heel element when the adjustable heel element is in at least one of the fitness mode and the stability mode to prevent the adjustable heel element from rotating about the axis in use.

2. The footwear construction of claim 1 wherein the adjustable heel element includes a first material of a first durometer and a second material of a second durometer different from the first durometer, whereby the adjustable heel element compresses near the first end differently than the adjustable heel element compresses near the second end.

3. The footwear construction of claim 2 wherein the first durometer is 35 to 50 on an Asker C Scale, and wherein the second durometer is 60 to 70 on the Asker C Scale, whereby the first material offers more cushion effect than the second material to a wearer's heel within the footwear when the heel region engages the walking surface in a wearer's natural gait cycle.

4. The footwear construction of claim 3 comprising an actuator joined with at least one of the sole primary portion and the support element, the actuator being manually depressible without the use of tools, wherein the actuator is adapted to disengage the adjustable heel element when the actuator is depressed to enable the adjustable heel element to rotate about the axis of rotation.

5. The footwear construction of claim 4 wherein the adjustable heel element includes a first recess proximal the first end and a second recess proximal the second end, wherein the actuator is selectively registerable in the first recess or the second recess.

6. The footwear construction of claim 5 wherein one of the support element and the adjustable heel element defines an aperture, wherein the other of the support element and the adjustable heel element includes a plurality of flexible tabs including heads, wherein the flexible tabs are at least partially inserted in the aperture, wherein the heads lockingly engage a rim around the aperture to prevent the adjustable heel element from being manually removed from the support element.

7. The footwear construction of claim 1 comprising a biasing element joined with at least one of the support element and the adjustable heel element, the biasing element urging the adjustable heel element toward the support element.

8. The footwear construction of claim 1 wherein the first performance contour proximal the first end includes a first curvilinear ground contacting surface, and wherein the second performance characteristic proximal the second end includes a second curvilinear ground contacting surface, the first curvilinear ground contacting surface being different from the second curvilinear ground contacting surface.

9. A footwear construction including a forefoot region, an arch region and a heel region, the footwear construction comprising:

- an upper;
- a sole including an adjustable heel element positioned in the heel region, the adjustable heel element defining an axis of rotation, a first end and a second end located on opposite ends of the adjustable heel element, the adjustable heel element including a ground contacting surface having a first performance contour proximal the first end and a second performance contour proximal the second end, the first performance contour being different from the second performance contour, the adjustable heel element being selectively rotatable about an axis in 180 degree increments, with the adjustable heel element remaining attached to the sole during rotation, to configure the adjustable heel element in either a fitness mode or a stability mode; and
- an actuator joined with the sole, the actuator being manually moveable without the use of tools, wherein the actuator is adapted to disengage the adjustable heel element when the actuator is moved to enable the adjustable heel element to rotate about the axis of rotation, the actuator further adapted to engage the adjustable heel element to prevent the adjustable heel element from rotating when the adjustable heel element is in at least one of the fitness mode and the stability mode,
- wherein in the fitness mode, the first performance contour is positioned rearward of the second performance contour, wherein the first performance contour includes a first curvilinear ground contacting bottom surface, whereby the first performance contour is positioned to provide at least one of a rolling motion and rocking motion when the heel region engages a walking surface in a wearer's natural gait cycle,
- wherein in the stability mode, the second performance contour is positioned rearward of the first performance contour, whereby the second performance contour is positioned to provide a stable engagement when the heel region engages the walking surface in a wearer's natural gait cycle.

10. The footwear construction of claim 9 comprising a locking element, wherein the locking element selectively engages the adjustable heel element when the adjustable heel element is in at least one of the fitness mode and the stability mode to prevent the adjustable heel element from rotating about the axis.

11. The footwear construction of claim 9 wherein the adjustable heel element includes a first material, a second material of a different durometer from the first material, and an upper plate constructed from a third material different from the first and second materials.

12. The footwear construction of claim 9 wherein the actuator is in the form of a tab that is manually depressible, the tab being selectively located in a recess defined by the adjustable heel element to lock the adjustable heel element in the fitness mode.

13. The footwear construction of claim 9 comprising a bumper located at least partially in a cushioning material located in the adjustable heel element.

14. The footwear construction of claim 9 comprising a coil spring urging the adjustable heel element toward the sole

15. The footwear construction of claim 14 wherein the sole and adjustable heel element include corresponding locking

elements, wherein the coil spring is adapted to hold the corresponding locking elements in registration with one another.

16. The footwear construction of claim 9 comprising a plurality of tabs joined with one of the adjustable heel element and the sole, and an aperture defined by the other of the adjustable heel element and the sole, wherein the flexible tabs are at least partially inserted in the aperture and prevent the adjustable heel element from being manually removed from the sole.

17. A method of using footwear including a forefoot region, an arch region and a heel region, the method comprising:

- providing footwear including a sole and an adjustable heel element positioned in the heel region, the adjustable heel element defining an axis of rotation, a first end and a second end located on opposite ends of the adjustable heel element, the adjustable heel element including a ground contacting surface having a first performance contour proximal the first end and a second performance contour proximal the second end, the first performance contour being different from the second performance contour, the adjustable heel element being configured in a stability mode so that the second performance contour is positioned rearward of the first performance contour, whereby the second performance contour is positioned to provide a stable engagement when the heel region engages the walking surface in a wearer's natural gait cycle;

- moving an actuator without the use of tools so that the actuator disengages the adjustable heel element;

- exerting a moment about the axis of rotation to overcome a locking action provided by a locking element joined with at least one of the adjustable heel element and the sole;

- selectively rotating the adjustable heel element about the axis 180 degrees with the adjustable heel element remaining attached to the sole during said rotation to reconfigure the adjustable heel element from the stability mode to a fitness mode so that the first performance contour is positioned rearward of the second performance contour, wherein the first performance contour includes a first curvilinear ground contacting bottom surface, whereby the first performance contour is positioned to provide at least one of a rolling motion and rocking motion when the heel region engages a walking surface in a wearer's natural gait cycle.

18. The method of claim 17 wherein the adjustable heel element defines a recess, wherein the actuator is a tab, wherein the moving step includes removing the tab from the recess.

19. The method of claim 17 wherein a plurality of tabs are joined with one of the adjustable heel element and the sole, and an aperture is defined by the other of the adjustable heel element and the sole, wherein the flexible tabs are at least partially inserted in the aperture and prevent the adjustable heel element from being removed from the sole during said rotating step.

20. The method of claim 17 wherein the adjustable heel element includes a bumper, wherein the bumper is transitioned from a location rearward of the axis of rotation to a location forward of the axis of rotation during said rotating step.