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(54) **SPORTS SHOE SOLE WITH FUNCTIONAL TOPOGRAPHY**

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(57) **ABSTRACT**

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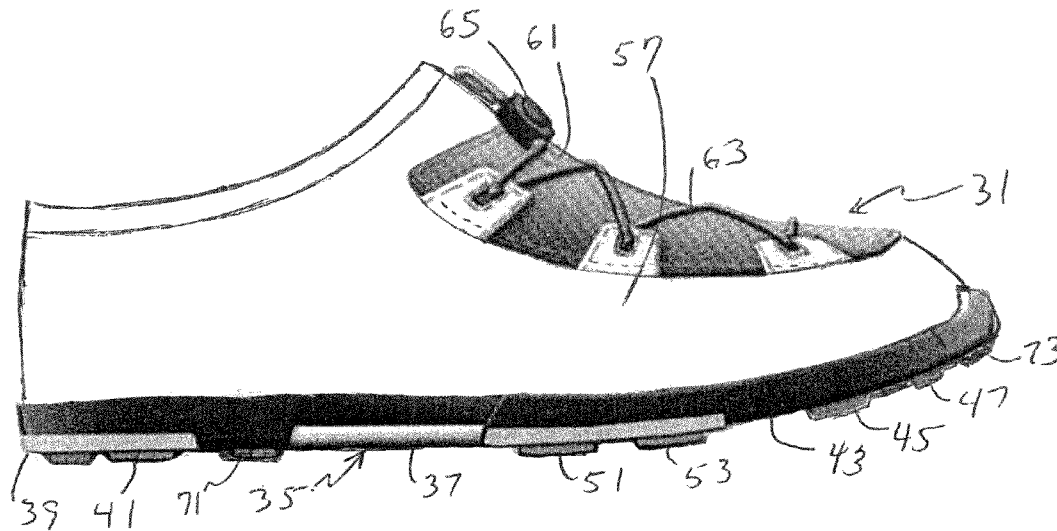
A pair of sports shoes, each having a different sole, includes: (a.) a first sports shoe, the first sports shoe having a sole with a predetermined function-enhancing anchoring pattern of spikes on the bottom of its sole, the predetermined pattern of spikes including spikes being selected from the group consisting of a V-shaped spikes, a plurality of herringbone spikes, a plurality of parallel spikes and combinations thereof; and, (b.) a second sports shoe, the second sports shoe having a sole with a predetermined function-enhancing pivoting pattern of spikes on the bottom of its sole, the predetermined pattern of spikes includes at least one circle or at least one segmented circle at a forward portion of the sole such that the predetermined pattern of spikes includes at least one curved spike selected from the group consisting of a circular spike, a plurality of concentric circular spikes, an arc, a plurality of arcs and combinations thereof.

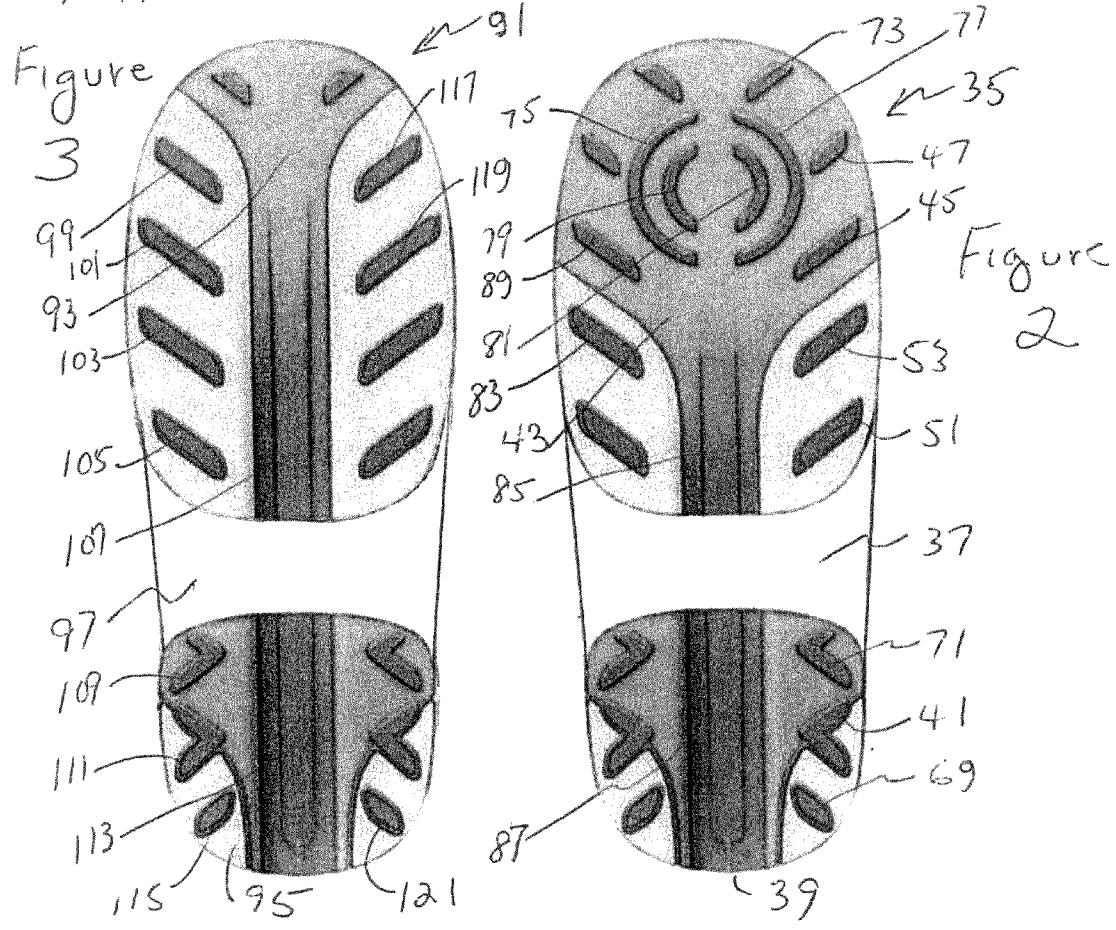
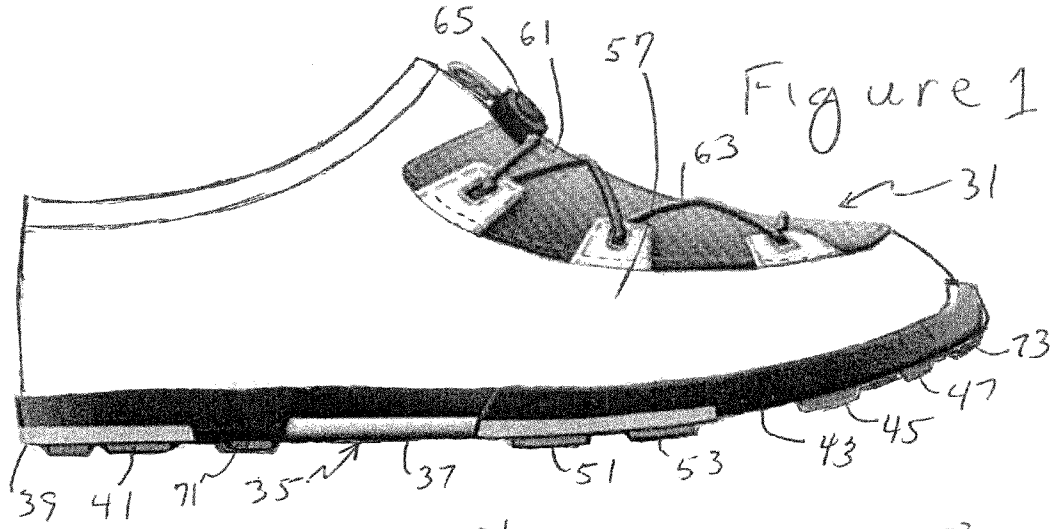
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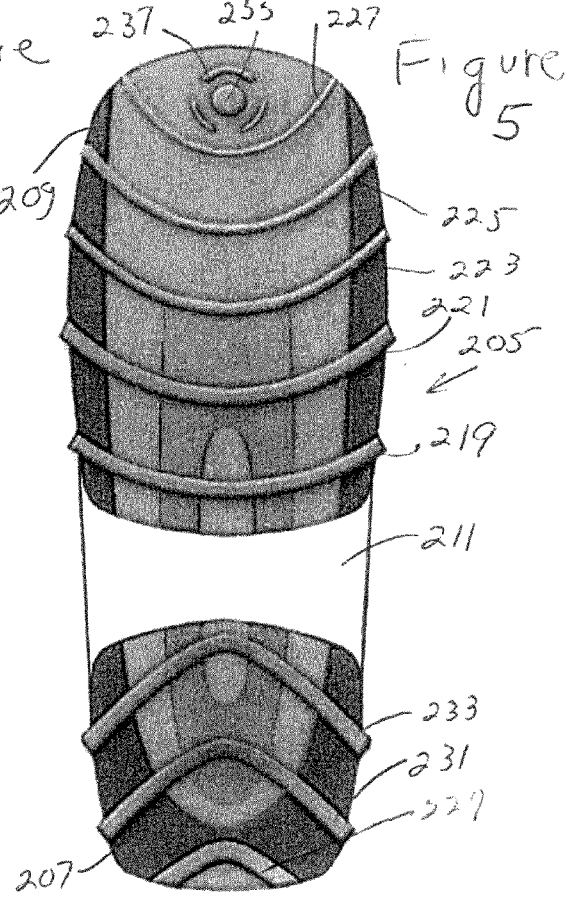
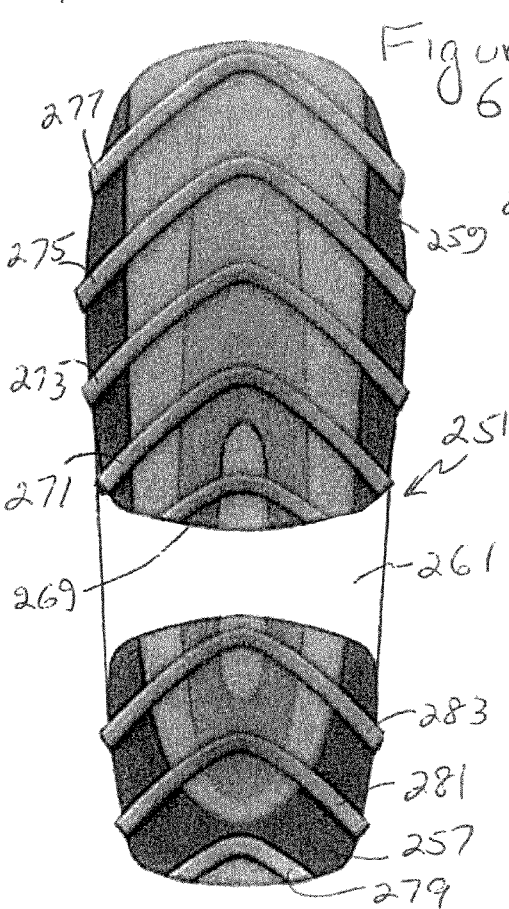
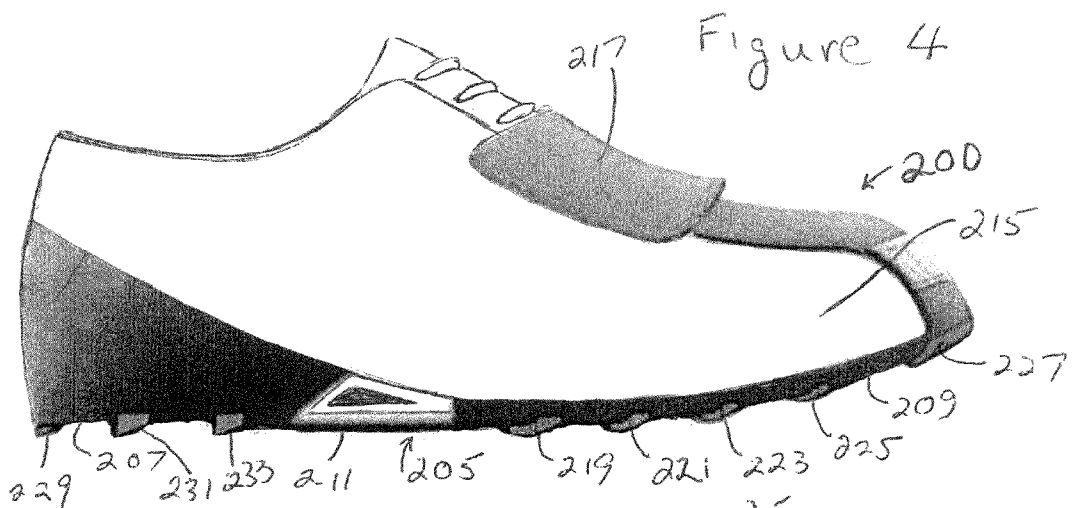
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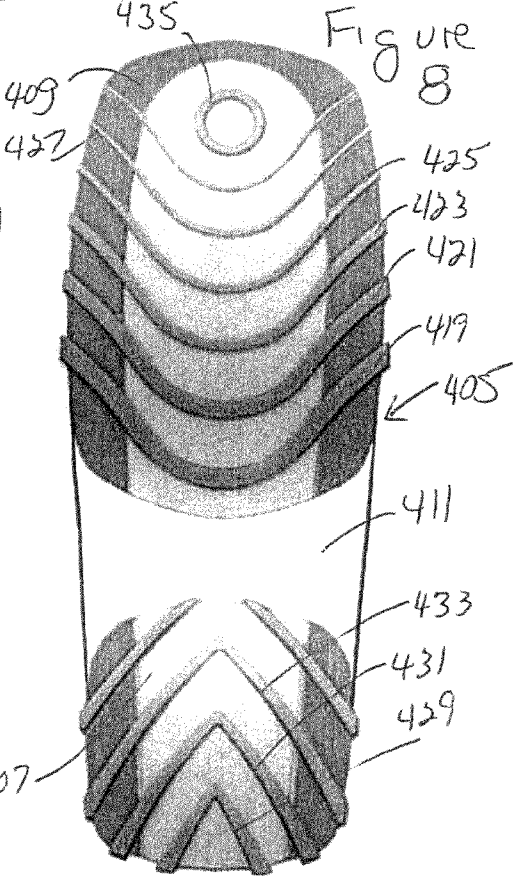
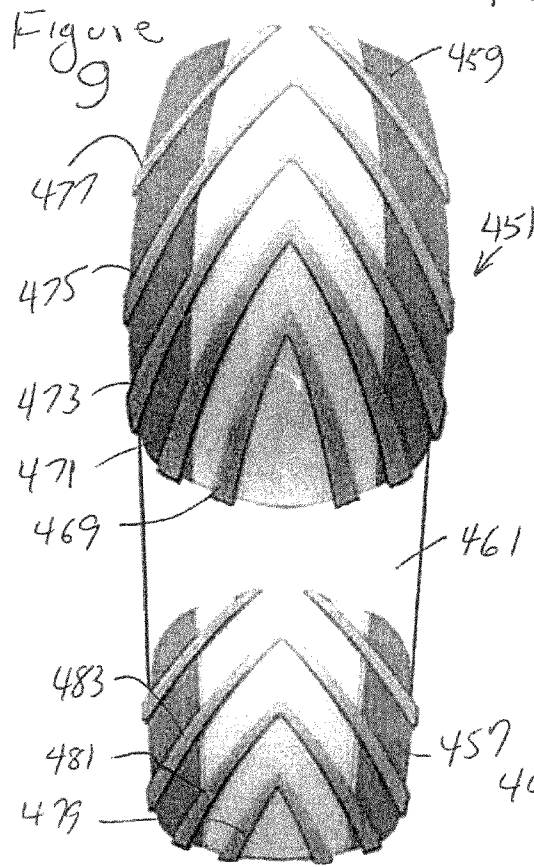
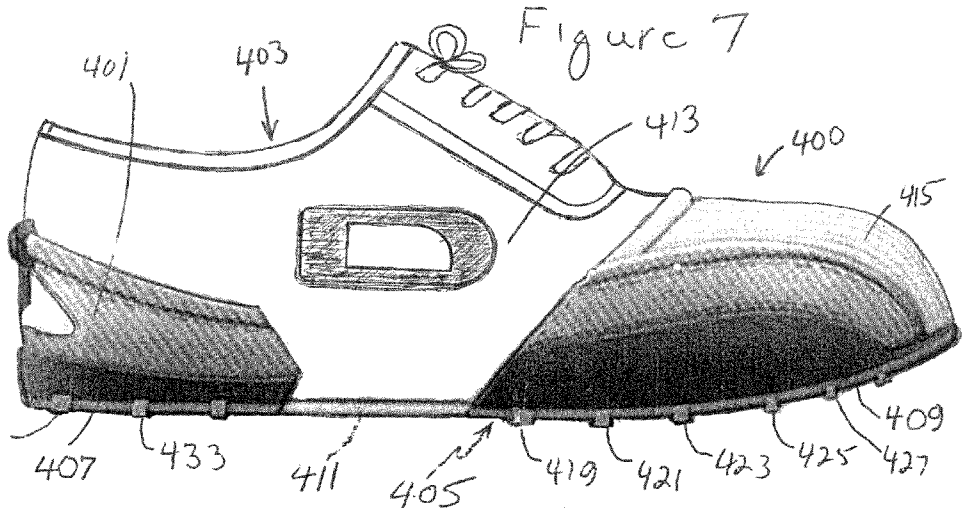
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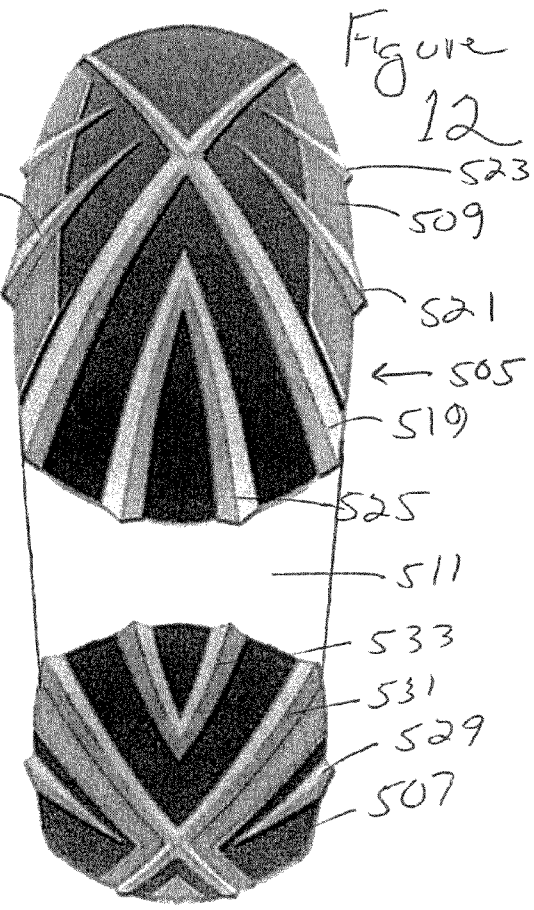
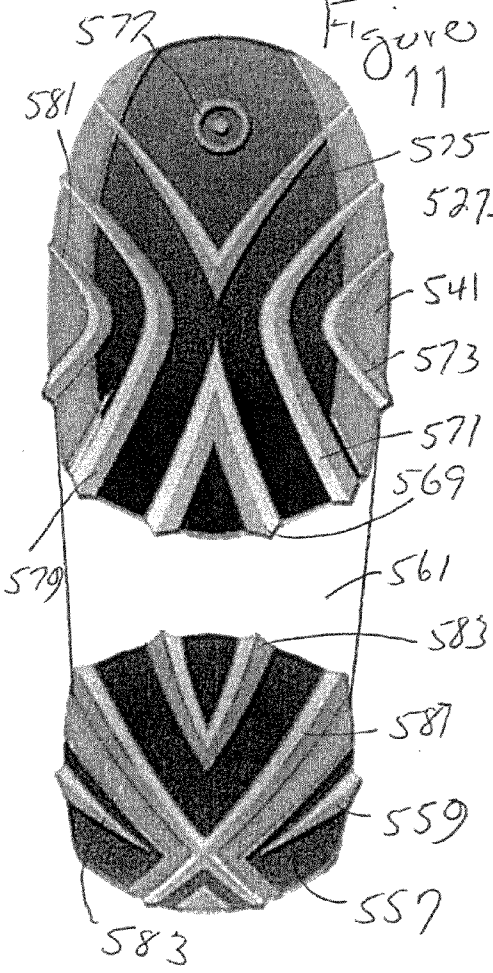
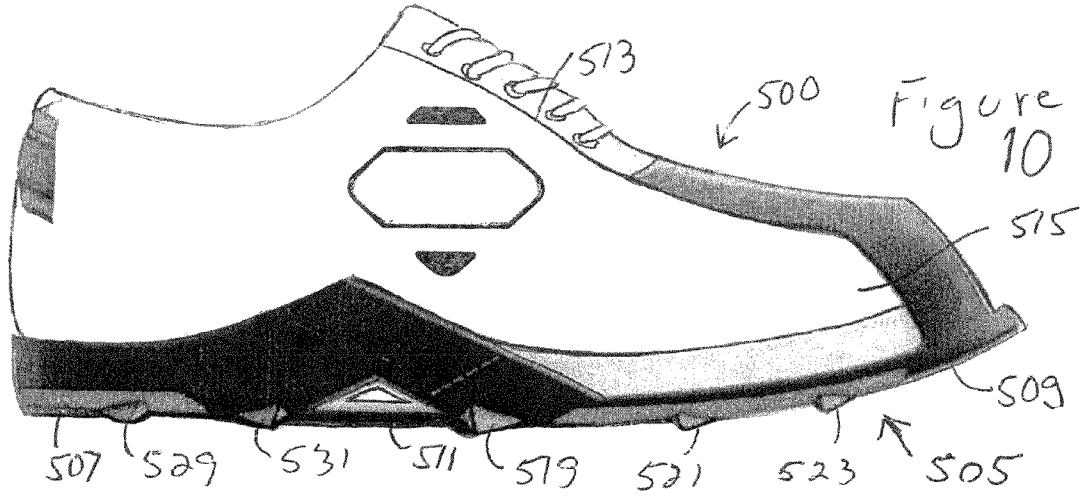
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SPORTS SHOE SOLE WITH FUNCTIONAL TOPOGRAPHY

BACKGROUND OF INVENTION

[0001] a. Field of Invention

[0002] The invention relates generally to footwear devices that enhance users' situations wherein an anchor foot and a pivot foot are needed, such as in baseball, softball, golf, kicking, e.g., as in football, and other situations where same foot pivoting is necessary. More particularly, the present invention is a pair of sports shoes wherein one of the left foot and right foot has function-enhancing anchoring patterns on its sole and the other of the left foot and right foot has function-enhancing pivoting patterns on its sole.

[0003] b. Description of Related Art

[0004] The following patents are representative of sports shoe designs:

[0005] U.S. Pat. No. 7,165,344 B2 to Blackwell describes a "RED e" cleat that is a disposable, self-adhesive, all-surface footwear cleat having a non-skid gripping surface, designed to address all sport, game, play and work foot-traction requirements. The "RED e" cleat replaces the need for specialty footwear, which incorporates permanently implanted or attached devices for affixing traction gear to the underside of shoes. The cleats attach simply and quickly to the sole and heel area of any footwear. Removal of the cleat is also simple. By sliding a flat-edged tool between the cleat and the surface of the footwear to break the seal, the cleat will peel away leaving the footwear ready for other uses.

[0006] U.S. Pat. No. 6,817,117 B1 to Campbell describes an outsole for an athletic shoe, in particular a golf shoe, having a plurality of traction elements of resisting rotational movement parallel to a plane surface of the ground. Traction elements in a forefoot region of the outsole are oriented with resist surfaces facing a lateral edge and traction elements in a rearfoot region of the outsole are oriented with resist surfaces a medial direction. The resist surfaces of the traction elements are substantially perpendicular to a base surface of the outsole and other surfaces of the traction element can be connected to the base surface by concave curvatures. The traction elements may have an indented surface. A plurality of the traction elements may be arranged along longitudinal and radial arrays in a forefoot region.

[0007] U.S. Pat. No. 6,802,139 B2 to Pitts et al. describes a slip-on, moccasin-style golfing shoe that has a shoe sole having a bottom surface with contours for gripping a golfing surface during striking of a golf ball; an upper, with the shoe sole, defining a volume for receiving a wearer's foot and defining an opening for insertion of a wearer's foot into the volume, the upper including resilient closure assembly fixedly extending across a forward portion of the opening; and, disposed within the volume, a heel cup of extended length, reduced width, and increased stiffness, for resisting lateral movement of a heel region of the wearer's foot during striking of a golf ball. The shoe sole defines a depressed footbed surface for a lower center of gravity and increased stability during golfing play. The closure assembly, in a first, wearing condition, resiliently engages across the wearer's foot to provide a secure fit during golfing play, and, in a second, donning or doffing condition, resiliently expands to facilitate passage of the wearer's foot into and out of the volume. The closure element includes a tongue having side edges attached to the upper, and the tongue has an upper end portion defining a surface positioned to resiliently engage upon an ankle surface above the wearer's foot.

[0008] U.S. Pat. No. 6,568,101 B1 to Jansen et al. describes the present invention, which provides new softspike over-

shoes for wearing over an existing shoe. The new softspike overshoes are suited for use in playing sports and are particularly suited for playing golf. The softspike overshoes are flexible yet sufficiently form retentive to securely hold their proper position on the shoe while playing golf. The softspike overshoe is a one-piece overshoe with soft spikes integrally molded into the bottom of the sole of the overshoe.

[0009] U.S. Pat. No. 6,354,022 B2 to Gelsomini describes an improved golf shoe and sole which is provided. In a preferred embodiment, a pair of golf shoes comprising a right shoe and a left shoe, the right shoe having a different arrangement of traction elements on the sole thereof than the left shoe. For right-handed golfers, the sole of the right shoe has a greater number of axial traction members which are aligned with an edge of the sole than transverse traction members which are positioned transverse to the edge of the sole. The right shoe accordingly resists pivotal motion. The left shoe has a greater number of transverse traction members than axial traction members so as to allow pivotal motion. The golf shoes accordingly allow the golfer to make a fuller back swing and to follow through more completely on the power stroke. The relative number of axial and transverse traction members on the left and right shoes may be reversed for left-handed golfers.

[0010] U.S. Pat. No. 5,943,794 to Gelsomini describes an improved golf shoe and sole which is provided. In a preferred embodiment, a pair of golf shoes comprising a right shoe and a left shoe, the right shoe having a different arrangement of traction elements on the sole thereof than the left shoe. For right-handed golfers, the sole of the right shoe has a greater number of axial traction members which are aligned with an edge of the sole than transverse traction members which are positioned transverse to the edge of the sole. The right shoe accordingly resists pivotal motion. The left shoe has a greater number of transverse traction members than axial traction members so as to allow pivotal motion. The golf shoes accordingly allow the golfer to make a fuller back swing and to follow through more completely on the power stroke. The relative number of axial and transverse traction members on the left and right shoes may be reversed for left-handed golfers.

[0011] U.S. Pat. No. 5,732,484 to Grutza et al. describes a shoe cleat for an athletic shoe. The shoe cleat comprises a first end which removably attaches to the underside of a shoe; a second end which is connected to the first end of the shoe cleat and which includes a surface which engages with a ground surface when the shoe cleat is attached to a shoe; and wherein the ground-engaging surface of the second end of the shoe cleat includes an anti-slip surface.

[0012] U.S. Pat. No. 5,711,094 to Grossman describes a pair of shoes for use by golfers which includes a first shoe to be worn on a golfer's rear foot as the golfer addresses a golf ball which is provided with a sole and a heel and a plurality of spikes which extend downwardly from the sole and the heel. A second shoe is provided to be worn on a golfer's front foot as the golfer addresses a golf ball, and the second shoe is provided with a smooth, spikeless sole and a smooth, spikeless heel for enabling the golfer to make a proper turn to face the target during the golf swing.

[0013] U.S. Pat. No. 5,600,901 to Leonor describes an attachment for converting a non-spiked dress or sport shoe to a spiked shoe for golfing or other walking or running activities that includes two clam-shell like attachment halves which are pivotable so as to mountable against the sides and bottom of an underlying shoe. The attachment has a longitudinally-extending slitted upper and vertically-extending slitted heel both of which mount suitable fastener elements such as hoops

and loops (Velcro®-type) elements or snap-on buttons or a lacing and eyelet fastener or a zipper fastener. After the attachment is pivotally opened up in the manner of a clam shell, the attachment is placed about the bottom and sides of the non-spiked dress or sports shoe on the user's foot and the fastener(s) cinched up to securely hold the attachment on the underlying shoe so that there is essentially no relative movement therebetween, when the user is walking or engaging in his or her golf swings.

[0014] U.S. Pat. No. 5,367,793 to Deacon et al. describes the invention which is a replaceable golf shoe cleat or spike **10** for use in place of a standard metal spike **4**. Winter golf shoe spike **10** preferably has a main cleat body **11** molded from a durable plastic type material in single unitary fashion. A threaded stud **13** is formed on the upper surface of generally concavo-convex flange **12** and protrudes axially therefrom. A plurality of traction ribs **15** is formed on the bottom traction surface of concavo-convex flange **12**. While the ribs **15** may be present in a variety of configurations, they are preferably triangular ridges arranged in a radial fashion emanating from the center of concavo-convex flange **12**.

[0015] U.S. Pat. No. 4,527,345 to Lopez describes a pair of soles for sport shoes having a dividing line between the heel and toe dividing the soles into inner and outer portions. The inner portion of the first sole along with the outer portion of the second sole having shallow recesses in a substantially smooth surface, while the outer portion of the first shoe and the inner portion of the second shoe having a plurality of stud-like projections.

[0016] U.S. Pat. No. 4,524,531 to VanDeripe describes a pair of golf shoes, the bottom of the sole of each shoe having relatively wide flat beveled surfaces inclined inwardly and downwardly from the inner edge of the sole. These beveled surfaces allow the shoe to roll inwardly about the central longitudinal axis of the shoe when the weight of the person wearing the shoe shifts to the inner side of the foot, as during the address and backstroke stages of the golf swing. The engagement of the beveled surfaces with the ground during the swing provides the golfer with added stability.

[0017] U.S. Pat. No. 4,434,565 to Haley describes a non-slip overshoe having at least one thin metal plate operably attached to its lower surface. The plate is provided with a series of sharp projections to provide gripping on slippery surfaces. Fixed and removable plate attachment means are disclosed.

[0018] U.S. Pat. No. 4,434,518 to Watanabe describes a sport shoe in which the shoe sole is bonded to an insert layer during the formation of the shoe sole by injection-molding and the assembly of the shoe sole and the insert layer is secured to the shoe upper by an adhesive applied between the insert layer and the shoe upper.

[0019] U.S. Pat. No. 4,367,600 to Cross, III et al. describes a golf shoe having improved transverse ground traction provided by a novel spike pattern which differs between the right-foot and the left-foot shoes in which the spikes are affixed to the lowermost surface of a specially designed sole and heel assembly. Improved comfort and foot stability can also be provided by use of a cushion pad insert of special configuration having a lateral arch support associated therewith. A first set of ground engaging spikes are arranged adjacent to the leading edges of both the right and the left shoe and at least two spikes in the set are positioned in the instep region of the shoes. A second set of spikes is also provided on the trailing edge of the shoes as defined by the direction of a golf club swing.

[0020] U.S. Pat. No. 3,685,174 to Artle, Jr. et al. describes a device for use in removably attaching cleats or the like to the

sole of an ordinary shoe. Ground engaging cleats are attached to a plate that is of a design and shape to fit under the sole of an ordinary shoe and is provided with means for removably attaching itself to the sole. These attachment means have a sole engaging portion adjacent the toe of the device and a heel engaging portion which attaches to the heel of the shoe.

[0021] U.S. Pat. No. 3,643,352 to Adair describes the specification that discloses an overshoe for use in playing golf and other sports. The overshoe is of the flexible resilient kind that is stretched over an ordinary shoe and it has a plurality of cleats to give good footing. The cleats are located within holes in the outer sole of the shoe and have threaded stems that are engaged within threaded openings in washers located on the inside of the overshoe. The washers are overlain by separate heel and sole pads that are in turn overlain by a complete insole.

[0022] U.S. Pat. No. 3,229,389 to G. Adams describes a non-slipping boot attachment, which comprises a metal heel plate having a plurality of laterally disposed depending ground gripping spikes, several longer spikes on the sides thereof disposed in a lengthwise knife edge manner, and an upturned forward heel supporting flange, said supporting flange being notched laterally with an upstanding intermediate hook; a flexible member attached to the heel plate and adapted to completely surround the boot heel and boot heel upper; means for detachable securing the flexible member across the boot instep; a metal sole plate having a plurality of laterally disposed depending ground gripping spikes and several lengthwise knife edge manner; longer spikes on the sides thereof disposed in a flexible boot toe surrounding member attached to the sole plate; and a plural apertured strap secured to the sole plate and adjustably attached to the heel plate by slideable connection through said lateral slot and hook on the heel supporting forward flange.

[0023] U.S. Pat. No. 3,025,615 to J. K. Patton describes an adjustable golf sole covering for shoes comprising separable sole and heel members; means for adjustably connecting the members together; cleats on the said members; toe clasps at opposite sides of the sole member and adapted to engage the outer edge portions of the shoe; and adjustable heel clamp assembly at the rear end of the heel member adapted to engage the shoe heel to shift the covering rearwardly with respect to the shoe; said heel clamp assembly comprising an arcuate plate having a bead at its inner edge adapted to be embedded in the heel member, the outer edge of the plate extending rearwardly of the heel of the shoe and being flanged upwardly so as to conform with the shape of the rear of the shoe heel and to be spaced therefrom; a curved plate adapted to engage the rear end of the shoe heel and adjustably carried by the upturned flange; and means on the flange for shifting the curved plate towards the shoe heel.

[0024] U.S. Pat. No. 2,189,489 to J. J. Fritz describes an antislipping overshoe comprising an inner sole member, the rear portion of the member being provided with an elastic loop to engage over and around the heel portion of a shoe, a toe receiving strap carried by the forward portion of the member, a lamination of antislipping material secured to and disposed over the under face of the forward portion of the sole member, said sole member having a rear portion to underlie the heel of the shoe, a strap connecting the rear portion of the heel portion of the sole member and the loop for holding said heel portion in position upon the shoe when said loop is disposed over and around the heel, and an antislipping lamination overlying and secured to the under face of said heel portion.

[0025] U.S. Pat. No. Des. 380,076 to McMullin describes a curved ridge golf shoe spike.

[0026] U.S. Pat. No. Des. 378,013 to McMullin describes a waffle bottom golf shoe spike.

[0027] U.S. Pat. No. Des. 336,973 to Fritcher describes an ornamental design for a slip-on golf shoe.

[0028] U.S. Pat. No. Des. 335,947 to Shelley describes an ornamental design for a shoe slip on golf accessory.

[0029] U.S. Pat. No. Des. 310,294 to Peterson describes a golf shoe bottom.

[0030] U.S. Pat. No. 299,691 to W. K. Smith describes an india-rubber sole carpet-stretcher, to be operated by the feet, as set forth.

[0031] U.S. Pat. No. Des. 278,382 to Chen describes a golf shoe sole.

[0032] U.S. Pat. No. Des. 275,147 to Phillpott describes a sole for a sports shoe.

[0033] U.S. Pat. No. Des. 160,561 to A. A. Steinhilber describes a shoe sole.

[0034] U.S. Pat. No. Des. 61,473 to H. T. Mason describes a sole.

[0035] Notwithstanding the prior art, the present invention is neither taught nor rendered obvious thereby.

SUMMARY OF INVENTION

[0036] The present invention relates generally to a pair of sports shoes, each sports shoe having a different sole, each sports shoe sole with functional topography. It includes: (a.) a first sports shoe, the first sports shoe having a sole with a predetermined function-enhancing anchoring pattern of spikes on the bottom of its sole, the predetermined pattern of spikes including spikes being selected from the group consisting of a V-shaped spikes, a plurality of herringbone spikes, a plurality of parallel spikes and combinations thereof; and, (b.) a second sports shoe, the second sports shoe having a sole with a predetermined function-enhancing pivoting pattern of spikes on the bottom of its sole, the predetermined pattern of spikes includes at least one circle or at least one segmented circle at a forward portion of the sole such that the predetermined pattern of spikes includes at least one curved spike selected from the group consisting of a circular spike, a plurality of concentric circular spikes, an arc, a plurality of arcs and combinations thereof.

[0037] In some preferred embodiments of the present invention sports shoes, each of the first sports shoe and the second sports shoe includes a toe area, a central area and a heel area, and the predetermined pattern of spikes is located at least on the toe area.

[0038] In some preferred embodiments of the present invention sports shoes, each of the first sports shoe and the second sports shoe includes a toe area, a central area and a heel area, and the predetermined pattern of spikes is located at least on the toe area.

[0039] In some preferred embodiments of the present invention sports shoes, each of the first sports shoe and the second sports shoe includes a toe area, a central area and a heel area, and the predetermined pattern of spikes is located at least on the heel area.

[0040] In some preferred embodiments of the present invention sports shoes, each of the first sports shoe and the second sports shoe includes a toe area, a central area and a heel area, and the predetermined pattern of spikes is located at least on the toe area and the heel area.

[0041] In some preferred embodiments of the present invention sports shoes, the at least one curved spike of second shoe is located at the toe area.

[0042] In some preferred embodiments of the present invention sports shoes, the at least one curved spike of second shoe is located at the toe area.

[0043] In some preferred embodiments of the present invention sports shoes, the pattern of spikes at the toe area of the first shoe and the pattern of spikes of the toe area of the second shoe are different from one another.

[0044] In some preferred embodiments of the present invention sports shoes, the pattern of spikes at the toe area of the first shoe and the pattern of spikes at the toe area of the second shoe are different from one another, and the pattern of spikes at the heel area of the first sports shoe and the pattern of spikes at the heel of second sports shoe are the same.

[0045] In some preferred embodiments of the present invention sports shoes, the pattern of spikes at the toe area of the first shoe includes at least one X-shaped spike and the pattern of spikes at the toe area of the second shoe includes at least one V-shaped spike and at least one circle or circle segment spike.

[0046] In some preferred embodiments of the present invention sports shoes, the pattern of spikes at the toe area of the first shoe includes a plurality of V-shaped spikes and the pattern of spikes at the toe area of the second shoe includes a plurality of sinusoidal shaped spikes and at least one circle or circle segment spike.

[0047] In some preferred embodiments of the present invention sports shoes, the pattern of spikes at the toe area of the first shoe includes a plurality of V-shaped spikes and the pattern of spikes at the toe area of the second shoe includes a plurality of repeating arc shaped spikes and at least one circle or circle segment spike.

[0048] In some preferred embodiments of the present invention sports shoes, the pattern of spikes at the toe area of the first shoe includes a plurality of herringbone spikes and the pattern of spikes at the toe area of the second shoe includes a plurality of herringbone spikes and at least one circle or circle segment spike.

[0049] Additional features, advantages, and embodiments of the invention may be set forth or apparent from consideration of the following detailed description, drawings, and claims. Moreover, it is to be understood that both the foregoing summary of the invention and the following detailed description are exemplary and intended to provide further explanation without limiting the scope of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0050] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this specification, illustrate preferred embodiments of the invention and together with the detail description serve to explain the principles of the invention. In the drawings:

[0051] FIG. 1 shows a side view of a preferred embodiment of a present invention sports shoe and

[0052] FIGS. 2 and 3 show pivot and anchor soles of the present invention sports shoe shown in FIG. 1;

[0053] FIG. 4 shows a side view of a preferred embodiment of another present invention sports shoe and

[0054] FIGS. 5 and 6 show pivot and anchor soles of the present invention sports shoe shown in FIG. 4;

[0055] FIG. 7 shows a side view of a preferred embodiment of a present invention sports shoe and

[0056] FIGS. 8 and 9 show pivot and anchor soles of the present invention sports shoe shown in FIG. 7; and,

[0057] FIG. 10 shows a side view of a preferred embodiment of a present invention sports shoe and

[0058] FIGS. 11 and 12 show pivot and anchor soles of the present invention sports shoe shown in FIG. 10.

[0059] Additional features, advantages, and embodiments of the invention may be set forth or apparent from consideration of the following detailed description, drawings, and claims. Moreover, it is to be understood that both the foregoing summary of the invention and the following detailed description are exemplary and intended to provide further explanation without limiting the scope of the invention as claimed.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0060] FIG. 1 shows a side view of a preferred embodiment present invention sports shoe 31 with sole 35, and any shoe top, such as shoe top 57 and top plate 61, with lacing 63. Lacing 63 may be tightened and secured by button lock 65. FIG. 2 and FIG. 3 show pivot foot sole and anchor foot sole spike arrangements, respectively, and either of these soles could be incorporated into the present invention sports shoe 31 of FIG. 1. However, in FIG. 1, a side view of sole 35 is presented, and this sole 35 is shown in its bottom view in FIG. 2.

[0061] Referring to both FIGS. 1 and 2, wherein identical parts may be identically numbered, the toe or forward area 43 of the sole 35 includes a plurality of spikes that are collectively in the form of a spaced apart herring bone pattern. These include spikes such as spikes 51, 53, 45, 47, 73, 83 and 89. There is a central spike track 85 toward the center of the sole 35 on forward area 43. Additionally, there are two sets of symmetrical arcs that form broken concentric circles. These are arc sets 75, 77, 79 and 81. They act as a set of pivoting spikes of the back foot during a baseball or softball bat swing, a golf swing or other pivoting movement. Middle section 37 is a relatively smooth area that may be preferably more flexible for the bending of the shoe. Heel area 39 includes an extended U-shaped spike 87, as well as a plurality of V-shaped spikes, such as spikes 71 and 41. Heel area 39 also has herringbone or opposing diagonal spikes, such as spike 69.

[0062] FIG. 3 shows the opposite foot sole 91, and this has no concentric arcs as it is intended for a forward or anchoring foot during a bat or golf swing. It includes a forward area 93 with herringbone spikes such as spikes 99, 101, 103, 105, 117 and 119. There is also a spike track 107. There is a middle section 97 and a heel area 95 similar to those shown in FIG. 2. Heel area 95 has V-shaped spikes, such as spikes 109 and 111, herring bone spikes 115 and 121, and U-shaped spike 113. It should now be clear that a pair of sport shoes of the type shown in FIG. 1 may have diverse soles, such as shown in FIGS. 2 and 3, so that one sole acts as an anchor and one sole acts as a pivot, for enhanced pivot motion activities.

[0063] FIG. 4 shows a side view of another preferred embodiment sports shoe 200 with sole 205 and shoe top 215 with a decorative tassel 217. FIG. 5 and FIG. 6 show pivot foot and anchor foot sole spike arrangements, respectively, and either of these soles could be incorporated into the present invention shoe 200 of FIG. 4. However, in FIG. 4, a side view of sole 205 is presented, and this sole 205 is shown in its bottom view in FIG. 5.

[0064] Referring to both FIGS. 4 and 5, wherein identical parts may be identically numbered, the toe or forward area 209 of the sole 205 includes a plurality of spikes that are collectively in the form of a repeating parallel arcuate pattern. These include spikes such as spikes 219, 221, 223, 225 and 227. Additionally, there are three symmetrical arc spikes,

such as spike 237, that form a broken circle around button spike 235. They act as a set of pivoting spikes of the toe area of the back foot during a batting or golf swing, or other pivot motion. Middle section 211 is a smooth area that may preferably be stretchable. Heel area 207 includes a plurality of V-shaped spikes 229, 231 and 233.

[0065] FIG. 6 shows the present invention opposite foot sole 251 and this has no arc spikes as it is intended for a forward or anchoring foot during a pivot motion. It includes a forward area 259 with V-shaped spikes 269, 271, 273, 275, and 277. There is a middle section 261 and a heel area 257 similar to those shown in FIG. 7. Heel area 257 has V-shaped spikes 279, 281 and 283. A pair of sports shoes of the type shown in FIG. 4 may have diverse soles, such as shown in FIGS. 5 and 6, so that one sole acts as an anchor and one sole acts as a pivot, for enhanced pivot motion activities.

[0066] FIG. 7 shows a side view of another preferred embodiment sports shoe 400 with sole 405 and conventional string tie shoe top 413 with decorative areas such as front 415 and rear 401. FIG. 8 and FIG. 9 show pivot foot and anchor foot sole spike arrangements, respectively, and either of these soles could be incorporated into the present invention sports shoe 400 of FIG. 7. However, in FIG. 7, a side view of sole 405 is presented, and this sole 405 is shown in its bottom view in FIG. 8.

[0067] Referring to both FIGS. 7 and 8, wherein identical parts may be identically numbered, the toe or forward area 409 of the sole 405 includes a plurality of spikes that are collectively in the form of a repeating parallel sinusoidal pattern. These include spikes such as spikes 419, 421, 423, 425 and 427. Additionally, there is a circular spike 435. They act as a set of pivoting spikes of the toe area of the backward foot (pivot foot) during a golf swing. Middle section 411 is a smooth area that may preferably be stretchable. Heel area 407 includes a plurality of V-shaped spikes 429, 431 and 433.

[0068] FIG. 9 shows the opposite foot present invention sole 451, and this has no arc or circular spikes, as it is intended for a forward or anchoring foot during a pivot motion. It includes a forward area 459 with V-shaped spikes 469, 471, 473, 475, and 477. There is a middle section 461 and a heel area 457 similar to those shown in FIG. 8. Heel area 457 has V-shaped spikes 479, 481 and 483. A pair of sport shoes of the type shown in FIG. 7 may have diverse soles, such as shown in FIGS. 8 and 9, so that one sole acts as an anchor and one sole acts as a pivot, for enhanced pivot motion activities.

[0069] FIG. 10 shows a side view another preferred embodiment sports shoe 500 with shoe top component 515 and lace area 513. FIG. 11 and FIG. 12 show pivot foot and anchor foot sole spike arrangements, respectively, and either of these soles could be incorporated into the present invention overshoe 500 of FIG. 10. However, in FIG. 10, a side view of sole 505 is presented, and this sole 505 is shown in its bottom view in FIG. 11.

[0070] Referring to both FIGS. 10 and 11, wherein identical parts may be identically numbered, the toe or forward area 509 of the sole 505 includes a plurality of spikes that are in different forms, including X-shaped, V-shaped and linear. These include spikes such as V-shaped spike 525, X-spike 519 and linear spikes 521, 523 and 527. Middle section 511 is a smooth area that may preferably be stretchable. Heel area 507 includes a linear spike 529, an X-shaped spike 531 and a V-shaped spike 533.

[0071] FIG. 12 shows the present invention opposite foot sole 551, and this has a circular spike 577, as it is intended for a pivoting foot during a pivoting motion. Forward area 541 includes V-shaped spikes 569 and 575, dogleg-shaped spikes 571 and 579 and V-shaped spikes 573 and 581. There is a

middle section 561 and a heel area 557 similar to those shown in FIG. 14. Heel area 557 has a V-shaped spike 583, an X-shaped spike 587 and linear spikes 559 and 583. a pair of sport shoes of the type shown in FIG. 10 may have diverse soles, such as shown in FIGS. 11 and 12, so that one sole acts as an anchor and one sole acts as a pivot, for enhanced pivot motion activities.

[0072] Although particular embodiments of the invention have been described in detail herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to those particular embodiments, and that various changes and modifications may be effected therein by one skilled in the art without departing from the scope or spirit of the invention as defined in the appended claims. As examples, the shoe may be split laterally and/or horizontally in one or more places and may be connected by stretchable material. The shoe top may include a mesh, fabric, synthetic or rubber component to enclose any open space, or any of these may be used on or over stretchable material to enhance wearability and/or design. The shoe top toe component or heel component may be closed, partially open, or open. The sole piece or pieces of the overshoe may be reinforced with bracing material, e.g., at the heel area or the toe area to increase walking and other functional stability. The shoe sole interior may have a grid or other traction enhancement features to assist the grip of, and/or massage or relax, the user foot within the shoe. The shoe sole may include energy absorbing layer(s) and/or materials in the overall structure. The shoe may have a pull tab or pull loop at the top of the heel to assist in putting the shoe on and removing it.

What is claimed is:

1. A pair of sports shoes, each sports shoe having a different sole, each sports shoe sole with functional topography, which comprises:

- (a.) a first sports shoe, said first sports shoe having a sole with a predetermined function-enhancing anchoring pattern of spikes on the bottom of its sole, said predetermined pattern of spikes including spikes being selected from the group consisting of a V-shaped spikes, a plurality of herringbone spikes, a plurality of parallel spikes and combinations thereof;
- (b.) a second sports shoe, said second sports shoe having a sole with a predetermined function-enhancing pivoting pattern of spikes on the bottom of its sole, said predetermined pattern of spikes includes at least one circle or at least one segmented circle at a forward portion of said sole such that said predetermined pattern of spikes includes at least one curved spike selected from the group consisting of a circular spike, a plurality of concentric circular spikes, an arc, a plurality of arcs and combinations thereof.

2. The pair of sports shoes of claim 1 wherein each of said first sports shoe and said second sports shoe includes a toe area, a central area and a heel area, and said predetermined pattern of spikes is located at least on said toe area.

3. The pair of sports of claim 1 wherein each of said first sports shoe and said second sports shoe includes a toe area, a central area and a heel area, and said predetermined pattern of spikes is located at least on said toe area.

4. The pair of sports of claim 1 wherein each of said first sports shoe and said second sports shoe includes a toe area, a

central area and a heel area, and said predetermined pattern of spikes is located at least on said heel area.

5. The pair of sports of claim 1 wherein each of said first sports shoe and said second sports shoe includes a toe area, a central area and a heel area, and said predetermined pattern of spikes is located at least on said toe area and said heel area.

6. The pair of sports shoes of claim 3 wherein said at least one curved spike of second shoe is located at said toe area.

7. The pair of sports shoes of claim 5 wherein said at least one curved spike of second shoe is located at said toe area.

8. The pair of sports shoes of claim 5 wherein said pattern of spikes at said toe area of said first shoe and said pattern of spikes of said toe area of said second shoe are different from one another.

9. The pair of sports shoes of claim 5 wherein said pattern of spikes at said toe area of said first shoe and said pattern of spikes at said toe area of said second shoe are different from one another, and said pattern of spikes at said heel area of said first sports shoe and said pattern of spikes at said heel of second sports shoe are the same.

10. The pair of sports shoes of claim 3 wherein said pattern of spikes at said toe area of said first shoe includes at least one X-shaped spike and said pattern of spikes at said toe area of said second shoe includes at least one V-shaped spike and at least one circle or circle segment spike.

11. The pair of sports shoes of claim 3 wherein said pattern of spikes at said toe area of said first shoe includes a plurality of V-shaped spikes and said pattern of spikes at said toe area of said second shoe includes a plurality of sinusoidal shaped spikes and at least one circle or circle segment spike.

12. The pair of sports shoes of claim 3 wherein said pattern of spikes at said toe area of said first shoe includes a plurality of V-shaped spikes and said pattern of spikes at said toe area of said second shoe includes a plurality of repeating arc shaped spikes and at least one circle or circle segment spike.

13. The pair of sports shoes of claim 3 wherein said pattern of spikes at said toe area of said first shoe includes a plurality of herringbone spikes and said pattern of spikes at said toe area of said second shoe includes a plurality of herringbone spikes and at least one circle or circle segment spike.

14. The pair of sports shoes of claim 9 wherein said pattern of spikes at said toe area of said first shoe includes at least one X-shaped spike and said pattern of spikes at said toe area of said second shoe includes at least one V-shaped spike and at least one circle or circle segment spike.

15. The pair of sports shoes of claim 9 wherein said pattern of spikes at said toe area of said first shoe includes a plurality of V-shaped spikes and said pattern of spikes at said toe area of said second shoe includes a plurality of sinusoidal shaped spikes and at least one circle or circle segment spike.

16. The pair of sports shoes of claim 9 wherein said pattern of spikes at said toe area of said first shoe includes a plurality of V-shaped spikes and said pattern of spikes at said toe area of said second shoe includes a plurality of repeating arc shaped spikes and at least one circle or circle segment spike.

17. The pair of sports shoes of claim 9 wherein said pattern of spikes at said toe area of said first shoe includes a plurality of herringbone spikes and said pattern of spikes at said toe area of said second shoe includes a plurality of herringbone spikes and at least one circle or circle segment spike.

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