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(54) ARTICLE OF FOOTWEAR WITH INTEGRATED ARCH STRAP

SCHUHARTIKEL MIT INTEGRIERTEM FUSSGEWÖLBBAND

ARTICLE DE CHAUSSURE À BRIDE DE VOÛTE INTÉGRÉE

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(56) References cited:

WO-A1-99/48395

DE-C- 440 111

GB-A- 2 342 275

US-A- 1 269 518

US-A- 4 811 500

US-A- 5 692 319

US-A1- 2006 117 606

US-B1- 6 925 734

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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to an article of footwear, and in particular to an article of footwear configured with an arch strap.

2. Description of Related Art

[0002] Articles with arch supports have been previously proposed. Bunch (U.S. patent number US 4,926,569 A) teaches a shoe including an arch support device that operates under tension to cradle the foot and lift the arch. The arch support arrangement includes an elastic strap attached on one end to the lateral portion of the top surface of the sole and on the other end to the upper by means of the lacing structure of the shoe. Bunch teaches that the wearer can adjust the degree of arch support by adjusting the tightness of the lacing.

[0003] The Bunch design lacks provisions for supporting a foot on a medial and lateral side. Furthermore, the end of the arch strap disposed near the lacing structure may slide down the laces and cause difficulties during an initial insertion of the foot. There is a need in the art to overcome these shortcomings.

[0004] US 2006/117606 A1 discloses an article of footwear according to the preamble of claim 1.

[0005] WO 99/48395 A1 discloses a further article of footwear having an arch strap at an outer surface of an upper. The end portions of this arch strap are arranged in the medial and lateral lacing portions of the upper and are provided with hook-shaped members for receiving a lace.

SUMMARY OF THE INVENTION

[0006] The invention provides an article of footwear according to claim 1. This article comprises an upper comprising a medial lacing portion and a lateral lacing portion; the medial lacing portion comprising a medial inner portion and a medial outer portion disposed opposite of the medial inner portion; the lateral lacing portion comprising a lateral inner portion and a lateral outer portion disposed opposite of the lateral inner portion; and an arch strap configured to provide support to an arch of a foot. The arch strap further comprises: a first end portion, a second end portion and an intermediate portion disposed between the first end portion and the second end portion. The first end portion is folded over the lateral inner portion and the lateral outer portion to cover the lateral inner portion and the lateral outer portion to create a first eyestay for providing at least one passage to receive a portion of the lace. The second end portion is folded over the medial inner portion and the medial outer portion to cover the medial inner portion and the medial

outer portion to create a second eyestay for providing at least one passage to receive a portion of the lace, where the arch strap and the first and second eyestays are formed of a single piece, and the first eyestay and the second eyestay additionally include eyelets in the form of gaps to allow the lace to cross over and span a lacing gap disposed between the medial lacing portion and the lateral lacing portion.

[0007] In another aspect, the first end portion is fixedly attached to the lateral inner portion and the lateral outer portion.

[0008] In another aspect, the first end portion is fixedly attached to the lateral outer portion and wherein the first end portion is configured to move with respect to the lateral inner portion.

[0009] In another aspect, the second end portion is fixedly attached to the medial inner portion and the medial outer portion.

[0010] In another aspect, the second end portion is fixedly attached to the medial outer portion and wherein the second end portion is configured to move with respect to the medial inner portion.

[0011] In another aspect, the upper is associated with an insole.

[0012] In another aspect, the upper is associated with an insole configured to be inserted over the arch strap.

[0013] In another aspect, the insole is configured to contact the intermediate portion of the arch strap.

[0014] In another aspect, the insole is configured to partially wrap around the lateral portion of the foot and the medial portion of the foot when the lace is tightened.

[0015] In another aspect, the insole is disposed between the intermediate portion and a sole of the article of footwear.

[0016] Other systems, methods, features and advantages of the invention will be, or will become apparent to one with skill in the art upon examination of the following figures and detailed description. It is intended that all such additional systems, methods, features and advantages be included within this description, be within the scope of the invention, and be protected by the following claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The invention can be better understood with reference to the following drawings and description. The components in the figures are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the invention. Moreover, in the figures, like reference numerals designate corresponding parts throughout the different views.

FIG. 1 is an isometric view of a preferred embodiment of an article of footwear;

FIG. 2 is an exploded isometric view of a preferred embodiment of an article of footwear;

FIG. 3 is an isometric view of an exemplary embodiment of an article of footwear fastened with a lace;

FIG. 4 is an isometric view of a preferred embodiment of an article of footwear with a foot inserted; and FIG. 5 is an isometric view of a preferred embodiment of an article of footwear with an integrated arch strap fastened around a foot.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] FIGS. 1-2 illustrate a preferred embodiment of article of footwear 100. In particular, FIG. 1 is an isometric view and FIG. 2 is an exploded isometric view of a preferred embodiment of article of footwear 100. For clarity, the following detailed description discusses a preferred embodiment, in the form of a sneaker, but it should be noted that the present invention could take the form of any article of footwear including, but not limited to, soccer shoes, football shoes, rugby shoes, baseball shoes as well as other kinds of shoes. As shown in FIGS. 1-2, article of footwear 100, also referred to simply as article 100, is intended to be used with a right foot; however, it should be understood that the following discussion may equally apply to a mirror image of article of footwear 100 that is intended for use with a left foot.

[0019] Article of footwear 100 preferably includes upper 102. Generally, upper 102 may be any type of upper. In particular, upper 102 could have any design, shape, size and/or color. Preferably, upper 102 is configured to receive a foot of a wearer.

[0020] Referring to FIG. 1, upper 102 includes entry hole 103 configured to receive a foot of a wearer. Typically, entry hole 103 allows a foot to be inserted within inner portion 104 of upper 102. Upper 102 may also be associated with outer portion 105, disposed opposite of inner portion 104.

[0021] Generally, upper 102 may also include medial portion 106 and lateral portion 107 disposed opposite medial portion 106. Medial portion 106 may be associated with an inside of a foot. Similarly, lateral portion 107 may be associated with an outside of a foot.

[0022] In some embodiments, article of footwear 100 may include a fastening system configured to tighten upper 102. Generally, article of footwear 100 could be associated with any type of fastening system including, but not limited to laces, straps, zippers, hook and loop fasteners, as well as other types of fastening systems. In a preferred embodiment, article of footwear 100 includes a fastening system with a lace.

[0023] In this embodiment, article of footwear 100 includes lace 108 to secure a foot within upper 102. Generally, lace 108 may be configured with any length necessary to fasten upper 102. In addition, lace 108 may be configured in a particular shape visible in a cross section of lace 108. In some embodiments, lace 108 may include a substantially flat cross section. In other embodiments, lace 108 may be configured with a substantially rounded cross section.

[0024] Generally, lace 108 may comprise any material

including, but not limited to leather, cotton, jute, hemp, or synthetic fibers. Additionally, lace 108 may be coated with a material to increase friction in order to keep lace 108 fastened. In some cases, lace 108 may include elastic portions. Also, referring to FIG. 2, in some cases, first end 301 and second end 302 of lace 108 may be configured with aglets to make threading lace 108 easier.

[0025] In order to fasten upper 102, lace 108 may be configured to span lacing gap 109. Generally, lacing gap 109 may be disposed in various locations on upper 102. In some embodiments, lacing gap 109 may be disposed between medial portion 106 and lateral portion 107 of upper 102. In other embodiments, lacing gap 109 may be disposed asymmetrically so that a portion of lacing gap 109 is disposed entirely within medial portion 106 or lateral portion 107. In a preferred embodiment, lacing gap 109 may be disposed between medial lacing portion 110 associated with medial portion 106 and lateral lacing portion 111 associated with lateral portion 107.

[0026] In this embodiment, medial lacing portion 110 comprises medial inner portion 132. Likewise, lateral lacing portion 111 includes lateral inner portion 133. Medial inner portion 132 and lateral inner portion 133 are associated with inner portion 104 of upper 102. Furthermore, medial lacing portion 110 may include medial outer portion 131 disposed opposite of medial inner portion 132. In a similar manner, lateral lacing portion 111 is configured with lateral outer portion 134 that is disposed opposite of lateral inner portion 133. Typically, medial outer portion 131 and lateral outer portion 134 may be associated with outer portion 105 of upper 102. With this preferred arrangement, medial lacing portion 110 and lateral lacing portion 111 may support the framing of lacing gap 109.

[0027] In some embodiments, lacing gap 109 may also be associated with tongue 118. Preferably, tongue 118 is also associated with toe portion 120 of upper 102. Typically, tongue 118 may be fixedly attached to toe portion 120 and disposed within lacing gap 109. However, in other cases, tongue 118 may be removable.

[0028] Generally, tongue 118 could have any design, shape, size and/or color. In some cases, tongue 118 may provide a particular aesthetic appearance for article 100. In addition, tongue 118 may include padding or other provisions to increase comfort for a foot when lace 108 fastens upper 102 around a foot.

[0029] Preferably, medial lacing portion 110 and lateral lacing portion 111 includes provisions for threading lace 108. In some embodiments, medial lacing portion 110 and lateral lacing portion 111 may include a number of eyelets to receive lace 108. The term "eyelet" as used throughout this detailed description and in the claims refers to a structure configured to receive a lace in an article of footwear. For example, in some embodiments, an eyelet may be a small hole or perforation. In some cases, an eyelet may be a hole that is reinforced with a material, including but not limited to metal, cord, fabric or leather. In other embodiments, an eyelet may be an opening

formed by a loop of material including but not limited to, fabric, cord, leather or metal.

[0030] In some embodiments, eyelets may be arranged in eyelet pairs. Typically, an eyelet pair includes an eyelet on a medial lacing portion of an upper associated with a second eyelet disposed on a lateral lacing portion of an upper. In some cases, an eyelet pair may be aligned in a lateral direction on a medial lacing portion and a lateral lacing portion of an upper. Furthermore, multiple eyelet pairs may be organized into a set of eyelets.

[0031] Referring to FIG. 1, medial lacing portion 110 and lateral lacing portion 111 include first eyelet set 121 and second eyelet set 122. In this embodiment, first eyelet set 121 is disposed adjacent to toe portion 120. Similarly, second eyelet set 122 is disposed adjacent to entry hole 103. Generally, first eyelet set 121 and second eyelet set 122 may include any number of pairs of eyelets. In this embodiment, first eyelet set 121 includes one eyelet pair. In addition, second eyelet set 122 includes two eyelet pairs.

[0032] In some embodiments, portions other than medial lacing portion 110 and lateral lacing portion 111 may include provisions to receive lace 108. In this embodiment, toe portion 120 includes first eyelet 181 near lacing gap 109. With this arrangement, first eyelet 181 may anchor lace 108 in toe portion 120.

[0033] In addition, tongue 118 may also include provisions to receive lace 108. In this embodiment, tongue 118 includes second eyelet 182. In some cases, this arrangement may provide a means of securing tongue 118 in place when a foot is disposed within upper 102.

[0034] For purposes of clarity, only some portions of upper 102 are discussed in this embodiment. It should be understood that upper 102 may include other provisions that are known in the art for assisting in walking, running or other athletic maneuvers. In addition, upper 102 may preferably be associated with a sole system of article of footwear 100.

[0035] Preferably, an article of footwear includes provisions to support an arch of a foot. Generally, arch support may be configured in a manner that is flexible enough to provide comfort to a foot as well as rigid enough to support an arch of a foot. In some embodiments, a sole system of an article of footwear may be configured to provide arch support for a foot. In other embodiments, a support member may be inserted into an article of footwear in order to provide arch support for a foot. In a preferred embodiment, an article of footwear may include an integrated arch strap to provide support to an arch of a foot.

[0036] Referring to FIGS. 1-2, article of footwear 100 includes arch strap 200. Generally, arch strap 200 may be configured with a length sufficient to extend between medial portion 106 and lateral portion 107 of upper 102. In addition, arch strap 200 is preferably configured with a width sufficient to support the arch of a foot of a wearer. Furthermore, in this embodiment, the width of arch strap

200 is substantially constant. With this arrangement, arch strap 200 may constitute a generally rectangular shape. However, in other embodiments, arch strap 200 may be contoured to produce a different shape.

[0037] Preferably, arch strap 200 may also include upper surface 251. In some cases, upper surface 251 may be associated with a foot of a wearer. Arch strap 200 may also include lower surface 252 that is disposed opposite of upper surface 251. In some cases, lower surface may be associated with a sole system of article 100 and is disposed opposite of upper surface 251.

[0038] Additionally, in this embodiment, arch strap 200 comprises first end portion 201 and second end portion 202. Preferably, arch strap 200 includes intermediate portion 203 disposed between first end portion 201 and second end portion 202. With this arrangement, intermediate portion 203 may provide support to an arch of a foot when arch strap 200 is fastened around a foot.

[0039] Preferably, an article of footwear includes provisions to adjust an arch strap to a desired level of comfort and support. It is also possible that the adjustment of the arch strap may provide some customization of the width of the article of footwear. Generally, tightening an arch strap around a foot may be accomplished by various means. In some embodiments, an arch strap may include an independent fastening system. In a preferred embodiment, an arch strap may be associated with a fastening system of an upper.

[0040] In this embodiment, arch strap 200 includes eyestays that may be associated with lacing gap 109. Generally, the term "eyestay" as used throughout this detailed description and in the claims refers to a portion of an arch strap that includes provisions, such as an eyelet, to receive a lace. In this embodiment, arch strap 200 includes first eyestay 211 disposed on first end portion 201. Preferably, first eyestay 211 may be associated with lateral lacing portion 111. In addition, arch strap 200 includes second eyestay 212 disposed on second end portion 202. Preferably, second eyestay 212 may be associated with medial lacing portion 110.

[0041] According to the invention, first eyestay 211 and second eyestay 212 are formed by folding first end portion 201 and second end portion 202, respectively, over the top of upper 102. Specifically, first eyestay 211 is formed by folding first end portion 201 over the top of lateral lacing portion 111. In other words, first end portion 201 folds over and covers lateral inner portion 133 and lateral outer portion 134 to create first eyestay 211. Similarly, second end portion 202 folds over and covers medial inner portion 132 and medial outer portion 131 to create second eyestay 212. With this configuration, first eyestay 211 and second eyestay 212 create passages for lace 108.

[0042] Referring to FIG. 1, first eyestay 211 is configured with a passage for lace 108 that includes first lower opening 271 adjacent to first eyelet set 121. Also, first eyestay 211 includes first upper opening 273 disposed adjacent to second eyelet set 122. Similarly, second eye-

stay 212 is configured with a passage for lace 108 that includes second lower opening 272 disposed adjacent to first eyelet set 121. Also, second eyestay 212 forms a passage including second upper opening 274 disposed adjacent to second eyelet set 122. Preferably, this configuration of first eyestay 211 and second eyestay 212 forms two passages for lace 108.

[0043] First eyestay 211 and second eyestay 212 include gaps to receive lace 108.

[0044] Generally, first eyestay 211 and second eyestay 212 may include any number of gaps. Furthermore, gaps may be created with any shape. In this case, first eyestay 211 and second eyestay 212 each include two gaps. Referring to FIG. 2, the gaps of first eyestay 211 and second eyestay 212 are configured with a substantially square shape. In particular, first eyestay 211 includes first gap 291 and second gap 292. Similarly, second eyestay 212 includes third gap 293 and fourth gap 294. With this arrangement, lace 108 may be threaded through first eyestay 211 and second eyestay 212 as well as through first gap 291, second gap 292, third gap 293 and fourth gap 294. This lacing will be discussed in greater detail later in this detailed description.

[0045] In some embodiments, arch strap 200 may be secured to upper 102 in order to integrate arch strap 200 with article of footwear 100. In this embodiment, first end portion 201 may be fixedly attached to lateral lacing portion 111. Similarly, second end portion 202 may be fixedly attached to medial lacing portion 110 of upper 102. Using this preferred arrangement, arch strap 200 may be integrated with article 100.

[0046] Generally, first end portion 201 and second end portion 202 may be fixedly attached to lateral lacing portion 111 and medial lacing portion 110, respectively, through any manner known in the art. For example, first end portion 201 and second end portion 202 may be fixedly attached by stitching to lateral lacing portion 111 and medial lacing portion 110, respectively. In some embodiments, first end portion 201 may be stitched to lateral outer portion 134 but configured to move with respect to lateral inner portion 133. Likewise, second end portion 202 may be stitched to medial outer portion 131 but configured to move with respect to medial inner portion 132. In a preferred embodiment, first end portion 201 may be stitched to lateral inner portion 133 as well as lateral outer portion 134. Similarly, second end portion 202 may be stitched to medial inner portion 132 and medial outer portion 131. With this preferred configuration, arch strap 200 may be fixedly attached to upper 102.

[0047] In some embodiments, intermediate portion 203 of arch strap 200 could also be fastened to a portion of article of footwear 100. In some cases, intermediate portion 203 could be fastened to a portion of upper 102. In other cases, intermediate portion 203 could be fastened to a portion of sole 199. In a preferred embodiment, intermediate portion 203 could be fastened to a lasting board or strobel sole element of article of footwear 100. In particular, intermediate portion 203 may be stitched to

the lasting board or strobel sole element. In other embodiments, however, intermediate portion 203 may not be fastened to any portion of article of footwear 100.

[0048] In different embodiments, arch strap 200 may be made of different materials. Examples of different materials that could be used include, but are not limited to, natural leather, synthetic leather, natural fibers, rubber, elastic fibers, as well as other types of materials. In a preferred embodiment, arch strap 200 may be made of an elastic material. With this arrangement, arch strap 200 may be configured to conform to the shape of a foot of a wearer.

[0049] It is also possible that an article of footwear with an arch strap may include an insole. Typically, an insole provides comfort for a bottom surface of a foot. Also, the insole may provide shock absorption for a foot. In some embodiments, an insole may be disposed against a lower surface of an arch strap. In a preferred embodiment, an insole may be disposed on an upper surface of an arch strap.

[0050] Referring to FIG. 2, article of footwear 100 includes insole 280. Generally, insole 280 is shaped substantially similarly to a sole of article 100. In this preferred embodiment, insole 280 may be configured to contact intermediate portion 203 of arch strap 200. With this arrangement, insole 280 may assist arch strap 200 in providing arch support to a foot.

[0051] Generally, article of footwear 100 may be assembled with arch strap 200 by inserting arch strap 200 into inner portion 104 of upper 102 through lacing gap 109. Preferably, arch strap 200 is inserted in a manner that disposes arch strap 200 adjacent to an arch portion of a sole. Furthermore, arch strap 200 may be disposed with lower surface 252 adjacent to the sole. Following the insertion of arch strap 200, arch strap 200 may be integrated with article 100 by fixedly attaching first end portion 201 and second end portion 202 to lateral lacing portion 111 and medial lacing portion 110, respectively, as previously described.

[0052] In some embodiments, after integrating arch strap 200 with article 100, insole 280 may be inserted into inner portion 104 of article 100. With this arrangement, insole 280 may be disposed adjacent to intermediate portion 203 on upper surface 251 of arch strap 200. Finally, lateral lacing portion 111 and medial lacing portion 110 as well as arch strap 200 may be tightened around a foot by threading lace 108 through first eyelet 181, first eyelet set 121, first eyestay 211, second eyestay 212, second eyelet 182 and second eyelet set 122. It should be understood that the steps describing the assembly of article 100 with arch strap 200 are intended to be exemplary. In other embodiments, article 100 may be assembled with arch strap 200 in another manner.

[0053] Generally, lace 108 may be threaded through eyelets of upper 102 as well as first eyestay 211 and second eyestay 212 of arch strap 200 in any manner known in the art. FIG. 3 illustrates an exemplary embodiment of a threading of lace 108 through eyelets of upper

102 as well as first eyestay 211 and second eyestay 212 of arch strap 200. However, in other embodiments, lace 108 may be threaded in a different manner to secure upper 102 and arch strap 200 around a foot of a wearer. For purposes of clarity, upper 102 is shown in phantom in this embodiment.

[0054] In this embodiment, lace 108 may first be threaded through first eyelet 181. Preferably, threading lace 108 through first eyelet 181 enables a middle portion of lace 108 to be confined within first eyelet 181. With this arrangement, approximately two equal portions of lace 108 may be disposed adjacent to medial lacing portion 110 and lateral lacing portion 111 to fasten upper 102 and arch strap 200. Specifically, first portion 311 of lace 108 may be disposed adjacent to medial lacing portion 110 and associated with first end 301. Similarly, second portion 312 of lace 108 may be disposed adjacent to lateral lacing portion 111 and associated with second end 302.

[0055] Following the threading of lace 108 through first eyelet 181, lace 108 may be inserted through first eyelet set 121. As previously discussed, first eyelet set 121 includes one pair of eyelets in this embodiment. Specifically, first eyelet set 121 includes third eyelet 183 disposed on medial lacing portion 110 and fourth eyelet 184 disposed on lateral lacing portion 111. Using this configuration, first portion 311 of lace 108 may be inserted through third eyelet 183. In a similar manner, second portion 312 of lace 108 may be inserted through fourth eyelet 184. With this configuration, the fastening of first eyelet set 121 may be accomplished.

[0056] In preparation for threading first eyestay 211 and second eyestay 212 of arch strap 200, first portion 311 and second portion 312 may be crossed as first portion 311 and second portion 312 span lacing gap 109. Then, first portion 311 may be inserted into first lower opening 271 of first eyestay 211 and exit through first gap 291. Similarly, second portion 312 may be threaded through second lower opening 272 of second eyestay 212 and exit through third gap 293. Following this threading through a portion of first eyestay 211 and second eyestay 212, first portion 311 and second portion 312 may cross as first portion 311 and second portion 312 span lacing gap 109.

[0057] After first portion 311 and second portion 312 cross at lacing gap 109, first portion 311 preferably enters third gap 293 to emerge from adjacent fourth gap 294. Likewise, second portion 312 enters first gap 291 to emerge from adjacent second gap 292. Then, in some embodiments, first portion 311 and second portion 312 may be inserted through second eyelet 182 of tongue 118. Following the threading of second eyelet 182 of tongue 118, first portion 311 may be inserted into second gap 292 to re-emerge through first upper opening 273 of first eyestay 211. In a similar manner, second portion 312 may be threaded through fourth gap 294 and emerge from second upper opening 274 of second eyestay 212. With this configuration, lace 108 may fasten arch strap

200.

[0058] In some embodiments, lace 108 may also be threaded through second eyelet set 122 to further fasten medial lacing portion 110 and lateral lacing portion 111 around a foot. Typically, this may be accomplished by first crossing first portion 311 and second portion 312 as first portion 311 and second 302 span lacing gap 109. Then, first portion 311 and second portion 312 may be threaded through the eyelets comprising second eyelet set 122. Using this configuration, medial lacing portion 110 and lateral lacing portion 111 may be fastened by lace 108.

[0059] FIGS. 4-5 illustrate preferred embodiments of foot 400 inserted and fastened within article of footwear 100. Specifically, FIG. 4 is a preferred embodiment of foot 400 inserted within article of footwear 100. FIG. 5 demonstrates a preferred embodiment of article 100 fastened around foot 400. In these embodiments, foot 400 includes bottom surface 401. Furthermore, bottom surface 401 includes arch portion 402.

[0060] Referring to FIG. 4, foot 400 is inserted into entry hole 103 of article of footwear 100. This allows inner portion 104 of upper 102 to receive foot 400. Once inserted, bottom surface 401 of foot 400 is disposed adjacent to insole 280. Preferably, arch portion 402 of bottom surface 401 is disposed proximate to intermediate portion 203 of arch strap 200. In this embodiment, arch portion 402 is separated from arch strap 200 by insole 280. However, in other embodiments without an insole, arch portion 402 may be disposed directly adjacent to intermediate portion 203. With this arrangement, first end 201 may be disposed on a lateral side of foot 400 and second end 202 may be disposed adjacent to a medial side of foot 400.

[0061] Preferably, once foot 400 is inserted in article 100, lace 108 may be fastened to secure foot 400 within article 100. Referring to FIG. 5, lace 108 fastens article 100 in a substantially similar manner as the embodiment discussed with respect to FIG. 3. In other embodiments, lace 108 may be fastened through arch strap 200 and eyelets of upper 102 in another manner. With this preferred configuration, lace 108 tightens first eyestay 211 and second eyestay 212 as well as eyelets of upper 102 to secure article 100 around foot 400.

[0062] Due to the integration of first eyestay 211 and second eyestay 212 with arch strap 200, the fastening of lace 108 tightens insole 280 and arch strap 200 around foot 400. In particular, arch strap 200 may be pulled around arch portion 402 of foot 400 as lace 108 is fastened. In this manner, the fastening of lace 108 causes arch strap 200 to contour to arch portion 402. Specifically, arch strap 200 tightens against a lateral portion and a medial portion of foot 400 when lace 108 is tightened. In some cases, this fastening may also cause insole 280 to partially wrap around a lateral portion and a medial portion of foot 400.

[0063] Preferably, a wearer may adjust the amount that arch strap 200 is fastened around arch portion 402. Generally, the fastening of arch strap 200 may be adjusted

by modifying the tautness of the fastening of lace 108. Using this preferred arrangement, arch strap 200 may be adjusted to provide comfort and support to arch portion 402 of foot 400.

[0064] In some cases, modifying the fit of arch strap 200 around arch portion 402 allows for some customization of the width of footwear 100. In other words, a wearer may adjust the fastening of lace 108 to achieve different widths for arch portion 402 of foot 400 disposed in article 100. Preferably, fastening lace 108 with a desired tautness allows the wearer to adjust the amount of arch strap 200 available for arch portion 402 of foot 400. In this manner, the fastening of arch strap 200 allows for some customization of the width of footwear 100. In addition, adjusting the tautness of the fastening of lace 108 may alter the amount that insole 280 curves around the sides of foot 400.

[0065] It is also possible that a wearer may achieve a tighter fit of insole 280 to bottom surface 401 of foot 400 when arch strap 200 is fastened around arch portion 402 of foot 400. This tighter fit preferably creates less friction between foot 400 and insole 280 when the wearer is active. With this preferred arrangement, a wearer may realize a more comfortable fit with insole 280 when arch strap 200 is fastened around foot 400.

[0066] Preferably, arch strap 200 operates in a similar manner when insole 280 is not used in conjunction with arch strap 200. Without insole 280, arch strap 200 may wrap directly around arch portion 402 of foot 400. In particular, bottom surface 401 may be disposed adjacent to intermediate portion 203 of arch strap 200. In this manner, arch strap 200 may support arch portion 402 when lace 108 fastens first eyestay 211 and second eyestay 212 around foot 400. In some cases, the fastening of arch strap 200 may cause intermediate portion 203 to lift arch portion 402 from a sole of article 100. With this arrangement, arch strap 200 may provide support to arch portion 402 of foot 400.

[0067] While various embodiments of the invention have been described, the description is intended to be exemplary, rather than limiting and it will be apparent to those of ordinary skill in the art that many more embodiments and implementations are possible that are within the scope of the invention. Accordingly, the invention is not to be restricted except in light of the attached claims. Also, various modifications and changes may be made within the scope of the attached claims.

Claims

1. An article of footwear, comprising:

an upper (102) comprising a medial lacing portion (110) and a lateral lacing portion (111);
the medial lacing portion (110) comprising a medial inner portion (132) and a medial outer portion (131) disposed opposite of the medial inner

portion (132);

the lateral lacing portion (111) comprising a lateral inner portion (133) and a lateral outer portion (134) disposed opposite of the lateral inner portion (133); and

an arch strap (200) configured to provide support to an arch of a foot, the arch strap (200) further comprising: a first end portion (201), a second end portion (202) and an intermediate portion (203) disposed between the first end portion (201) and the second end portion (202); wherein the first end portion (201) is folded over the lateral inner portion (133) and the lateral outer portion (134) to cover the lateral inner portion (133) and the lateral outer portion (134) to create a first eyestay (211) for providing at least one passage to receive a portion of the lace (108) and wherein the second end portion (202) is folded over the medial inner portion (132) and the medial outer portion (131) to cover the medial inner portion (132) and the medial outer portion (131) to create a second eyestay (212) for providing at least one passage to receive a portion of the lace (108), where the arch strap (200) and the first and second eyestays (211, 212) are formed of a single piece,

characterized in that

the first eyestay (211) and the second eyestay (212) additionally include gaps (291, 292, 293, 294) to allow the lace (108) to cross over and span a lacing gap (109) disposed between the medial lacing portion (110) and the lateral lacing portion (111).

2. The article of footwear according to claim 1, wherein the first end portion (201) is fixedly attached to the lateral inner portion (133) and the lateral outer portion (134).
3. The article of footwear according to claim 1, wherein the first end portion (201) is fixedly attached to the lateral outer portion (134) and wherein the first end portion (201) is configured to move with respect to the lateral inner portion (133).
4. The article of footwear according to any one of claims 1 to 3, wherein the second end portion (202) is fixedly attached to the medial inner portion (132) and the medial outer portion (131).
5. The article of footwear according to any one of claims 1 to 3, wherein the second end portion (202) is fixedly attached to the medial outer portion (131) and wherein the second end portion (202) is configured to move with respect to the medial inner portion (132).
6. The article of footwear according to one of claims 1 to 5, wherein the upper (102) is associated with an

insole (280), in particular wherein the insole (280) is configured to be inserted over the arch strap (200).

7. The article of footwear according to claim 6, wherein the insole (280) is configured to contact the intermediate portion (203) of the arch strap (200) and/or is configured to partially wrap around the lateral portion of the foot and the medial portion of the foot when the lace (108) is tightened and/or is disposed between the intermediate portion (203) and a sole (199) of the article of footwear (100). 5 10
8. The article according to one of claims 1 to 7, wherein the first end portion (201) and/or the second end portion (202) include at least one gap (291, 292, 293, 294) configured to receive a portion of the lace (108). 15
9. The article of footwear according to any one of claims 1 to 8, wherein each of the first eyestay (211) and the second eyestay (212) forms one passage for the lace (108) over the entire width of the first end portion (201) and the second end portion (202) of the arch strap (200) including a first opening (271, 272) at one end of the arch strap (200) in the width direction and a second opening (273, 274) at the other end of the arch strap (200) in the width direction. 20 25
10. The article of footwear according to claim 9, wherein a tongue (118) is disposed within the lacing gap (109), said tongue (118) including an eyelet (182) for receiving the lace (108) exiting through a gap (292, 294). 30
11. The article of footwear according to any one of claims 1-10, wherein the arch strap (200) has a generally rectangular shape. 35

Patentansprüche

1. Fußbekleidungsartikel, umfassend:

ein Oberteil (102), welches einen medialen Schnürungsabschnitt (110) und einen lateralen Schnürungsabschnitt (111) umfasst; 45
wobei der mediale Schnürungsabschnitt (110) einen medialen inneren Abschnitt (132) und einen medialen äußeren Abschnitt (131) umfasst, welcher gegenüber dem medialen inneren Abschnitt (132) angeordnet ist; 50
wobei der laterale Schnürungsabschnitt (111) einen lateralen inneren Abschnitt (133) und einen lateralen äußeren Abschnitt (134) umfasst, welcher gegenüber dem lateralen inneren Abschnitt (133) angeordnet ist; und 55
einen Gewölberiem (200), welcher dazu eingerichtet ist, eine Stütze für einen Gewölbe eines Fußes bereitzustellen, wobei der Gewölbe-

riemen (200) ferner umfasst: einen ersten Endabschnitt (201), einen zweiten Endabschnitt (202) und einen Zwischenabschnitt (203), welcher zwischen dem ersten Endabschnitt (201) und dem zweiten Endabschnitt (202) angeordnet ist;

wobei der erste Endabschnitt (201) über den lateralen inneren Abschnitt (133) und den lateralen äußeren Abschnitt (134) gefaltet ist, um den lateralen inneren Abschnitt (133) und den lateralen äußeren Abschnitt (134) zu bedecken, um eine erste Ösenleiste (211) zu erzeugen, um wenigstens einen Durchgang zum Aufnehmen eines Abschnitts des Schnürsenkels (108) bereitzustellen, und wobei der zweite Endabschnitt (202) über den medialen inneren Abschnitt (132) und den medialen äußeren Abschnitt (131) gefaltet ist, um den medialen inneren Abschnitt (132) und den medialen äußeren Abschnitt (131) zu bedecken, um eine zweite Ösenleiste (212) herzustellen, um wenigstens einen Durchgang bereitzustellen, um einen Abschnitt des Schnürsenkels (108) aufzunehmen, wobei der Gewölberiem (200) und die ersten und zweiten Ösenleisten (211, 212) aus einem einzelnen Stück gebildet sind,

dadurch gekennzeichnet, dass

die erste Ösenleiste (211) und die zweite Ösenleiste (212) zusätzlich Abstände (291, 292, 293, 294) umfassen, um es dem Schnürsenkel (108) zu erlauben, überzugehen und einen Schnürungsabstand (109) zu überspannen, welcher zwischen dem medialen Schnürungsabschnitt (110) und dem lateralen Schnürungsabschnitt (111) angeordnet ist.

2. Fußbekleidungsartikel nach Anspruch 1, wobei der erste Endabschnitt (201) fest an dem lateralen inneren Abschnitt (133) und dem lateralen äußeren Abschnitt (134) angebracht ist. 40
3. Fußbekleidungsartikel nach Anspruch 1, wobei der erste Endabschnitt (201) fest an dem lateralen äußeren Abschnitt (134) angebracht ist und wobei der erste Endabschnitt (201) dazu eingerichtet ist, sich bezüglich des lateralen inneren Abschnitts (133) zu bewegen.
4. Fußbekleidungsartikel nach einem der Ansprüche 1 bis 3, wobei der zweite Endabschnitt (202) fest an dem medialen inneren Abschnitt (132) und dem medialen äußeren Abschnitt (131) angebracht ist.
5. Fußbekleidungsartikel nach einem der Ansprüche 1 bis 3, wobei der zweite Endabschnitt (202) fest an dem medialen äußeren Abschnitt (131) angebracht ist und wobei der zweite Endabschnitt (202) dazu eingerichtet ist, sich bezüglich des medialen inneren

Abschnitts (132) zu bewegen.

6. Fußbekleidungsartikel nach einem der Ansprüche 1 bis 5, wobei das Oberteil (102) einer Innensohle (280) zugeordnet ist, wobei die Innensohle (280) insbesondere dazu eingerichtet ist, über dem Gewölberiemens (200) eingesetzt zu sein. 5
7. Fußbekleidungsartikel nach Anspruch 6, wobei die Innensohle (280) dazu eingerichtet ist, den Zwischenabschnitt (203) des Gewölberiemens (200) zu kontaktieren und/oder dazu eingerichtet ist, sich teilweise um den lateralen Abschnitt des Fußes und den medialen Abschnitt des Fußes zu wickeln, wenn der Schnürsenkel (108) angezogen ist und/oder zwischen dem Zwischenabschnitt (203) und einer Sohle (199) des Fußbekleidungsartikels (100) angeordnet ist. 10 15
8. Fußbekleidungsartikel nach einem der Ansprüche 1 bis 7, wobei der erste Endabschnitt (201) und/oder der zweite Endabschnitt (202) wenigstens einen Abstand (291, 292, 293, 294) umfasst, welcher dazu eingerichtet ist, einen Abschnitt des Schnürsenkels (108) aufzunehmen. 20 25
9. Fußbekleidungsartikel nach einem der Ansprüche 1 bis 8, wobei jede aus der ersten Ösenleiste (211) und der zweiten Ösenleiste (212) einen Durchgang für den Schnürsenkel (108) über die gesamte Breite des ersten Endabschnitts (201) und des zweiten Endabschnitts (202) des Gewölberiemens (200) bildet, einschließlich einer ersten Öffnung (271, 272) an einem Ende des Gewölberiemens (200) in der Breitenrichtung und einer zweiten Öffnung (273, 274) an dem anderen Ende des Gewölberiemens (200) in der Breitenrichtung. 30 35
10. Fußbekleidungsartikel nach Anspruch 9, wobei eine Zunge (118) innerhalb des Schnürungsabstands (109) angeordnet ist, wobei die Zunge (118) eine Öse (182) zum Aufnehmen des Schnürsenkels (108) umfasst, welcher durch einen Abstand (292, 294) austritt. 40 45
11. Fußbekleidungsartikel nach einem der Ansprüche 1-10, wobei der Gewölberiemens (200) eine im Wesentlichen rechteckige Form aufweist. 50

Revendications

1. Article de chaussure, comprenant :
 une tige (102) comprenant une portion de laçage médiane (110) et une portion de laçage latérale (111) ;
 la portion de laçage médiane (110) comprenant 55

une portion intérieure médiane (132) et une portion extérieure médiane (131) disposée à l'opposé de la portion intérieure médiane (132) ; la portion de laçage latérale (111) comprenant une portion intérieure latérale (133) et une portion extérieure latérale (134) disposée à l'opposé de la portion intérieure latérale (133) ; et une bride de voûte (200) configurée pour fournir un support à une voûte d'un pied, la bride de voûte (200) comprenant en outre : une première portion d'extrémité (201), une seconde portion d'extrémité (202) et une portion intermédiaire (203) disposée entre la première portion d'extrémité (201) et la seconde portion d'extrémité (202) ; dans lequel la première portion d'extrémité (201) est repliée sur la portion intérieure latérale (133) et la portion extérieure latérale (134) pour recouvrir la portion intérieure latérale (133) et la portion extérieure latérale (134) pour créer un premier oeillet (211) destiné à fournir au moins un passage pour recevoir une portion du lacet (108) et dans lequel la seconde portion d'extrémité (202) est repliée sur la portion intérieure médiane (132) et la portion extérieure médiane (131) pour recouvrir la portion intérieure médiane (132) et la portion extérieure médiane (131) pour créer un second oeillet (212) destiné à fournir au moins un passage pour recevoir une portion du lacet (108), où la bride de voûte (200) et les premier et second oilleets (211, 212) sont formés en une seule pièce,
caractérisé en ce que
 le premier oeillet (211) et le second oeillet (212) incluent en outre des fentes (291, 292, 293, 294) pour permettre au lacet (108) de passer et recouvrir une fente de laçage (109) disposée entre la portion de laçage médiane (110) et la portion de laçage latérale (111).

2. Article de chaussure selon la revendication 1, dans lequel la première portion d'extrémité (201) est attachée fixement à la portion intérieure latérale (133) et à la portion extérieure latérale (134).
3. Article de chaussure selon la revendication 1, dans lequel la première portion d'extrémité (201) est attachée fixement à la portion extérieure latérale (134) et dans lequel la première portion d'extrémité (201) est configurée pour se déplacer par rapport à la portion intérieure latérale (133).
4. Article de chaussure selon l'une quelconque des revendications 1 à 3, dans lequel la seconde portion d'extrémité (202) est attachée fixement à la portion intérieure médiane (132) et à la portion extérieure médiane (131).

5. Article de chaussure selon l'une quelconque des revendications 1 à 3, dans lequel la seconde portion d'extrémité (202) est attachée fixement à la portion extérieure médiane (131) et dans lequel la seconde portion d'extrémité (202) est configurée pour se déplacer par rapport à la portion intérieure médiane (132). 5
6. Article de chaussure selon l'une quelconque des revendications 1 à 5, dans lequel la tige (102) est associée à une semelle intérieure (280), en particulier dans lequel la semelle intérieure (280) est configurée pour être insérée sur la bride de voûte (200). 10
7. Article de chaussure selon la revendication 6, dans lequel la semelle intérieure (280) est configurée pour toucher la portion intermédiaire (203) de la bride de voûte (200) et/ou est configurée pour s'enrouler partiellement autour de la portion latérale du pied et la portion médiane du pied lorsque le lacet (108) est serré et/ou est disposé entre la portion intermédiaire (203) et une semelle (199) de l'article de chaussure (100). 15
20
8. Article de chaussure selon l'une quelconque des revendications 1 à 7, dans lequel la première portion d'extrémité (201) et/ou la seconde portion d'extrémité (202) incluent au moins une fente (291, 292, 293, 294) configurée pour recevoir une portion du lacet (108). 25
30
9. Article de chaussure selon l'une quelconque des revendications 1 à 8, dans lequel chacun du premier oeillet (211) et du second oeillet (212) forme un passage pour le lacet (108) sur la largeur entière de la première portion d'extrémité (201) et la seconde portion d'extrémité (202) de la bride de voûte (200) incluant une première ouverture (271, 272) à une extrémité de la bride de voûte (200) dans la direction de la largeur et une seconde ouverture (273, 274) à l'autre extrémité de la bride de voûte (200) dans la direction de la largeur. 35
40
10. Article de chaussure selon la revendication 9, dans lequel une languette (118) est disposée dans la fente de laçage (109), ladite languette (118) incluant un oeillet (182) pour recevoir le lacet (108) sortant au travers d'une fente (292, 294). 45
11. Article de chaussure selon l'une quelconque des revendications 1 à 10, dans lequel la bride de voûte (200) présente une forme généralement rectangulaire. 50

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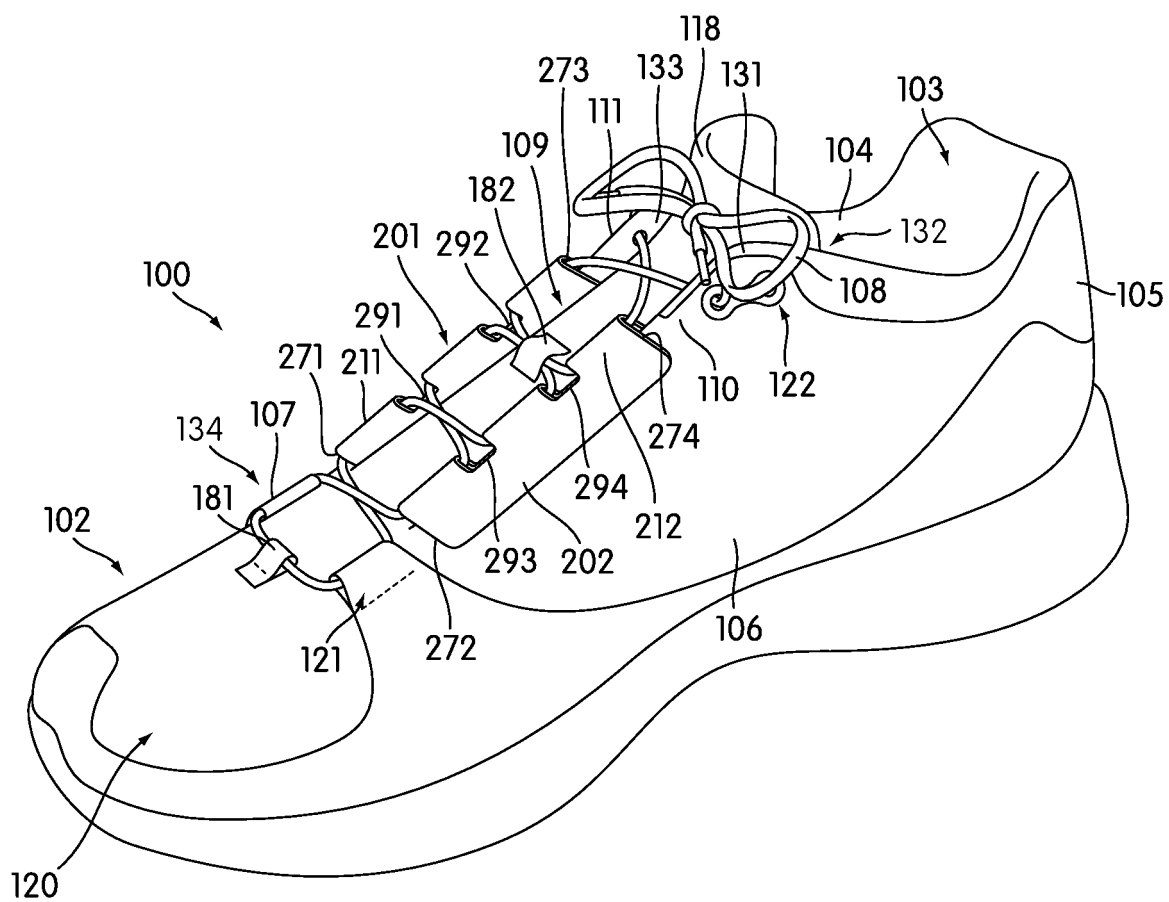
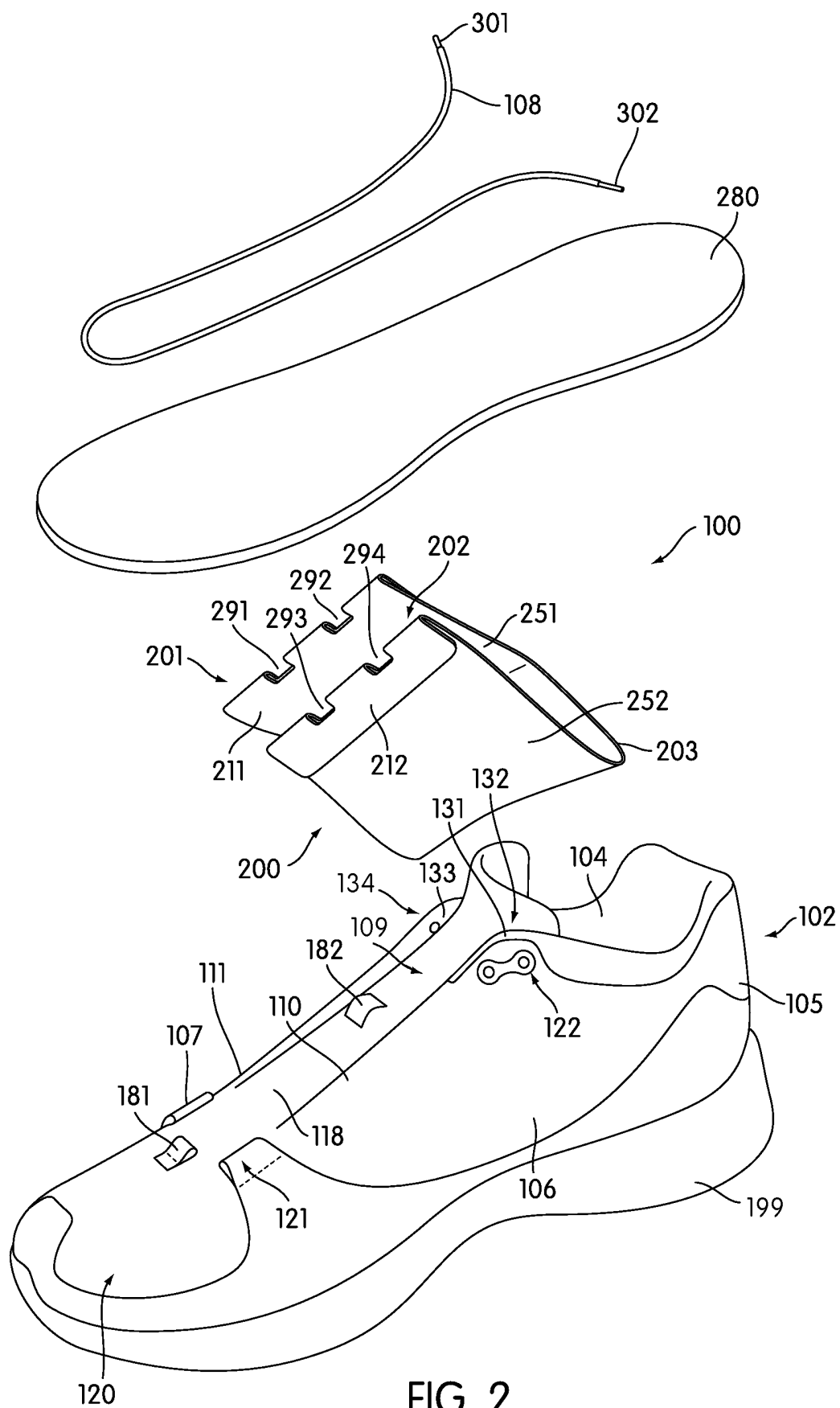


FIG. 1



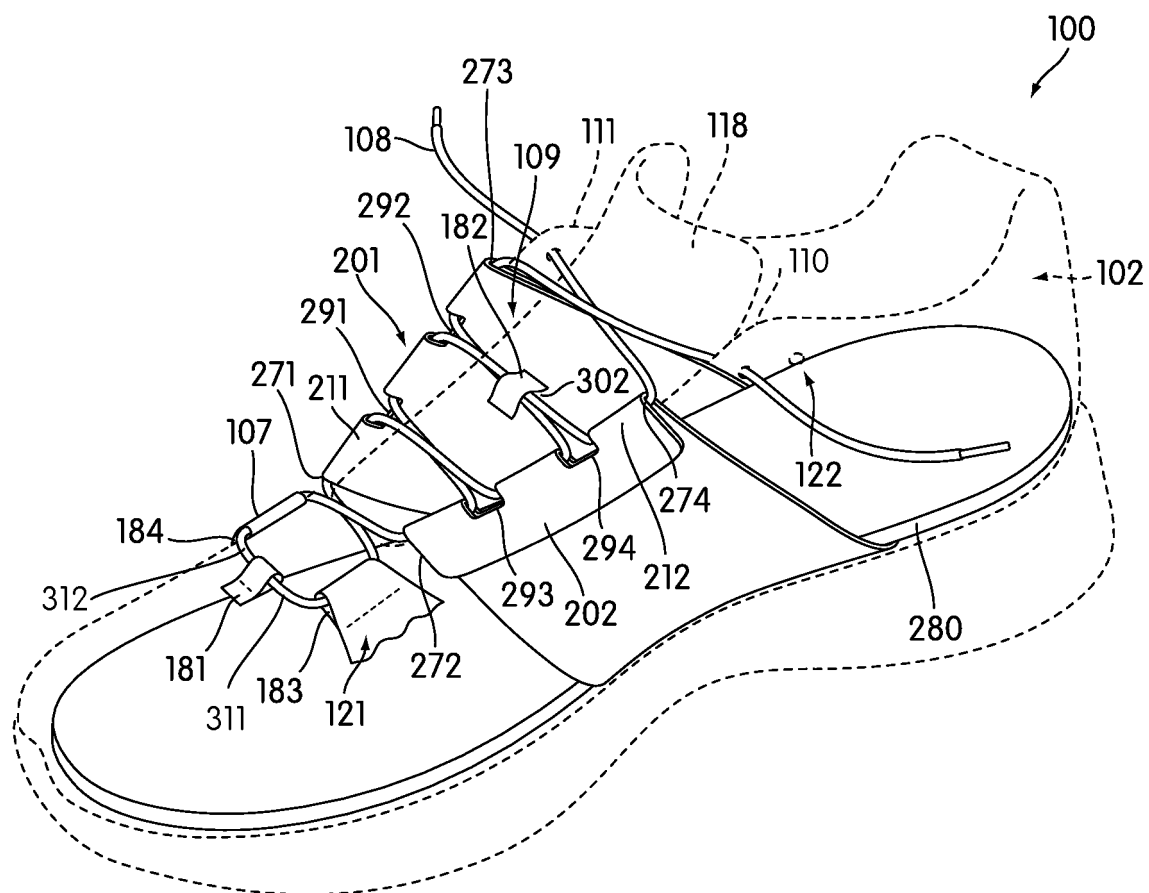


FIG. 3

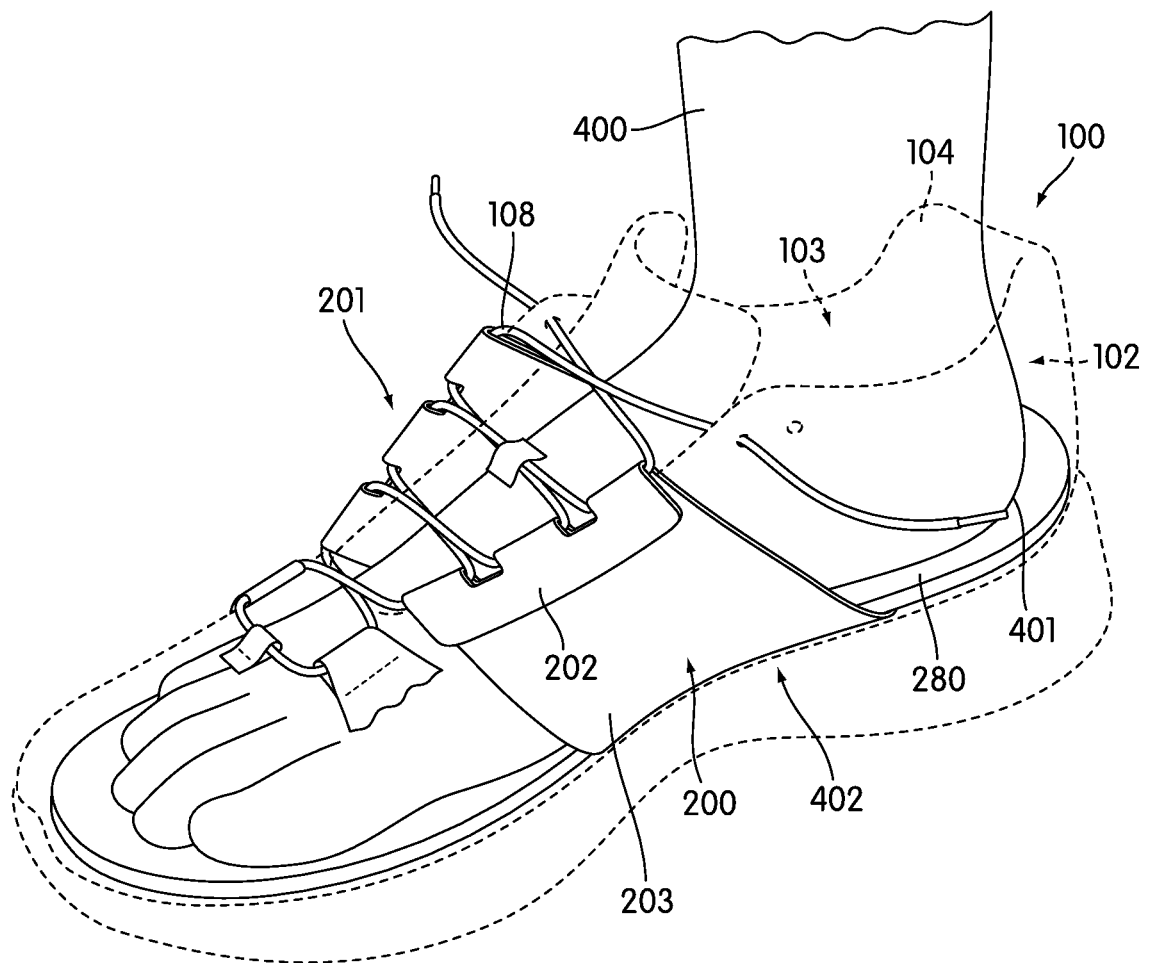


FIG. 4

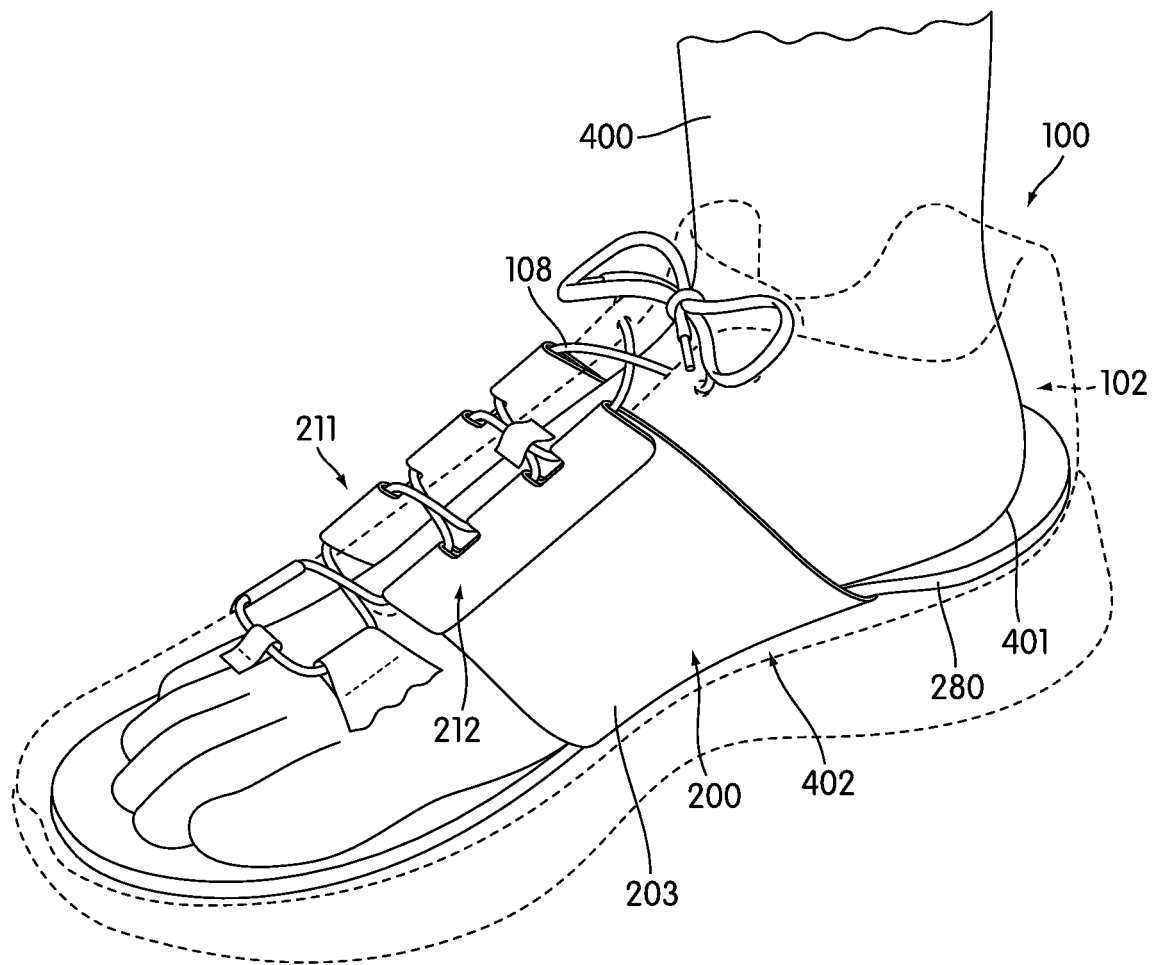


FIG. 5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 4926569 A [0002]
- US 2006117606 A1 [0004]
- WO 9948395 A1 [0005]