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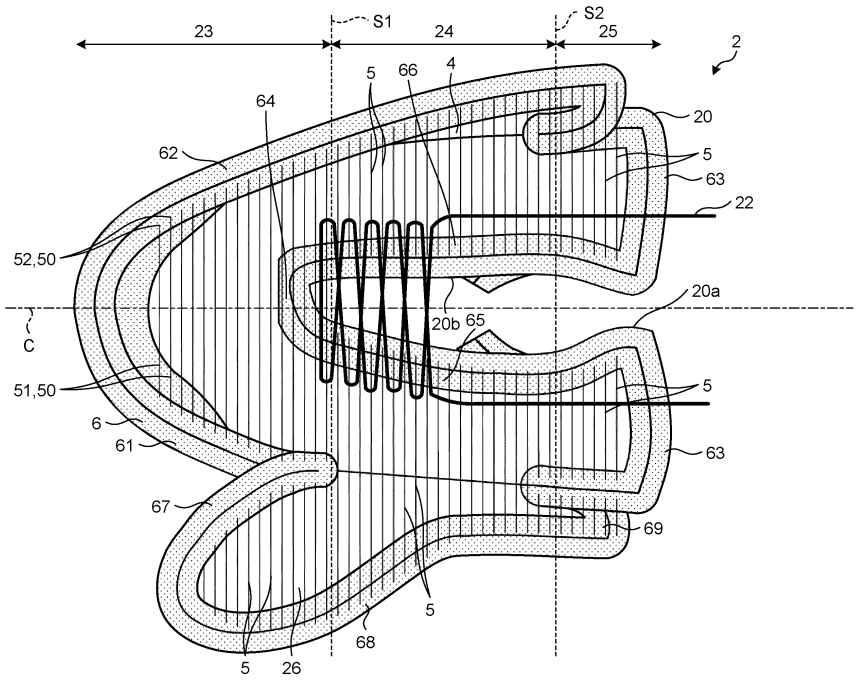
(54) **UPPER AND SHOE COMPRISING SAME**

(57) An upper (2) includes an upper body (20) covering the instep of a foot. At least a part of the upper body (20) is an opening region (4) disposed with an opening. In the opening region (4), a plurality of first members (5) extending in one direction is disposed in a state of not being coupled with each other. Both ends of the plurality of first member (5) are fixed ends (50) fixed to a portion of the upper body (20) adjacent to the opening region (4). The order in which fixed ends (51) on one end side of the plurality of first members (5) are arranged is equal to the order in which fixed ends (52) on the other end side of the plurality of first members (5) are arranged.

FIG.3



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Description

Field

[0001] The present invention relates to an upper and a shoe including the same.

Background

[0002] Conventionally, shoes including uppers are known. As disclosed in Patent Literature 1, for example, fibers, resins, and composites of fibers and resins are generally used as materials for uppers. In addition, it is common to produce a planar upper by forming materials for uppers in a linear shape and joining a plurality of linear materials to each other by knitting, weaving, braiding, welding, bonding, or the like.

Citation List

Patent Literature

[0003] Patent Literature 1: JP 2013-177736 A

Summary

Technical Problem

[0004] However, if a plurality of linear materials is joined to each other over the entire region of an upper, the stiffness is increased in the entire region of the upper due to the joint of the linear materials. This causes, for example, deterioration in the followability of the upper with respect to bending and twisting of a foot during movement, fatigue failure of the materials during bending of a foot, and other problems.

[0005] The present invention has been made in view of the above, and a purpose of the present invention is to obtain an upper capable of reducing the stiffness of the upper.

Solution to Problem

[0006] In order to solve the above problem and achieve the object, an upper includes an upper body covering the instep of a foot. At least a part of the upper body is an opening region disposed with an opening. In the opening region, a plurality of first members extending in one direction is disposed in a state of not being coupled with each other. Both ends of the plurality of first member are fixed ends fixed to a portion of the upper body adjacent to the opening region. The order in which fixed ends on one end side of the plurality of first members are arranged is equal to the order in which fixed ends on the other end side of the plurality of first members are arranged.

Advantageous Effects of Invention

[0007] An upper according to the present invention has an effect of reducing the stiffness of the upper.

Brief Description of Drawings

[0008]

FIG. 1 is a plan view of a shoe according to a first embodiment of the present invention.
FIG. 2 is a side view of the shoe on a lateral foot side according to the first embodiment.
FIG. 3 is a developed view of an upper according to the first embodiment.
FIG. 4 is a plan view of a shoe according to a second embodiment of the present invention.
FIG. 5 is a side view of the shoe on a lateral foot side according to the second embodiment.
FIG. 6 is a developed view of an upper according to the second embodiment.
FIG. 7 is a plan view of a shoe according to a third embodiment of the present invention.
FIG. 8 is a side view of the shoe on a lateral foot side according to the third embodiment.
FIG. 9 is a plan view of a shoe according to a fourth embodiment of the present invention.
FIG. 10 is a side view of the shoe on a lateral foot side according to the fourth embodiment.
FIG. 11 is a plan view of a shoe according to a fifth embodiment of the present invention.

FIG. 12 is a side view of the shoe on a lateral foot side according to the fifth embodiment.
FIG. 13 is a plan view of a shoe according to a sixth embodiment of the present invention and illustrates a state before a shoelace is pulled.
FIG. 14 is a side view of the shoe on a lateral foot side according to the sixth embodiment.
FIG. 15 is a plan view of the shoe according to the sixth embodiment of the present invention and illustrates a state in which a shoelace is pulled from the state illustrated in FIG. 13.
FIG. 16 is a schematic perspective view of a first member according to a seventh embodiment of the present invention.
FIG. 17 is a developed view of an upper of a shoe according to an eighth embodiment of the present invention.
FIG. 18 is a developed view of an upper of a shoe according to a ninth embodiment of the present invention.
Description of Embodiments

[0009] Hereinafter, embodiments of an upper according to the present invention and a shoe including the same will be described in detail with reference to the drawings. Note that the present invention is not limited by the embodiments.

[0010] In the following embodiments, a direction in which a shoe center axis, which is a perpendicular line passing through a shoe center in a plan view of a shoe, extends is referred to as a front-rear direction, and a direction orthogonal to the front-rear direction in a plan view of the shoe is referred to as a right-left direction.

[0011] In addition, of the front-rear direction, a direction directed from the end on the side where a portion of an upper covering the rearfoot of a foot is positioned toward the end on the side where a portion covering the forefoot of the foot is positioned is referred to as a front side, and of the front-rear direction, a direction directed from the end on the side where a portion of the upper covering the forefoot of the foot is positioned toward the end on the side where a portion of the upper covering the rearfoot of the foot is positioned is referred to as a rear side.

[0012] In addition, a median side of a foot in the anatomical position is referred to as a medial foot side, and the side opposite to the median side of the foot in the anatomical position is referred to as a lateral foot side. That is, the side closer to the median line in the anatomical position is referred to as the medial foot side, and the side farther from the median line in the anatomical position is referred to as the lateral foot side.

[0013] In addition, when a line along the right-left direction passing through a position corresponding to 25% to 50% of the dimension in the front-rear direction of the upper from the front end of the upper is defined as a first boundary line, and a line along the right-left direction passing through a position corresponding to 55% to 80% of the dimension in the front-rear direction of the upper from the front end of the upper is defined as a second boundary line, a portion positioned in front of the first boundary line is referred to as an upper forefoot portion, a portion sandwiched between the first boundary line and the second boundary line is referred to as an upper midfoot portion, and a portion positioned behind the second boundary line is referred to as an upper rearfoot portion.

[0014] The upper forefoot portion corresponds to a portion covering the forefoot of a foot of a wearer with a standard body shape, the upper midfoot portion corresponds to a portion covering the midfoot of a foot of a wearer with a standard body shape, and the upper rearfoot portion corresponds to a portion covering the rearfoot of a foot of a wearer with a standard body shape. In other words, the first boundary line is a line roughly along the MP joint of a wearer with a standard body shape, and the second boundary line is a line roughly along the Chopart joint of a wearer with a standard body shape.

[0015] Furthermore, a height direction means a direction orthogonal to both the front-rear direction and the right-left direction unless otherwise specified, and a thickness means a dimension in the height direction unless otherwise specified.

(First embodiment)

[0016] FIG. 1 is a plan view of a shoe 1 according to a first embodiment of the present invention. FIG. 2 is a side view of the shoe 1 on a lateral foot side according to the first embodiment. In FIG. 1, only the shoe 1 for a left foot is illustrated. Since the shoe 1 has a right-left symmetrical structure for a left foot and a right foot, only the shoe 1 for a left foot is described in the present embodiment, and the description of the shoe 1 for a right foot is omitted. The shoe 1 is, for example, a shoe for running or walking, a shoe for climbing, or a shoe for sports such as tennis and basketball. As illustrated in FIG. 2, the shoe 1 includes an upper 2 and a sole 3 positioned below the upper 2.

[0017] As illustrated in FIG. 1, the upper 2 includes an upper body 20, a shoe tongue 21, and a shoelace 22.

[0018] The upper body 20 mainly covers a part on the instep side of a foot. At the upper portion of the upper body 20, a foot insertion opening 20a for inserting a foot of a wearer and a throat portion 20b communicating with the foot insertion opening 20a and extending from the foot insertion opening 20a to the front side are disposed. At least a part of the upper body 20 is an opening region 4 disposed with an opening. In the opening region 4, a plurality of first members 5 extending in one direction are disposed in a state of not being coupled with each other. Details of the opening region 4 and the first members 5 are described later. Although the first members 5 are actually linear, in FIGS. 1 and 2, the first members 5 are illustrated in a band shape hatched with oblique lines for ease of understanding.

[0019] The shoe tongue 21 is a member for protecting the instep of a wearer. The shoe tongue 21 covers the throat

portion 20b inside the upper body 20. The shoe tongue 21 is fixed to the upper body 20 by stitching, welding, bonding, or a combination thereof. As the material of the upper body 20 and the shoe tongue 21, woven fabric, knitted fabric, synthetic leather, or resin is used for example. In particular, in the shoe 1 required to have air permeability and lightweight property, a double raschel warp knitted fabric knitted with polyester yarn is preferably used as the material of the upper body 20 and the shoe tongue 21. Note that the material of the upper body 20 and the shoe tongue 21 is not limited to those exemplified.

[0020] The shoelace 22 is a string-like member alternately hooked to the first members 5 disposed on both side edges of the throat portion 20b in the right-left direction, and is detachably attached to the upper body 20.

[0021] As illustrated in FIG. 2, the sole 3 covers the sole of a foot. The sole 3 includes an outsole 30 and a midsole 31. The sole 3 is fixed to the upper body 20 by stitching, welding, bonding, or a combination thereof. The lower surface of the outsole 30 serves as a ground contact surface 30a to be contacted on the ground. The midsole 31 is positioned on the upper surface of the outsole 30 and has a cushioning property. Note that the outsole 30 may be integrated with the midsole 31. The midsole 31 integrated with the outsole 30 is also referred to as a "unisole".

[0022] Next, the structure of the upper body 20 is described in more detail with reference to FIG. 3. FIG. 3 is a developed view of the upper 2 according to the first embodiment.

[0023] As illustrated in FIG. 3, the upper body 20 includes an upper forefoot portion 23 which is a portion covering a forefoot of a foot of a wearer with a standard body shape, an upper midfoot portion 24 which is a portion covering a midfoot of a foot of a wearer with a standard body shape, an upper rearfoot portion 25 which is a portion covering a rearfoot of a foot of a wearer with a standard body shape, and an upper sole portion 26 which is a portion covering a sole of a wearer with a standard body shape. The upper forefoot portion 23, the upper midfoot portion 24, and the upper rearfoot portion 25 are connected in this order in the front-rear direction from the front side of the upper body 20. The upper forefoot portion 23 is positioned in front of the first boundary line S1. The upper midfoot portion 24 is positioned between the first boundary line S1 and the second boundary line S2. The upper rearfoot portion 25 is positioned behind the second boundary line S2. The upper sole portion 26 is connected to a lateral -foot-side lower edge of the upper midfoot portion 24. The upper sole portion 26 serves as an inner sole that covers a lower opening disposed by being surrounded by a lower edge of the upper forefoot portion 23, a lower edge of the upper midfoot portion 24, and a lower edge of the upper rearfoot portion 25. The upper sole portion 26 is fixed to the upper surface of the midsole 31 illustrated in FIG. 2 by bonding or welding. Note that the shoe 1 may include an insole. If the shoe 1 includes an insole, the insole is installed on the upper sole portion 26 inside the upper 2.

[0024] The upper body 20 is disposed with the opening region 4 in which the first members 5 are disposed, and a joint region 6 to which the first members 5 are fixed. The opening region 4 is a region other than the throat portion 20b and the foot insertion opening 20a in the region opening to the upper body 20. The opening region 4 is disposed over the upper forefoot portion 23, the upper midfoot portion 24, the upper rearfoot portion 25, and the upper sole portion 26. The opening region 4 is disposed in a portion of the upper body 20 other than the edge of the throat portion 20b, the edge of the foot insertion opening 20a, the lower edge of the upper forefoot portion 23, the lower edge of the upper midfoot portion 24 and the outer edge of the upper sole portion 26 excluding the boundary between the upper midfoot portion 24 and the upper sole portion 26, the lower edge of the upper rearfoot portion 25, and the end edge on the heel side.

[0025] The joint region 6 is a planar region disposed around the opening region 4. In other words, the opening region 4 is disposed in the region surrounded by the joint region 6. The structure of the joint region 6 is not particularly limited as long as the joint region 6 has higher stiffness than the opening region 4 in which the first members 5 are disposed. As the material of the joint region 6, for example, films, fibers, resins, and composites of fibers and resins, or the like is used. Fibers, resins, and composites of fibers and resins are joined by knitting, weaving, braiding, welding, bonding, or the like. The joint region 6 is disposed along the outline of the upper body 20 in the developed state.

[0026] The joint region 6 includes a first joint region 61 disposed at the lateral-foot-side lower edges of the upper forefoot portion 23, the upper midfoot portion 24, and the upper rearfoot portion 25, a second joint region 62 disposed at the medial-foot-side lower edges of the upper forefoot portion 23, the upper midfoot portion 24, and the upper rearfoot portion 25, and a third joint region 63 disposed at the heel-side end edge of the upper rearfoot portion 25. The joint region 6 further includes a fourth joint region 64 disposed at the front-side edge of the throat portion 20b, a fifth joint region 65 disposed at the lateral-foot-side edges of the throat portion 20b and the foot insertion opening 20a, and a sixth joint region 66 disposed at the medial-foot-side edges of the throat portion 20b and the foot insertion opening 20a. The joint region 6 further includes a seventh joint region 67 disposed at the lateral-foot-side edge of the upper sole portion 26, an eighth joint region 68 disposed at the medial-foot-side edge of the upper sole portion 26, and a ninth joint region 69 disposed at the heel-side end edge of the upper sole portion 26.

[0027] The first joint region 61 is not disposed in a part of the boundary between the upper midfoot portion 24 and the upper sole portion 26. The first joint region 61 and the second joint region 62 extend to be closer to a shoe center axis C from the rear side toward the front side. The front ends of the first joint region 61 and the second joint region 62 are connected to each other. The rear end of the first joint region 61 and the rear end of the second joint region 62 are connected to the lower end of the third joint region 63. The fifth joint region 65 and the sixth joint region 66 extend forward

from the upper end of the third joint region 63 toward the fourth joint region 64. The front ends of the seventh joint region 67 and the eighth joint region 68 are connected to each other. The rear end of the seventh joint region 67 is connected to the first joint region 61. The lateral-foot-side end of the ninth joint region 69 is connected to the first joint region 61.

[0028] The first members 5 are linear members extending to cross the opening region 4 in the right-left direction or the height direction. The first members 5 are disposed with a space from each other in the front-rear direction. The first members 5 are disposed of a single material. Each of the first members 5 is, for example, a fiber, a thread obtained by bundling a plurality of fibers, or a resin disposed into a linear shape, and has flexibility. The first members 5 have elasticity in only one direction. The first members 5 are disposed on the upper forefoot portion 23, the upper midfoot portion 24, the upper rearfoot portion 25, and the upper sole portion 26. The first members 5 on the upper forefoot portion 23 extend in the right-left direction between the first joint region 61 and the second joint region 62. The first members 5 positioned on the lateral foot side of the upper midfoot portion 24 extend from the fifth joint region 65 to the eighth joint region 68 through the boundary between the upper midfoot portion 24 and the upper sole portion 26. The first members 5 positioned on the medial foot side of the upper midfoot portion 24 extend in the height direction between the sixth joint region 66 and the second joint region 62. The first members 5 positioned on the lateral foot side of the upper rearfoot portion 25 extend in the height direction between the fifth joint region 65 and the first joint region 61. The first members 5 positioned on the medial foot side of the upper rearfoot portion 25 extend in the height direction between the sixth joint region 66 and the second joint region 62. The first members 5 positioned on the upper sole portion 26 extend in the right-left direction between the seventh joint region 67 and the eighth joint region 68, or extend in the right-left direction between the boundary between the upper midfoot portion 24 and the upper sole portion 26 and the eighth joint region 68.

[0029] Both ends of each of the first members 5 are fixed ends 50 fixed to the joint region 6 of the upper body 20 adjacent to the opening region 4. Hereinafter, when the fixed ends 50 at both ends of the first members 5 are distinguished, the fixed ends 50 on one end side of the first members 5 are referred to as fixed ends 51, and the fixed ends 50 on the other end side of the first members 5 are referred to as fixed ends 52. The fixed ends 51 on the one end side of the first members 5 are arranged in the front-rear direction. The fixed ends 52 on the other end side of the first members 5 are arranged in the front-rear direction. The order in which the fixed ends 51 on the one end side of the first members 5 are arranged is equal to the order in which the fixed ends 52 on the other end side of the first members 5 are arranged. The space between adjacent fixed ends 50 in the front-rear direction on the one end side may be different from that on the other end side, but the space on the one end side is the same as that on the other end side in the present embodiment. The first members 5 are disposed in parallel to each other. Note that the shoelace 22 is passed through a gap disposed between adjacent first members 5 and hooked to one of the first members 5.

[0030] Next, an effect of the upper 2 according to the present embodiment is described.

[0031] In the present embodiment, the upper 2 includes the upper body 20 that covers the instep of a foot as illustrated in FIG. 1, and at least a part of the upper body 20 is the opening region 4 disposed with an opening as illustrated in FIG. 3. In the opening region 4, the first members 5 extending in one direction are disposed in a state of not being coupled with each other. Both ends of the first members 5 are the fixed ends 50 fixed to the joint region 6 of the upper body 20 adjacent to the opening region 4, and the order in which the fixed ends 51 on the one end side of the first members 5 are arranged is equal to the order in which the fixed ends 52 on the other end side of the first members 5 are arranged. With these structures, since the stiffness of the opening region 4 in which the first members 5 are disposed is lower than that of the joint region 6 adjacent to the opening region 4, it is possible to locally reduce the stiffness of the upper body 20.

[0032] When the upper rearfoot portion 25 is contacted the ground while the upper forefoot portion 23 illustrated in FIG. 3 is in contact with the ground, the forefoot of a foot bends, which generates a bending point in the upper forefoot portion 23. In the present embodiment, since the first members 5 are disposed on the upper forefoot portion 23 where the bending point is generated, it is possible to reduce the bending stiffness of the portion where the bending point is generated in the upper forefoot portion 23. Accordingly, it is possible to reduce bending resistance of the upper body 20 during bending of a foot. In addition, since the first members 5 are easily deformed following the bending of the foot, it is possible to ease the contact of the upper body 20 with the foot and reduce fatigue failure of the materials of the upper body 20. By reducing the fatigue failure of the materials of the upper body 20, the strength required for the materials of the upper body 20 can be reduced, and it is possible to lead to weight reduction of the shoe 1.

[0033] In the present embodiment, since the first members 5 are disposed at a part of a foot where the curvature in multiple directions is large as illustrated in FIG. 3, it is possible to make the upper body 20 fit the foot well.

[0034] During movement, the skin of the midfoot of a foot mainly shrinks, twists, or distorts, and the upper midfoot portion 24 illustrated in FIG. 3 is sheared and deformed. In the present embodiment, since the first members 5 are disposed on the upper midfoot portion 24, it is possible to reduce the stiffness of the upper midfoot portion 24. Accordingly, the first members 5 are easily deformed following the strain of the skin of the foot, and it is possible to reduce wrinkles generated in the upper body 20 and fatigue failure of the materials of the upper body 20. By reducing the fatigue failure of the materials of the upper body 20, the strength required for the materials of the upper body 20 can be reduced, and it is possible to lead to weight reduction of the shoe 1.

[0035] In the present embodiment, by hooking the shoelace 22 to the first members 5 as illustrated in FIG. 3, the first

members 5 serve as a substitute for eyelets, and the eyelets do not need to be disposed separately. In addition, by hooking the shoelace 22 to some of the first members 5, a tightening force generated by tensioning the shoelace is applied to some of the first members 5, and it is possible to locally tighten the upper body 20.

[0036] In the present embodiment, as illustrated in FIG. 3, since the first members 5 extending in one direction are disposed in the opening region 4 in a state of not being coupled with each other, it is possible to improve air permeability between the inside and the outside of the upper body 20 and to reduce the weight of the shoe 1.

[0037] In the present embodiment, the space between the adjacent fixed ends 50 on the one end side is the same as that on the other end side, and this makes it difficult for the first members 5 to intersect with each other. Accordingly, the first members 5 are easily sheared and deformed, and the first members 5 are more easily deformed following the strain of the skin of the foot during movement.

[0038] In the present embodiment, since the first members 5 illustrated in FIG. 3 are disposed of a single material, it is possible to easily manufacture the upper body 20 including the first members 5.

(Second embodiment)

[0039] FIG. 4 is a plan view of a shoe 1A according to a second embodiment of the present invention. FIG. 5 is a side view of the shoe 1A on a lateral foot side according to the second embodiment. FIG. 6 is a developed view of an upper 2A according to the second embodiment. The upper 2A according to the second embodiment is different from the upper 2 according to the first embodiment in that the upper 2A has a monosock structure and that the ranges of an opening region 4A and first members 5A. In the second embodiment, portions that overlap with the first embodiment described above are denoted by the same reference signs, and the descriptions thereof are omitted.

[0040] As illustrated in FIGS. 4 and 5, the upper 2A has a monosock structure in which a portion corresponding to the shoe tongue 21 in the first embodiment is integrated with an ankle portion of an upper body 20A. As illustrated in FIG. 6, a part of a joint region 6A is disposed in front of a foot insertion opening 20a of the upper body 20A. Hereinafter, this part of the joint region 6A is referred to as a center joint region 6B. In the present embodiment, the opening region 4A is disposed over an upper forefoot portion 23, an upper midfoot portion 24, and an upper sole portion 26. The opening region 4A is disposed from the front edge of the center joint region 6B to the vicinity of the center portion of the upper forefoot portion 23 in the front-rear direction. In addition, the opening region 4A is disposed from the lateral-foot-side edge of the center joint region 6B to the vicinity of the lateral-foot-side lower edge of the upper forefoot portion 23 and the midfoot portion of the upper sole portion 26. The opening region 4A is further disposed from the medial-foot-side edge of the center joint region 6B to the vicinity of the medial-foot-side lower edges of the upper forefoot portion 23 and the upper midfoot portion 24.

[0041] In the opening region 4A, a plurality of first members 5A extending in one direction is disposed in a state of not being coupled with each other. The first members 5A are disposed on the upper forefoot portion 23, the upper midfoot portion 24, and the upper sole portion 26. The first members 5A are bridged in portions of the joint region 6A that are positioned across the opening region 4A. With the present embodiment, it is also possible to achieve an effect similar to that of the first embodiment described above.

(Third embodiment)

[0042] FIG. 7 is a plan view of a shoe 1B according to a third embodiment of the present invention. FIG. 8 is a side view of the shoe 1B on a lateral foot side according to the third embodiment. An upper 2B according to the third embodiment is different from the upper 2 according to the first embodiment in the ranges of an opening region 4B and first members 5B. In the third embodiment, portions that overlap with the first embodiment described above are denoted by the same reference signs, and the descriptions thereof are omitted.

[0043] As illustrated in FIGS. 7 and 8, the opening region 4B is disposed in an upper midfoot portion 24 in the present embodiment. The opening region 4B is disposed on each of the lateral foot side and the medial foot side of a throat portion 20b. The opening region 4B is disposed from the vicinity of the lateral-foot-side edge of the throat portion 20b to the vicinity of the lateral-foot-side lower edge of the upper midfoot portion 24. The opening region 4B is disposed from the vicinity of the medial-foot-side edge of the throat portion 20b to the vicinity of the medial-foot-side lower edge of the upper midfoot portion 24. The first members 5B are disposed on the upper midfoot portion 24. As illustrated in FIG. 8, the first members 5B extend from the lateral-foot-side edge or the medial-foot-side edge of the throat portion 20b toward a sole 3. The lower ends of the first members 5B reach the vicinity of the lower edge of the upper midfoot portion 24. The extending direction of the first members 5B is inclined to be positioned rearward from the edge of the throat portion 20b toward the sole 3.

[0044] With the present embodiment, it is also possible to achieve an effect substantially similar to that of the first embodiment described above. That is, in the present embodiment, since the first members 5B are disposed on the upper midfoot portion 24, which causes the first members 5B to be easily deformed following the strain of the skin of a foot, it

is possible to reduce wrinkles generated in the upper body 20B and fatigue failure of the materials of the upper body 20B. By reducing the fatigue failure of the materials of the upper body 20B, the strength required for the materials of the upper body 20B can be reduced, and it is possible to lead to weight reduction of the shoe 1B. In the present embodiment, by hooking a shoelace 22 to the first members 5B, the first members 5B serve as a substitute for eyelets, and the eyelets do not need to be disposed separately. Since the shoelace 22 is hooked on some of the first members 5B, a tightening force generated by tensioning the shoelace is applied to some of the first members 5B, and it is possible to locally tighten the upper body 20B. In the present embodiment, since the first members 5B extending in one direction are disposed in the opening region 4B in a state of not being coupled with each other, it is possible to improve air permeability between the inside and the outside of the upper body 20B and to reduce the weight of the shoe 1B.

(Fourth embodiment)

[0045] FIG. 9 is a plan view of a shoe 1C according to a fourth embodiment of the present invention. FIG. 10 is a side view of the shoe 1C on a lateral foot side according to the fourth embodiment. An upper 2C according to the fourth embodiment is different from the upper 2 according to the first embodiment in the ranges of an opening region 4C and first members 5C and in that an upper body 20C is disposed with a string passing portion 27. In the fourth embodiment, portions that overlap with the first embodiment described above are denoted by the same reference signs, and the descriptions thereof are omitted.

[0046] As illustrated in FIGS. 9 and 10, the opening region 4C is disposed in an upper forefoot portion 23 in the present embodiment. The opening region 4C is disposed from the lateral-foot-side lower edge of the upper forefoot portion 23 through the front of a throat portion 20b to the medial-foot-side lower edge of the upper forefoot portion 23. The first members 5C are disposed on the upper forefoot portion 23 and extend in the right-left direction. The lateral-foot-side ends of the first members 5C reach the lateral-foot-side lower edge of the upper forefoot portion 23. The medial-foot-side ends of the first members 5C reach the medial-foot-side lower edge of the upper forefoot portion 23. As illustrated in FIG. 10, the extending direction of the first members 5C is inclined to be positioned rearward from the shoe center axis toward the lower edge of the upper forefoot portion 23. As illustrated in FIG. 9, on both edges of the throat portion 20b in the right-left direction, a plurality of string passing portions 27 spaced apart from each other in the front-rear direction is disposed. The structure of the string passing portions 27 is not particularly limited as long as a shoelace 22 can be passed therethrough, but in the present embodiment, the string passing portions 27 are through holes that pass through the upper body 20C in the vertical direction.

[0047] With the present embodiment, it is also possible to achieve an effect substantially similar to that of the first embodiment described above. That is, in the present embodiment, since the first members 5C are disposed on the upper forefoot portion 23 where a bending point is generated, which causes the first members 5C to be easily deformed following the bending of a foot, it is possible to ease the contact of the upper body 20C with the foot and reduce fatigue failure of the materials of the upper body 20C. By reducing the fatigue failure of the materials of the upper body 20C, the strength required for the materials of the upper body 20C can be reduced, and it is possible to lead to weight reduction of the shoe 1C. In the present embodiment, since the first members 5C extending in one direction are disposed in the opening region 4C in a state of not being coupled with each other, it is possible to improve air permeability between the inside and the outside of the upper body 20C and to reduce the weight of the shoe 1C.

(Fifth embodiment)

[0048] FIG. 11 is a plan view of a shoe 1D according to a fifth embodiment of the present invention. FIG. 12 is a side view of the shoe 1D on a lateral foot side according to the fifth embodiment. An upper 2D according to the fifth embodiment is different from the upper 2 according to the first embodiment in the ranges of an opening region 4D and first members 5D and in that an upper body 20D is disposed with a string passing portion 27. In the fifth embodiment, portions that overlap with the first embodiment described above are denoted by the same reference signs, and the descriptions thereof are omitted.

[0049] As illustrated in FIGS. 11 and 12, the opening region 4D is disposed from an upper midfoot portion 24 to an upper rearfoot portion 25 in the present embodiment. As illustrated in FIG. 11, the opening region 4D is disposed from the lateral-foot-side edge of a throat portion 20b through the heel-side end edge of the upper rearfoot portion 25 to the medial-foot-side edge of the throat portion 20b. The first members 5D are disposed from the upper midfoot portion 24 to the upper rearfoot portion 25. The first members 5D extend from the lateral-foot-side edge of the throat portion 20b toward the upper rearfoot portion 25, and then extend to the medial-foot-side edge of the throat portion 20b through the heel-side end edge of the upper rearfoot portion 25. The first members 5D extend to surround a foot insertion opening 20a. As illustrated in FIG. 12, the extending direction of the first members 5D is inclined to be positioned downward from the lateral-foot-side edge and the medial-foot-side edge of the throat portion 20b toward the upper rearfoot portion 25. As illustrated in FIG. 11, on both edges of the throat portion 20b in the right-left direction, a plurality of string passing

portions 27 spaced apart from each other in the front-rear direction is disposed. Each rear end of a shoelace 22 is hooked to the first members 5 and exposed to the outside of the upper body 20D from a gap between adjacent first members 5.

[0050] With the present embodiment, it is also possible to achieve an effect substantially similar to that of the first embodiment described above. That is, in the present embodiment, by hooking the shoelace 22 to the first members 5D, the first members 5D serve as a substitute for eyelets, and the eyelets do not need to be disposed separately. In addition, by hooking the shoelace 22 to some of the first members 5D, a tightening force generated by tensioning the shoelace 22 is applied to some of the first members 5D, and it is possible to locally tighten the upper body 20D. In particular, in the present embodiment, since the first members 5D extend to surround the foot insertion opening 20a, it is possible to locally tighten a portion around the foot insertion opening 20a of the upper body 20D. In addition, in the present embodiment, since the first members 5D extending in one direction are disposed in the opening region 4D in a state of not being coupled with each other, it is possible to improve air permeability between the inside and the outside of the upper body 20D and to reduce the weight of the shoe 1D.

(Sixth embodiment)

[0051] FIG. 13 is a plan view of a shoe 1E according to a sixth embodiment of the present invention and illustrates a state before a shoelace 22 is pulled. FIG. 14 is a side view of the shoe 1E on a lateral foot side according to the sixth embodiment. FIG. 15 is a plan view of the shoe 1E according to the sixth embodiment of the present invention and illustrates a state in which the shoelace 22 is pulled from the state illustrated in FIG. 13. An upper 2E according to the sixth embodiment is different from the upper 2 according to the first embodiment in the ranges and structures of an opening region 4E and first members 5E. In the sixth embodiment, portions that overlap with the first embodiment described above are denoted by the same reference signs, and the descriptions thereof are omitted. In FIGS. 13 to 15, for ease of understanding, the opening region 4E is illustrated with dot hatching, and the first members 5E are omitted in FIGS. 13 and 15.

[0052] As illustrated in FIGS. 13 and 14, the opening region 4E is disposed in an upper midfoot portion 24 in the present embodiment. The opening region 4E is adjacent to the lateral-foot-side edge of a throat portion 20b, and is disposed from the lateral-foot-side edge of the throat portion 20b to the vicinity of the lateral-foot-side lower edge of the upper midfoot portion 24. The opening region 4E is adjacent to the medial-foot-side edge of the throat portion 20b, and is disposed from the medial-foot-side edge of the throat portion 20b to the vicinity of the medial-foot-side lower edge of the upper midfoot portion 24. As illustrated in FIG. 14, the first members 5E are disposed on the upper midfoot portion 24. The first members 5E extend from the lateral-foot-side edge of the throat portion 20b toward a sole 3 in the opening region 4E on the lateral foot side. The lateral-foot-side lower ends of the first members 5E reach the vicinity of the lower edge of the upper midfoot portion 24. Although not illustrated, the first members 5E similarly extend from the medial-foot-side edge of the throat portion 20b toward the sole 3 in the opening region 4E on the medial foot side. The medial-foot-side lower ends of the first members 5 reach the vicinity of the lower edge of the upper midfoot portion 24. The extending direction of the first members 5E is inclined to be positioned rearward from the lateral-foot-side edge and the medial-foot-side edge of the throat portion 20b toward the sole 3.

[0053] The first members 5E include a first extendable member 53 and a second extendable member 54 having higher extensibility in one direction than the first extendable member 53. The opening region 4E includes a first region 41 in which a plurality of first extendable members 53 is arranged in the front-rear direction, and a second region 42 in which a plurality of second extendable members 54 is arranged in the front-rear direction. The first region 41 and the second region 42 are alternately disposed in the front-rear direction on the lateral foot side and the medial foot side of the throat portion 20b. In FIGS. 13 to 15, the first regions 41 and the second regions 42 are distinguished from each other by shading of dot hatching.

[0054] As illustrated in FIG. 13, the upper 2E includes a front edge portion 20c, a first side edge portion 20d, a second side edge portion 20e, a plurality of first disposed portions 20f, a plurality of second disposed portions 20g, and a plurality of string passing portions 27. Hereinafter, when the string passing portions 27 are distinguished, they are referred to as a lateral-foot-side string passing portion 27a, a medial-foot-side string passing portion 27b, a toe-side string passing portion 27c, and a heel-side string passing portion 27d. The lateral-foot-side string passing portion 27a, the medial-foot-side string passing portion 27b, the toe-side string passing portion 27c, and the heel-side string passing portion 27d are actually gaps disposed between adjacent first members 5E, but in FIGS. 13 to 15, the string passing portions 27 are illustrated as circular holes for ease of understanding.

[0055] The front edge portion 20c is the front-side edge of the throat portion 20b. The front edge portion 20c extends in the right-left direction. The first side edge portion 20d is the lateral-foot-side edge of the throat portion 20b. The second side edge portion 20e is the medial-foot-side edge of the throat portion 20b. The first side edge portion 20d and the second side edge portion 20e extend in the front-rear direction.

[0056] Each first disposed portion 20f is a part of the second region 42 and protrudes from the first side edge portion 20d toward the second side edge portion 20e. The shape of each first disposed portion 20f in plan view is not particularly

limited, but is a rectangle with rounded corners in the present embodiment. The shape of each first disposed portion 20f in plan view may be a polygon or a semicircle. The number of the first disposed portions 20f is not particularly limited, but is two in the present embodiment. The two first disposed portions 20f are spaced apart from each other in the front-rear direction. Note that each first disposed portion 20f may be a part of one of the first region 41 and the second region 42.

[0057] Each second disposed portion 20g is a part of the second region 42 and protrudes from the second side edge portion 20e toward the first side edge portion 20d. The shape of each second disposed portion 20g in plan view is not particularly limited, but is a rectangle with rounded corners in the present embodiment. The shape of each second disposed portion 20g in plan view may be a polygon or a semicircle. The number of the second disposed portions 20g is not particularly limited, but is two in the present embodiment. The two second disposed portions 20g are spaced apart from each other in the front-rear direction. The first disposed portion 20f and the second disposed portion 20g are alternately disposed in the front-rear direction. In the present embodiment, the second disposed portion 20g and the first disposed portion 20f are alternately disposed from the front side to the rear side in this order. Note that each second disposed portion 20g may be a part of one of the first region 41 and the second region 42.

[0058] One toe-side string passing portion 27c is disposed on the lateral foot side of the throat portion 20b. The toe-side string passing portion 27c is disposed in front of the lateral-foot-side string passing portion 27a. The toe-side string passing portion 27c is disposed in the vicinity of the boundary between the first side edge portion 20d and the front edge portion 20c.

[0059] The lateral-foot-side string passing portion 27a is constituted by a pair of one first string passing portion 27e disposed in the first disposed portion 20f and one second string passing portion 27f spaced apart on the lateral foot side from the first string passing portion 27e. The first string passing portion 27e is disposed in the second region 42. The second string passing portion 27f is disposed in the first region 41. The number of pairs of lateral-foot-side string passing portions 27a is not particularly limited, but is two in the present embodiment. The two pairs of lateral-foot-side string passing portions 27a are spaced apart from each other in the front-rear direction. The first string passing portion 27e and the second string passing portion 27f are disposed to be shifted in the front-rear direction and the right-left direction. In a pair of lateral-foot-side string passing portions 27a, the second string passing portion 27f is spaced apart on the lateral foot side and the rear side from the first string passing portion 27e. The second string passing portion 27f is positioned closer to the lateral foot side than the first side edge portion 20d. Note that each lateral-foot-side string passing portions 27a may be disposed in at least one of the first region 41 and the second region 42.

[0060] The medial-foot-side string passing portion 27b is constituted by a pair of one third string passing portion 27g disposed in the second disposed portion 20g and one fourth string passing portion 27h spaced apart on the medial foot side from the third string passing portion 27g. The third string passing portion 27g is disposed in the second region 42. The fourth string passing portion 27h is disposed in the first region 41. The number of pairs of medial-foot-side string passing portions 27b is not particularly limited, but is two in the present embodiment. The two pairs of medial-foot-side string passing portions 27b are spaced apart from each other in the front-rear direction. The third string passing portion 27g and the fourth string passing portion 27h are disposed to be shifted in the right-left direction and the front-rear direction. In a pair of medial-foot-side string passing portions 27b, the fourth string passing portion 27h is spaced apart on the medial foot side and the front side from the third string passing portion 27g. The fourth string passing portion 27h is positioned closer to the medial foot side than the second side edge portion 20e. The fourth string passing portion 27h, which is positioned at the foremost side among the two pairs of medial-foot-side string passing portions 27b, is disposed at a position right-left symmetrical to the toe-side string passing portion 27c across the throat portion 20b. In the present embodiment, the first string passing portion 27e is spaced apart on the lateral foot side and the rear side from the third string passing portion 27g, but the first string passing portion 27e and the third string passing portion 27g may be disposed side by side in the front-rear direction. Note that each medial-foot-side string passing portion 27b may be disposed in at least one of the first region 41 and the second region 42.

[0061] The heel-side string passing portion 27d is disposed behind the lateral-foot-side string passing portions 27a and the medial-foot-side string passing portions 27b. In the present embodiment, there are two heel-side string passing portions 27d; one is disposed on the lateral foot side of the throat portion 20b, and the other is disposed on the medial foot side. The two heel-side string passing portions 27d are disposed at right-left symmetrical positions across the throat portion 20b. The heel-side string passing portions 27d are disposed in the vicinity of the boundary between the edge of the throat portion 20b and the edge of the foot insertion opening 20a.

[0062] The shoelace 22 is passed through the toe-side string passing portion 27c, the lateral-foot-side string passing portions 27a, the medial-foot-side string passing portions 27b, and the heel-side string passing portions 27d. Although not illustrated, both ends of the shoelace 22 in the length direction are tied together with a bow knot or the like. The shoelace 22 includes a first portion 22a alternately passed through the second string passing portion 27f and the third string passing portion 27g, a second portion 22b alternately passed through the first string passing portion 27e and the fourth string passing portion 27h, and a third portion 22c extending between the toe-side string passing portion 27c and the fourth string passing portion 27h positioned at the foremost position and connecting the first portion 22a and the second portion 22b. The third portion 22c extends in the right-left direction across the throat portion 20b.

[0063] The first portion 22a extends obliquely rearward from the toe-side string passing portion 27c, is alternately passed through the third string passing portion 27g and the second string passing portion 27f, and is then passed through the heel-side string passing portion 27d on the lateral foot side. In a state before the shoelace 22 is pulled as illustrated in FIG. 13, the second string passing portion 27f and the third string passing portion 27g are disposed to be shifted in the front-rear direction and the right-left direction. Therefore, the first portion 22a alternately passed through the second string passing portion 27f and the third string passing portion 27g extends in a zigzag shape in the right-left direction from the front side toward the rear side.

[0064] The second portion 22b extends obliquely rearward from the fourth string passing portion 27h positioned at the foremost position, is alternately passed through the first string passing portion 27e and the fourth string passing portion 27h, and is then passed through the heel-side string passing portion 27d on the medial foot side. In a state before the shoelace 22 is pulled, the first string passing portion 27e and the fourth string passing portion 27h are disposed to be shifted in the front-rear direction and the right-left direction. Therefore, the second portion 22b alternately passed through the first string passing portion 27e and the fourth string passing portion 27h extends in a zigzag shape in the right-left direction from the front side to the rear side. In a state before the shoelace 22 is pulled, the first portion 22a and the second portion 22b do not intersect with each other. In a state before the shoelace 22 is pulled, a portion of the first portion 22a alternately passed through the second string passing portion 27f and the third string passing portion 27g and a portion of the second portion 22b alternately passed through the first string passing portion 27e and the fourth string passing portion 27h are parallel to each other.

[0065] As illustrated in FIG. 15, by pulling the first portion 22a and the second portion 22b toward the rear side from the state illustrated in FIG. 13, the first side edge portion 20d and the second side edge portion 20e of the upper body 20E are pulled together. Accordingly, the distance in the right-left direction between the second string passing portion 27f and the third string passing portion 27g is reduced, and the distance in the right-left direction between the first string passing portion 27e and the fourth string passing portion 27h is reduced. Therefore, the first portion 22a alternately passed through the second string passing portion 27f and the third string passing portion 27g approaches a state of linearly extending in the front-rear direction, and the second portion 22b alternately passed through the first string passing portion 27e and the fourth string passing portion 27h approaches a state of linearly extending in the front-rear direction. In a state in which the shoelace 22 passed through the lateral-foot-side string passing portions 27a and the medial-foot-side string passing portions 27b is pulled, the first portion 22a and the second portion 22b do not intersect with each other. In a state in which the shoelace 22 passed through the lateral-foot-side string passing portions 27a and the medial-foot-side string passing portions 27b is pulled, a portion of the first portion 22a alternately passed through the second string passing portion 27f and the third string passing portion 27g and a portion of the second portion 22b alternately passed through the first string passing portion 27e and the fourth string passing portion 27h are parallel to each other.

[0066] With the present embodiment, it is also possible to achieve an effect substantially similar to that of the first embodiment described above. That is, in the present embodiment, since the first members 5E extending in one direction are disposed in the opening region 4E in a state of not being coupled with each other, it is possible to improve air permeability between the inside and the outside of the upper body 20E and to reduce the weight of the shoe 1E.

[0067] In the present embodiment, in a state in which the shoelace 22 is pulled as illustrated in FIG. 15, the first portion 22a and the second portion 22b do not intersect with each other over the instep of a foot. Therefore, as compared with a case where the shoelace 22 intersects over the instep of a foot, the pressure on the instep of the foot is reduced, and it is possible to reduce the tightening feeling on the instep of the foot.

[0068] In the present embodiment, since the first region 41 in which the first extendable members 53 are arranged and the second region 42 in which the second extendable members 54 are arranged are alternately disposed in the front-rear direction on the lateral foot side and the medial foot side of the throat portion 20b as illustrated in FIG. 14, and the lateral-foot-side string passing portions 27a and the medial-foot-side string passing portions 27b are disposed in the first region 41 and the second region 42 as illustrated in FIG. 15, the first side edge portion 20d and the second side edge portion 20e are easily pulled together when the shoelace 22 is pulled. Accordingly, it is possible to reliably bring the upper 2E into close contact with the foot.

[0069] In the present embodiment, as illustrated in FIG. 15, the lateral-foot-side string passing portion 27a constituted by a pair of one first string passing portion 27e and one second string passing portion 27f and the medial-foot-side string passing portion 27b constituted by a pair of one third string passing portion 27g and one fourth string passing portion 27h are alternately disposed in the front-rear direction. That is, since there are two string passing portions 27 alternately disposed on each of the lateral foot side and the medial foot side of the throat portion 20b, a force for pulling the first side edge portion 20d and the second side edge portion 20e together when the shoelace 22 is pulled is stronger than a case where one string passing portion 27 is alternately disposed on each of the lateral foot side and the medial foot side of the throat portion 20b. Accordingly, it is possible to reliably bring the upper 2E into close contact with the foot.

(Seventh embodiment)

[0070] FIG. 16 is a schematic perspective view of a first member 5F according to a seventh embodiment of the present invention. An upper 2F according to the seventh embodiment is different from the upper 2 according to the first embodiment in the structure of the first member 5F. In the seventh embodiment, portions that overlap with the first embodiment described above are denoted by the same reference signs, and the descriptions thereof are omitted.

[0071] The first member 5F is a flexible tubular tube. The first member 5F has a cylindrical shape in the present embodiment, but may have a quadrangular cylindrical shape or the like. With the present embodiment, it is possible to achieve an effect similar to that of the first embodiment described above.

(Eighth embodiment)

[0072] FIG. 17 is a developed view of an upper 2G of a shoe according to an eighth embodiment of the present invention. The upper 2G according to the eighth embodiment is different from the upper 2 according to the first embodiment in that the upper 2G includes a second member 7. In the eighth embodiment, portions that overlap with the first embodiment described above are denoted by the same reference signs, and the descriptions thereof are omitted.

[0073] In an opening region 4, a plurality of second members 7 extending in one direction is disposed in a state of not being coupled with each other. The second members 7 are linear members extending to longitudinally cross the opening region 4 in the front-rear direction. The second members 7 are disposed with a space from each other in the right-left direction. The second members 7 are disposed of a single material. Each of the second members 7 is, for example, a fiber, a thread obtained by bundling a plurality of fibers, or a resin disposed into a linear shape, and has flexibility. The second members 7 have elasticity in only one direction. The second members 7 are disposed to overlap with first members 5. The second members 7 extend in a direction intersecting with the first members 5. The second members 7 are disposed over an upper forefoot portion 23, an upper midfoot portion 24, and an upper rearfoot portion 25. In each of the upper forefoot portion 23, the upper midfoot portion 24, and the upper rearfoot portion 25, the number of the first members 5 is greater than the number of the second members 7. The first members 5 and the second members 7 are disposed in a state of not being coupled with each other. The second members 7 may be disposed by combining a plurality of materials.

[0074] The second members 7 are disposed on the lateral foot side and the medial foot side of a throat portion 20b and a foot insertion opening 20a. The second members 7 on the lateral foot side extend in the front-rear direction between a first joint region 61 and a third joint region 63 to longitudinally cross the upper forefoot portion 23, the upper midfoot portion 24, and the upper rearfoot portion 25. The second members 7 on the medial foot side extend in the front-rear direction between a second joint region 62 and the third joint region 63 to longitudinally cross the upper forefoot portion 23, the upper midfoot portion 24, and the upper rearfoot portion 25. Both ends of each of the second members 7 are fixed ends 70 fixed to a joint region 6 of an upper body 20G adjacent to the opening region 4. Hereinafter, when the fixed ends 70 at both ends of the second members 7 are distinguished, the fixed ends 70 on one end side of the second members 7 are referred to as fixed ends 71, and the fixed ends 70 on the other end side of the second members 7 are referred to as fixed ends 72. The fixed ends 71 on the one end side of the second members 7 are arranged in the right-left direction. The fixed ends 72 on the other end side of the second members 7 are arranged in the right-left direction. The order in which the fixed ends 71 on the one end side of the second members 7 are arranged is equal to the order in which the fixed ends 72 on the other end side of the second members 7 are arranged. The space between adjacent fixed ends 70 in the right-left direction on the one end side may be different from that on the other end side, but the space on the one end side is the same as that on the other end side in the present embodiment. The second members 7 are disposed in parallel to each other.

[0075] With the present embodiment, it is possible to achieve an effect similar to that of the first embodiment described above. In addition, according to the present embodiment, since the second members 7 extending in the direction intersecting with the first members 5 are disposed in the opening region 4 in a state of not being coupled with each other, it is possible to reduce the damage of the first members 5 and to increase variations in the strength of stiffness of the upper body 20G, as compared with a portion in which only the first members 5 are disposed in the opening region 4. In addition, since the first members 5 and the second members 7 are disposed in a state of not being coupled with each other and the number of the first members 5 is greater than the number of the second members 7, it is possible to control the excessive increase in the stiffness of the region where the second members 7 are disposed. The position at which the second members 7 are disposed is not limited to the illustrated example, and may be appropriately changed. In addition, the first members 5 and the second members 7 are only required to intersect with each other. For example, the first members 5 may be disposed to extend in the front-rear direction, and the second members 7 may be disposed to extend in the right-left direction.

(Ninth embodiment)

[0076] FIG. 18 is a developed view of an upper 2H of a shoe according to a ninth embodiment of the present invention. The upper 2H according to the ninth embodiment is different from the upper 2 according to the first embodiment in that the upper 2H includes a second member 8. In the ninth embodiment, portions that overlap with the first embodiment described above are denoted by the same reference signs, and the descriptions thereof are omitted.

[0077] In an opening region 4, a plurality of second members 8 disposed to overlap a plurality of first members 5 is disposed. The second members 8 are flexible sheet-like members. The second members 8 are disposed of a single material. The material of the second members 8 is, for example, resin. The second members 8 are disposed on an upper midfoot portion 24. The number of second members 8 is not particularly limited, but is two in the present embodiment. One of the two second members 8 is disposed on the lateral foot side of a throat portion 20b and a foot insertion opening 20a, and the other is disposed on the medial foot side. The first members 5 and the second members 8 are disposed in a state of not being coupled with each other. The second members 8 are fixed to a joint region 6 adjacent to the opening region 4. The second members 8 may be disposed by combining a plurality of materials.

[0078] With the present embodiment, it is possible to achieve an effect similar to that of the first embodiment described above. In addition, according to the present embodiment, since the second members 8 disposed to overlap the first members 5 are disposed in the opening region 4, it is possible to reduce the damage of the first members 5 and to increase variations in the strength of stiffness of the upper body 20H, as compared with a portion in which only the first members 5 are disposed in the opening region 4. In addition, since the first members 5 and the second members 8 are disposed in a state of not being coupled with each other, it is possible to control the excessive increase in the stiffness of the region where the second members 8 are disposed. The position at which the second members 8 are disposed is not limited to the illustrated example, and may be appropriately changed.

[0079] The configurations described in the above embodiments merely show examples of the present invention and can be combined with another known technique, and a part of each configuration can be omitted or changed without departing from the gist of the present invention. The ranges of the opening regions 4 to 4E and the first members 5 to 5E are not limited to the examples illustrated in the above embodiments, and may be appropriately changed according to portions of the upper bodies 20 to 20E where stiffness is desired to be reduced.

[0080] The upper sole portion 26 may be omitted from each of the above embodiments. In each of the above embodiments, the first members 5 to 5F are disposed of a single material, but the first members 5 to 5F may be disposed by combining a plurality of materials. In addition, the first members 5 to 5F may be disposed in contact with each other or may be disposed with a space from each other as long as the first members 5 to 5F are disposed in a state of not being coupled with each other. Reference Signs List

[0081]

1, 1A, 1B, 1C, 1D, 1E	SHOE
2, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H	UPPER
3	SOLE
4, 4A, 4B, 4C, 4D, 4E	OPENING REGION
5, 5A, 5B, 5C, 5D, 5E, 5F	FIRST MEMBER
6, 6A	JOINT REGION
6B	CENTER JOINT REGION
7, 8	SECOND MEMBER
20, 20A, 20B, 20C, 20D, 20E	UPPER BODY
20a	FOOT INSERTION OPENING
20b	THROAT PORTION
20c	FRONT EDGE PORTION
20d	FIRST SIDE EDGE PORTION
20e	SECOND SIDE EDGE PORTION
20f	FIRST DISPOSED PORTION
20g	SECOND DISPOSED PORTION
21	SHOE TONGUE
22	SHOELACE
22a	FIRST PORTION
22b	SECOND PORTION
22c	THIRD PORTION
23	UPPER FOREFOOT PORTION
24	UPPER MIDFOOT PORTION
25	UPPER REARFOOT PORTION

26	UPPER SOLE PORTION
27	STRING PASSING PORTION
27a	LATERAL-FOOT-SIDE STRING PASSING PORTION
27b	MEDIAL-FOOT-SIDE STRING PASSING PORTION
27c	TOE-SIDE STRING PASSING PORTION
27d	HEEL-SIDE STRING PASSING PORTION
27e	FIRST STRING PASSING PORTION
27f	SECOND STRING PASSING PORTION
27g	THIRD STRING PASSING PORTION
27h	FOURTH STRING PASSING PORTION
30	OUTSOLE
30a	GROUND CONTACT SURFACE
31	MIDSOLE
41	FIRST REGION
42	SECOND REGION
50, 51, 52	FIXED END
53	FIRST EXTENDABLE MEMBER
54	SECOND EXTENDABLE MEMBER
61	FIRST JOINT REGION
62	SECOND JOINT REGION
63	THIRD JOINT REGION
64	FOURTH JOINT REGION
65	FIFTH JOINT REGION
66	SIXTH JOINT REGION
67	SEVENTH JOINT REGION
68	EIGHTH JOINT REGION
69	NINTH JOINT REGION
70, 71, 72	FIXED END
C	SHOE CENTER AXIS

Claims

1. An upper comprising

an upper body covering an instep of a foot, wherein
at least a part of the upper body is an opening region disposed with an opening,
a plurality of first members extending in one direction are arranged in the opening region in a state of not being coupled with each other,
both ends of the plurality of first members are fixed ends fixed to a portion of the upper body adjacent to the opening region, and
order in which fixed ends on one end side of the plurality of first members are arranged is equal to order in which fixed ends on the other end side of the plurality of first members are arranged.

2. The upper according to claim 1, wherein a space between adjacent fixed ends on the one end side is the same as a space between adjacent fixed ends on the other end side.

3. The upper according to claim 1 or 2, wherein

the upper body includes an upper midfoot portion covering a midfoot of a foot, and
the plurality of first members are disposed on the upper midfoot portion.

4. The upper according to claim 3, wherein

the upper midfoot portion is disposed with a foot insertion opening for inserting a foot, and a throat portion communicating with the foot insertion opening and extending forward from the foot insertion opening, and
the plurality of first members extend from an edge of the throat portion toward a sole positioned below the upper body.

5. The upper according to claim 4, wherein

the plurality of first members includes a first extendable member and a second extendable member having higher extensibility in the one direction than the first extendable member,
the opening region includes a first region in which a plurality of the first extendable members is arranged, and a second region in which a plurality of the second extendable members is arranged, and
the first region and the second region are alternately disposed in a front-rear direction.

6. The upper according to claim 5, wherein

the first region and the second region are alternately disposed in the front-rear direction on a lateral foot side and a medial foot side of the throat portion,
the upper body includes:

a first side edge portion serving as a lateral-foot-side edge of the throat portion;
a second side edge portion serving as a medial-foot-side edge of the throat portion;
a first disposed portion protruding from the first side edge portion toward the second side edge portion;
a second disposed portion protruding from the second side edge portion toward the first side edge portion;
a lateral-foot-side string passing portion constituted by a pair of a first string passing portion disposed in the first disposed portion and a second string passing portion spaced apart on the lateral foot side from the first string passing portion, the lateral-foot-side string passing portion disposed in at least one of the first region and the second region;
a medial-foot-side string passing portion constituted by a pair of a third string passing portion disposed in the second disposed portion and a fourth string passing portion spaced apart on the medial foot side from the third string passing portion, the medial-foot-side string passing portion disposed in at least one of the first region and the second region, the first disposed portion and the second disposed portion being alternately disposed in the front-rear direction; and
a shoelace to be passed through the lateral-foot-side string passing portion and the medial-foot-side string passing portion, and
the shoelace includes:

a first portion to be alternately passed through the second string passing portion and the third string passing portion; and
a second portion to be alternately passed through the first string passing portion and the fourth string passing portion.

7. The upper according to claim 1 or 2, wherein

the upper body includes an upper midfoot portion covering a midfoot of a foot and an upper rearfoot portion covering a rearfoot of the foot,
the upper midfoot portion is disposed with a foot insertion opening for inserting a foot, and a throat portion communicating with the foot insertion opening and extending forward from the foot insertion opening, and
the plurality of first members extends from an edge of the throat portion toward the upper rearfoot portion.

8. The upper according to claim 1 or 2, wherein

the upper body includes an upper forefoot portion covering a forefoot of a foot, and
the plurality of first members is disposed on the upper forefoot portion and extends in a right-left direction.

9. The upper according to any one of claims 1 to 8, wherein the plurality of first members has elasticity in only the one direction.

10. The upper according to any one of claims 1 to 9, wherein

the upper body includes a second member disposed to overlap the plurality of first members, and
the plurality of first members and the second member are disposed in a state of not being coupled with each other.

11. The upper according to claim 10, wherein

a plurality of the second members is disposed and extends in a direction intersecting with the plurality of first members,
the second members are disposed in a state of not being coupled with each other, and
the number of the plurality of first members is greater than the number of the second members.

12. A shoe comprising:

the upper according to any one of claims 1 to 11; and
a sole positioned below the upper.

FIG.1

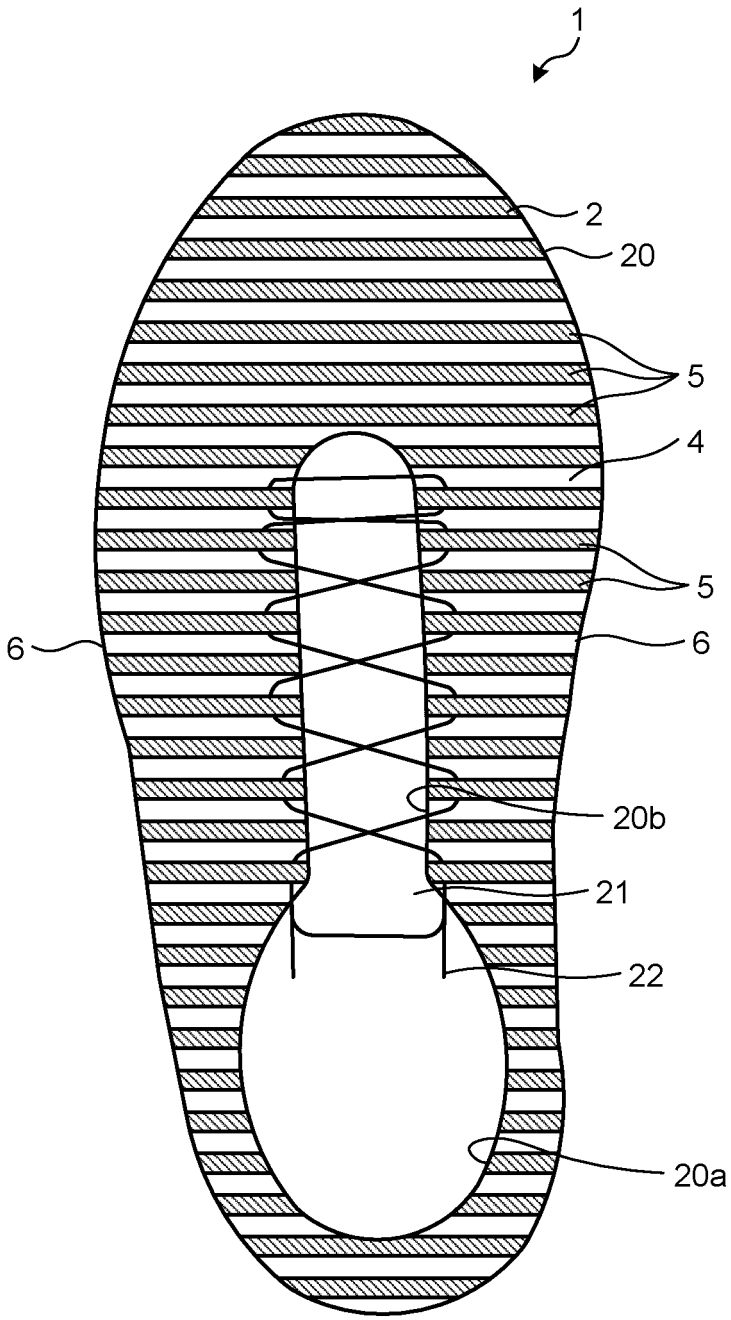
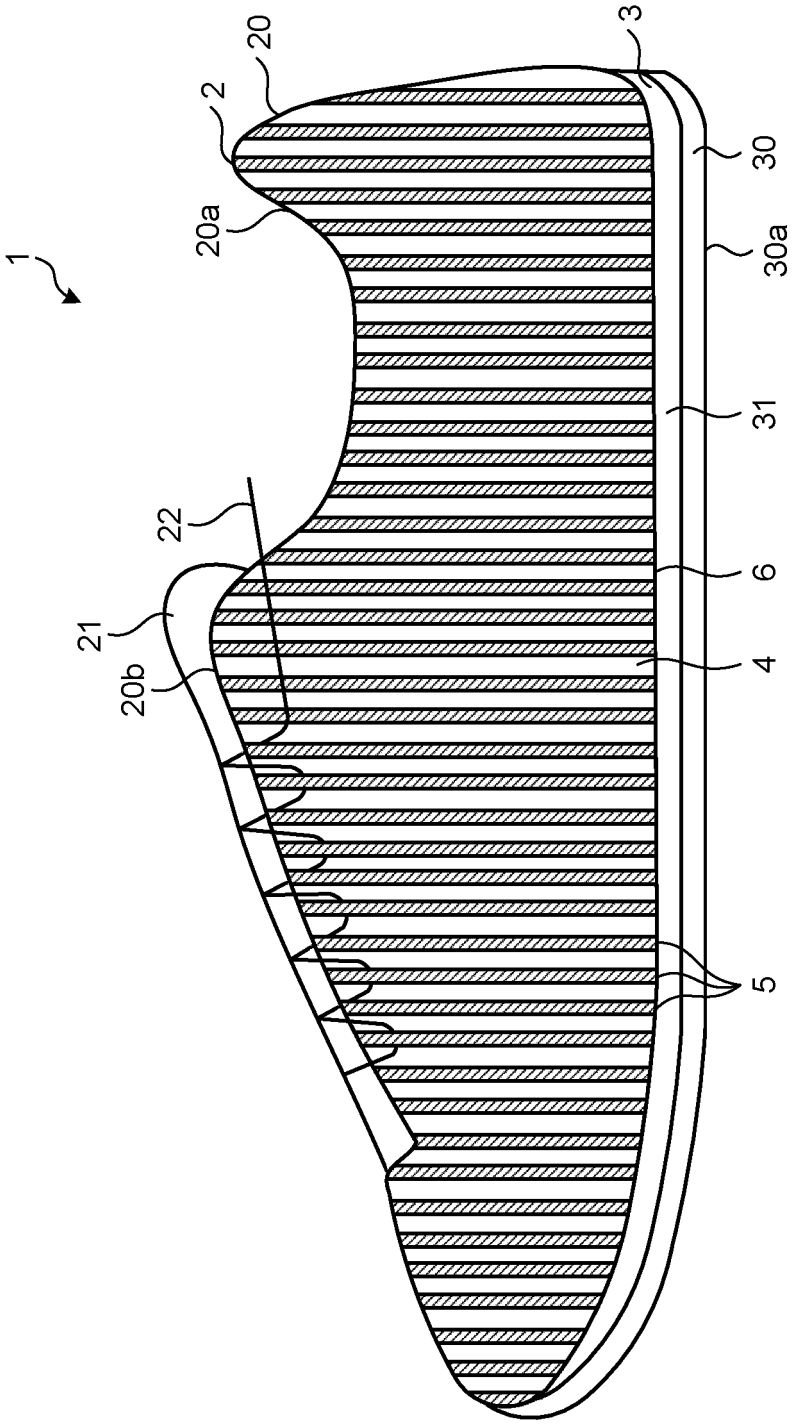
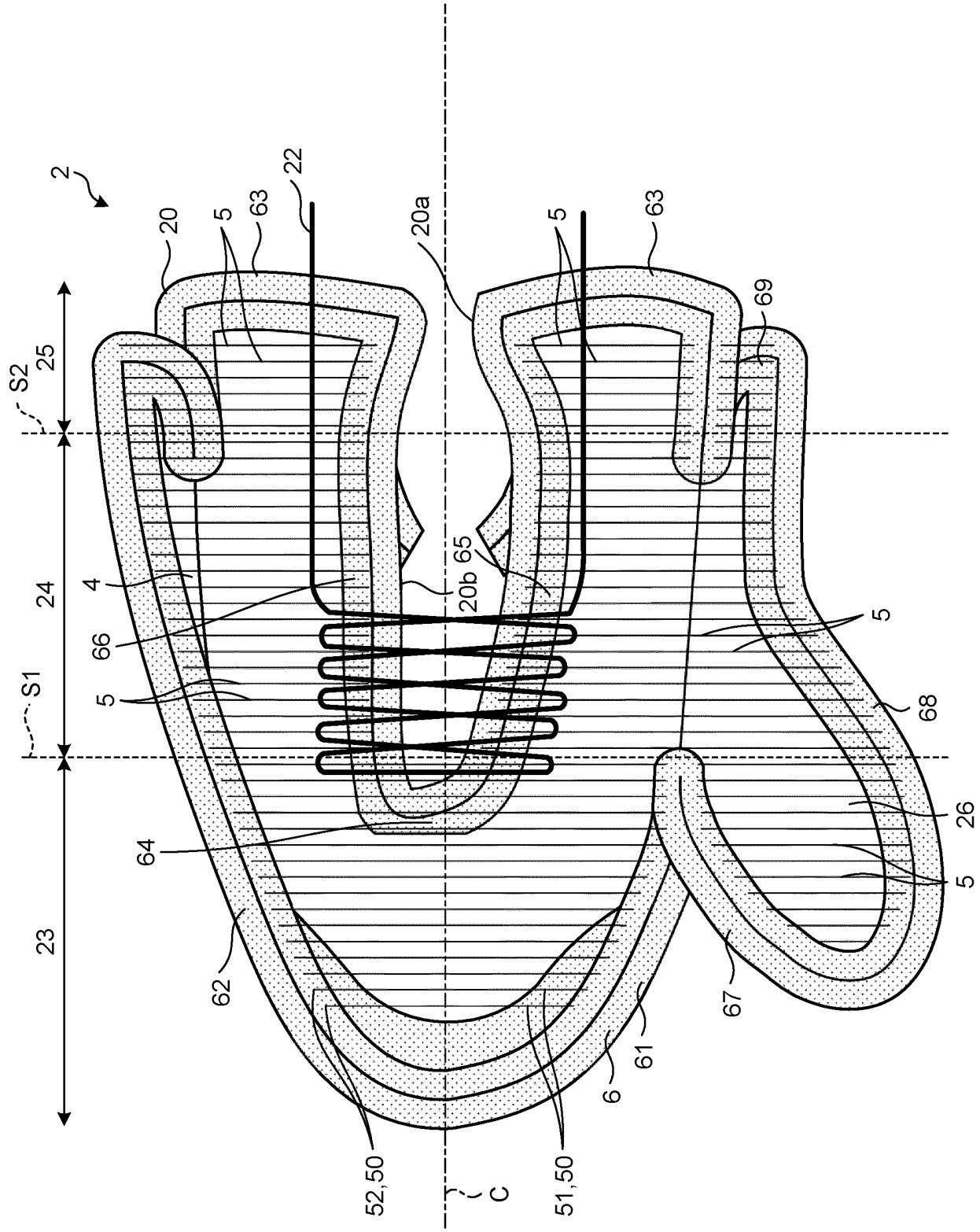


FIG.2

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63
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20a
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63
69
S2
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24
S1
23
4
66
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20b
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64
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67
61
6
52,50
C
51,50

FIG.3

FIG.4

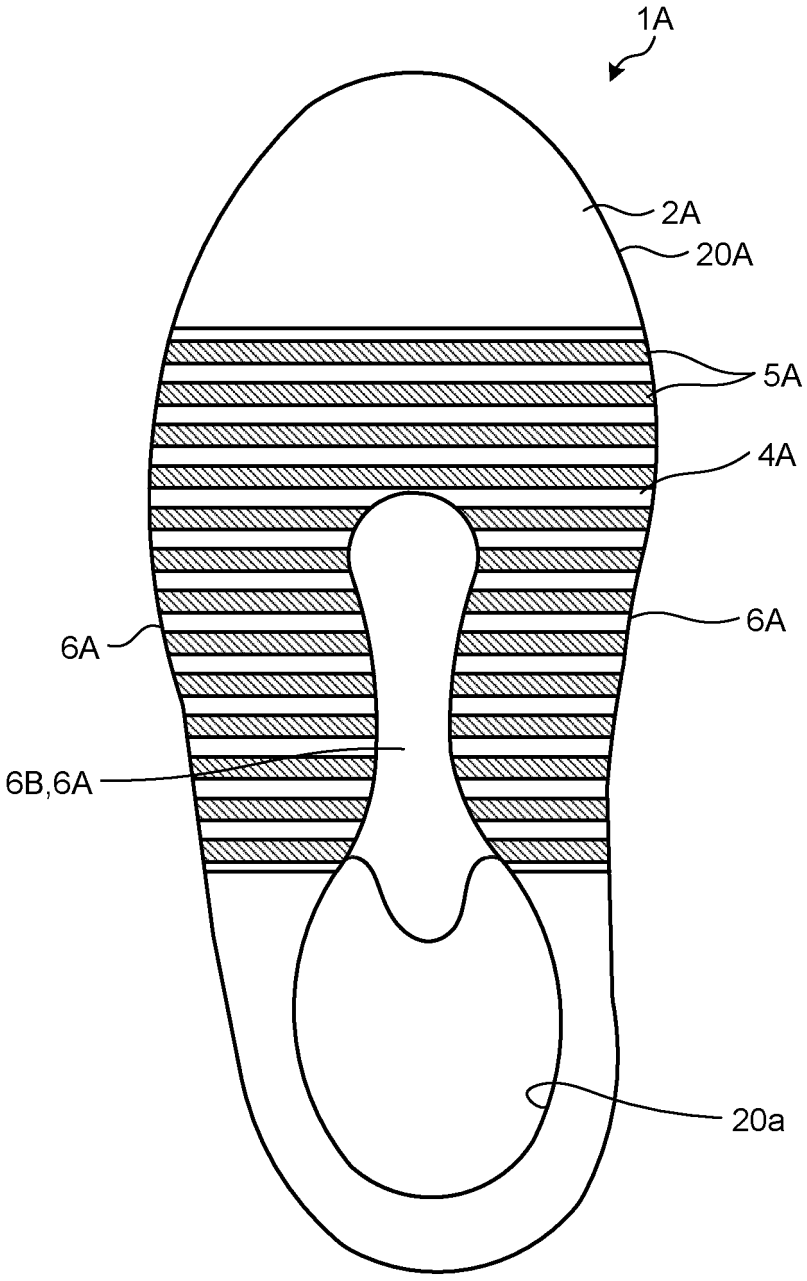
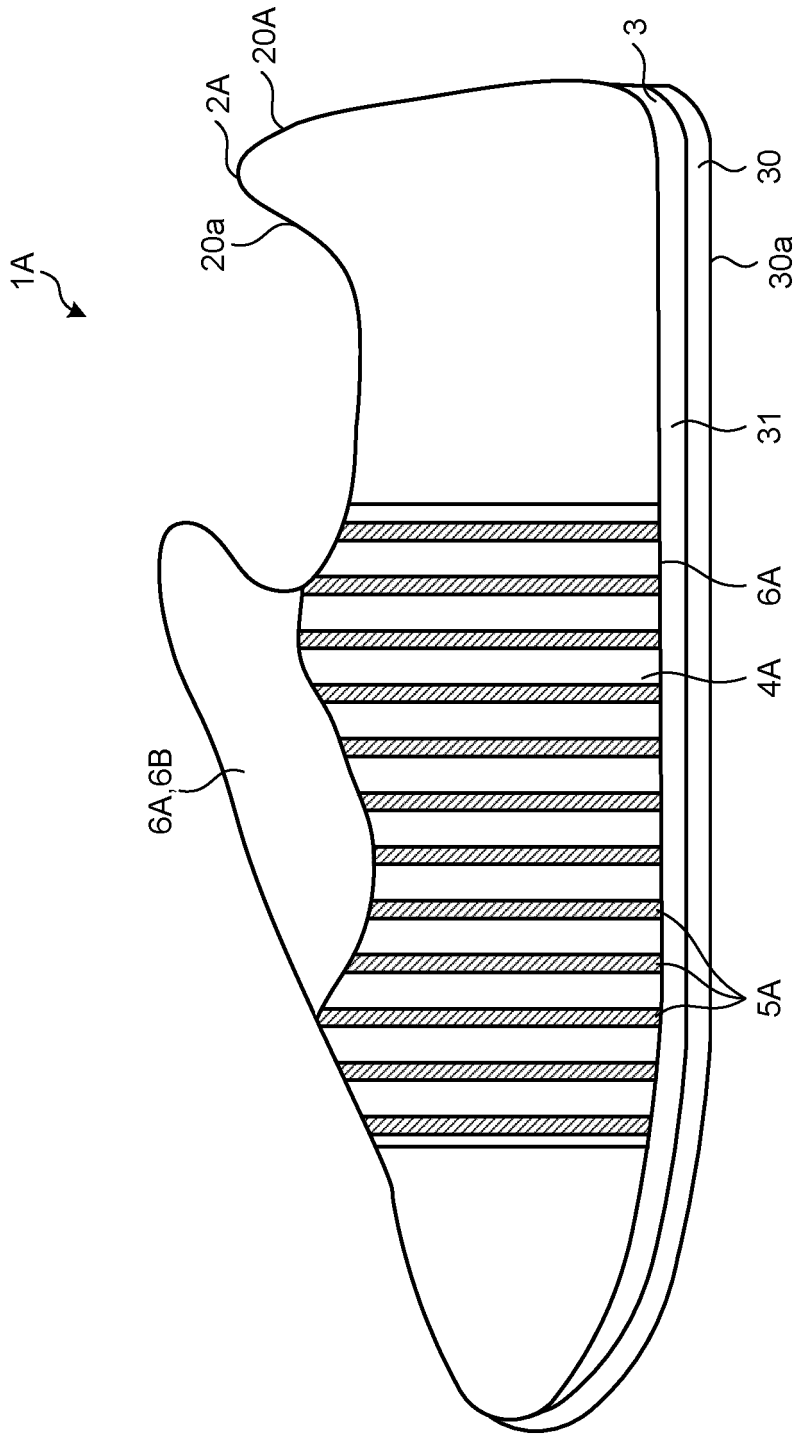


FIG.5



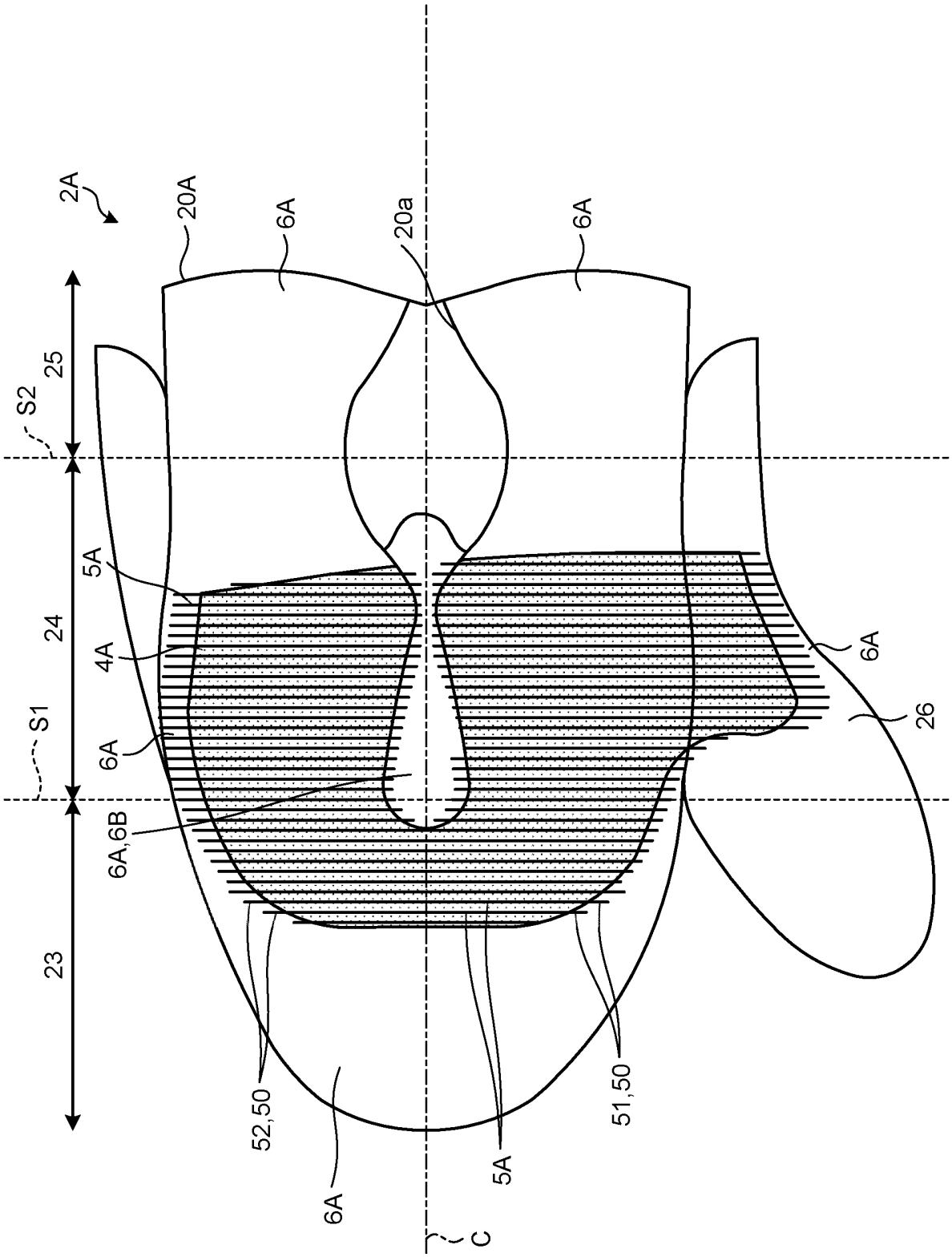


FIG.6

FIG.7

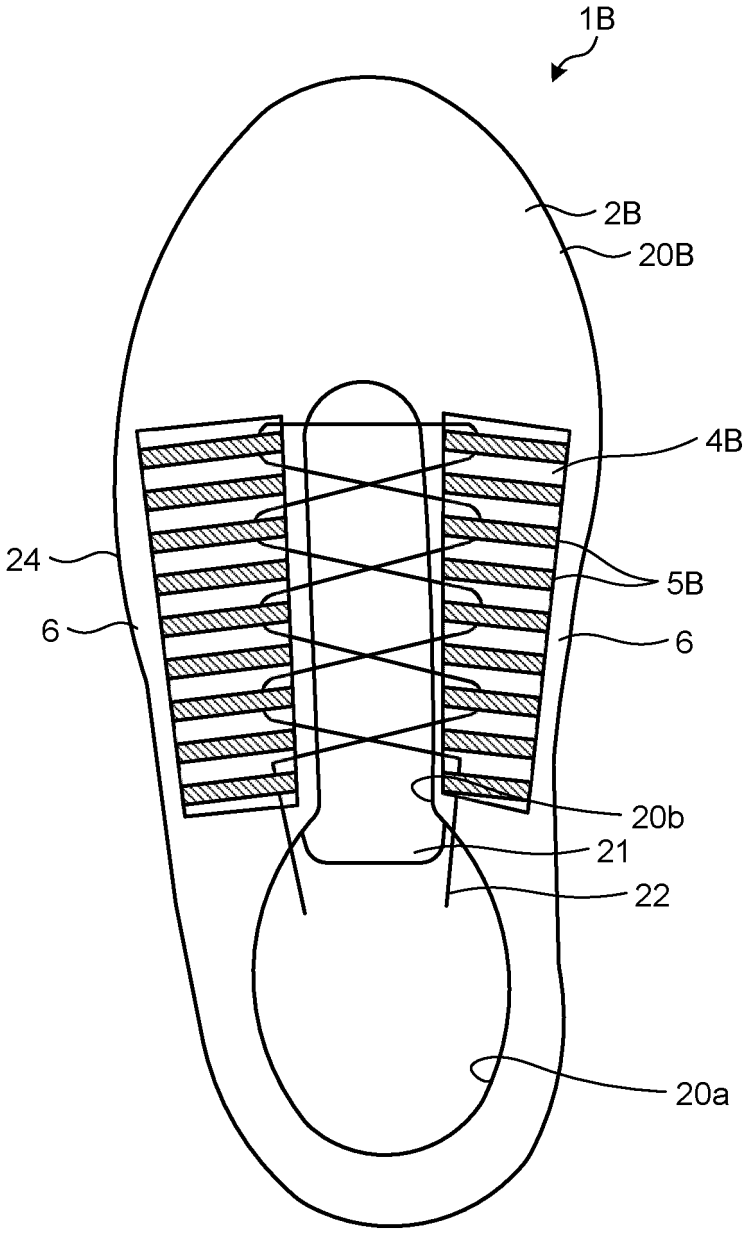


FIG.8

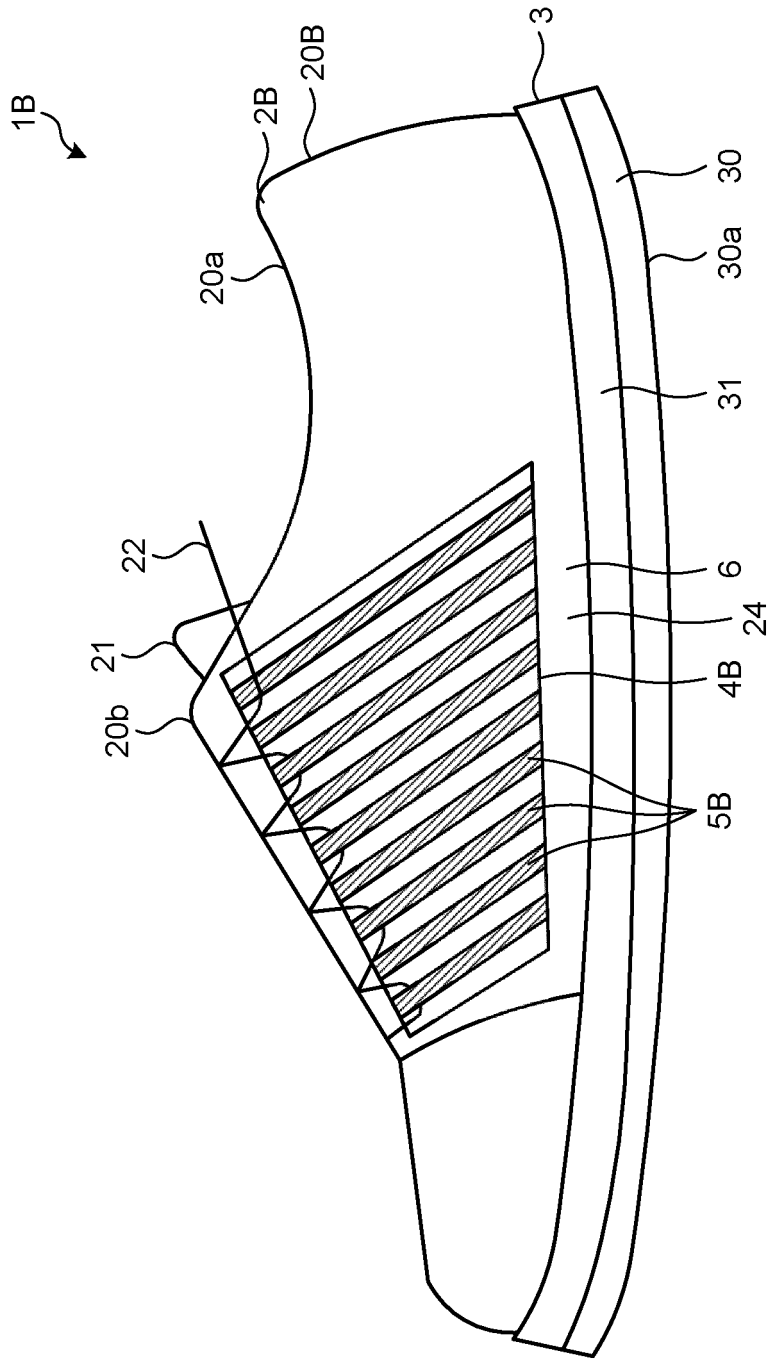


FIG.9

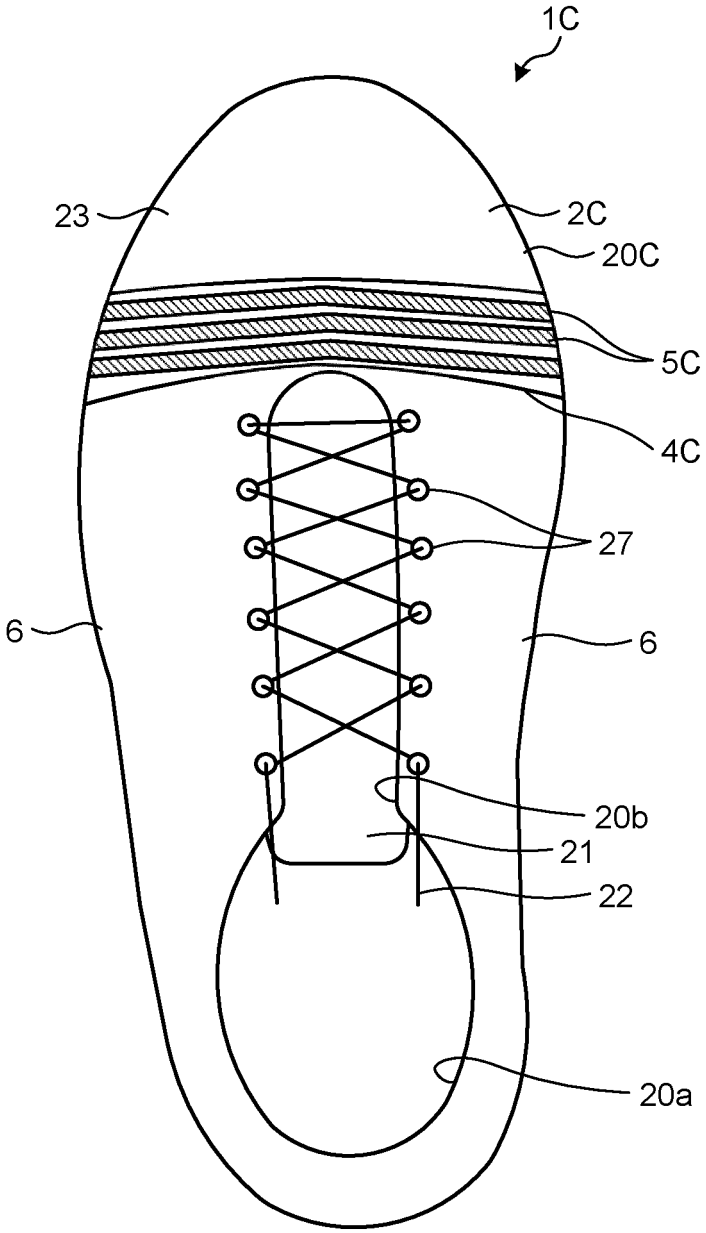


FIG.10

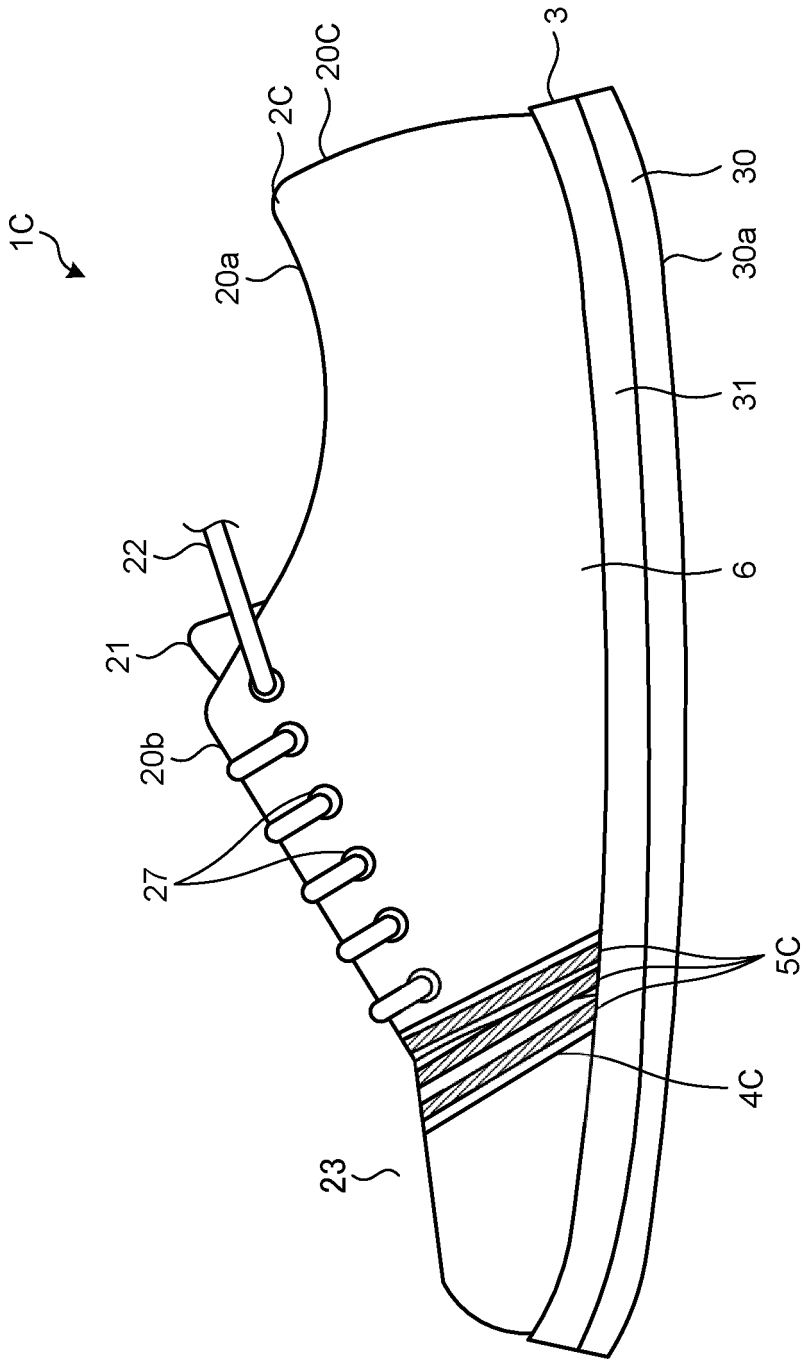


FIG.11

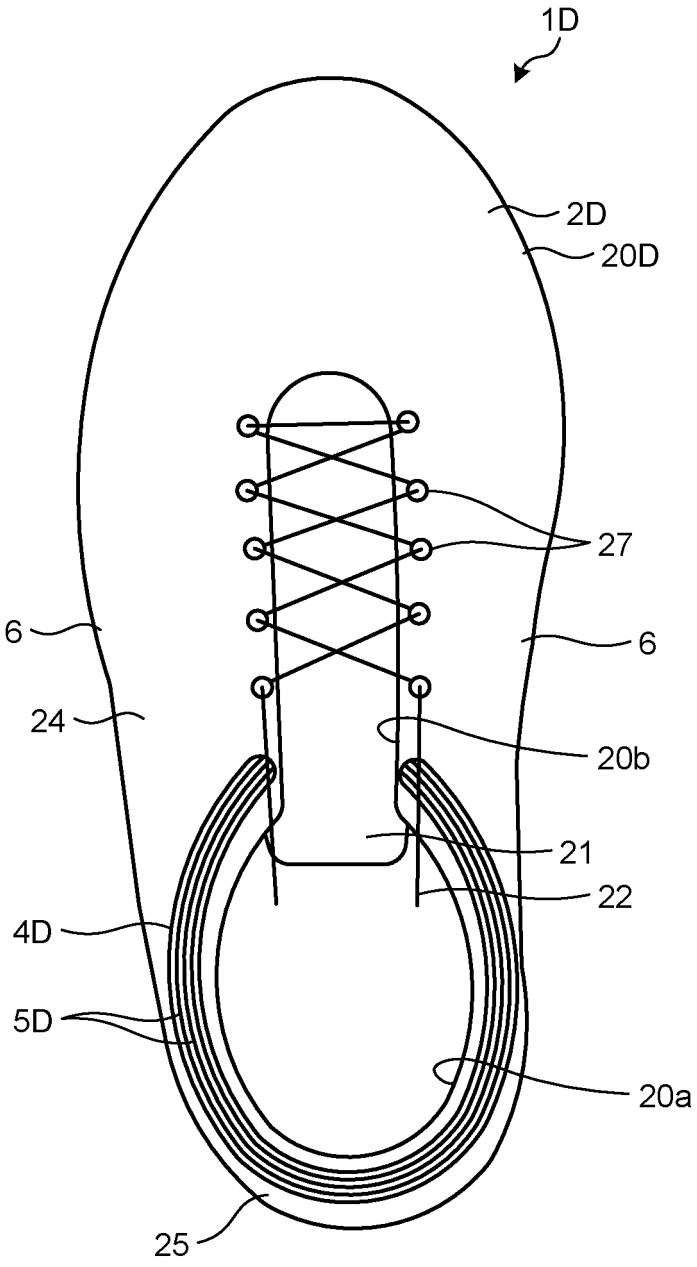


FIG.12

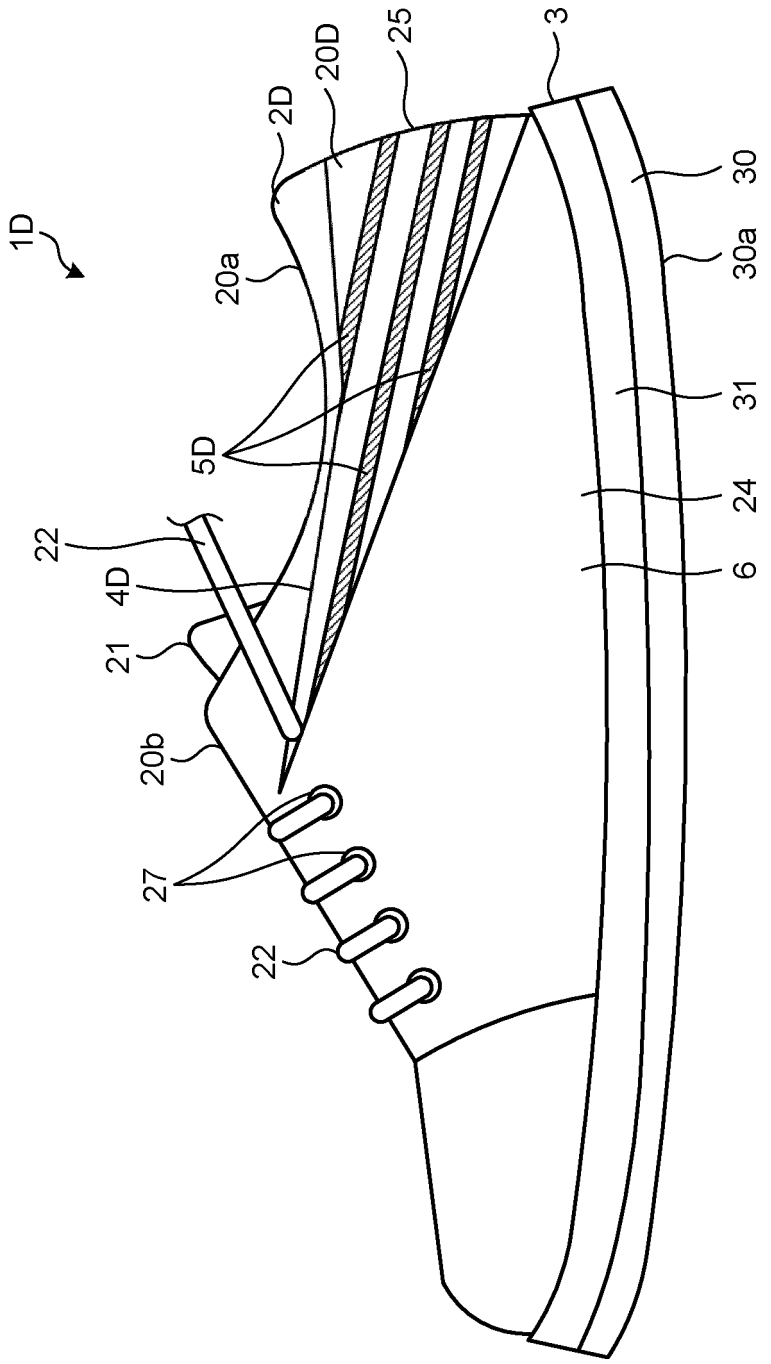
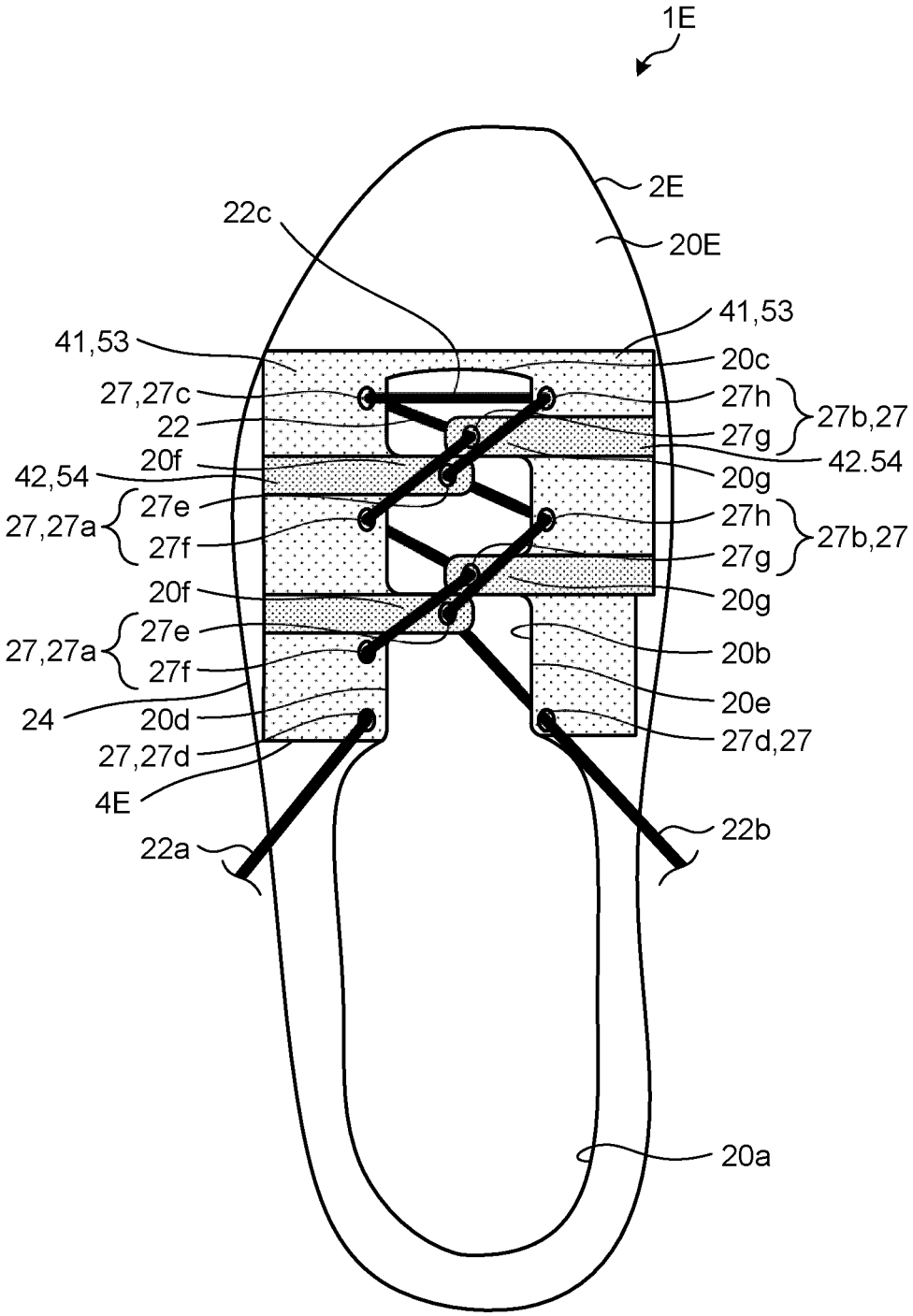


FIG.13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27b,27
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20e
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20d
27d,27
27,27d
4E
22a
22b
20a

FIG.14

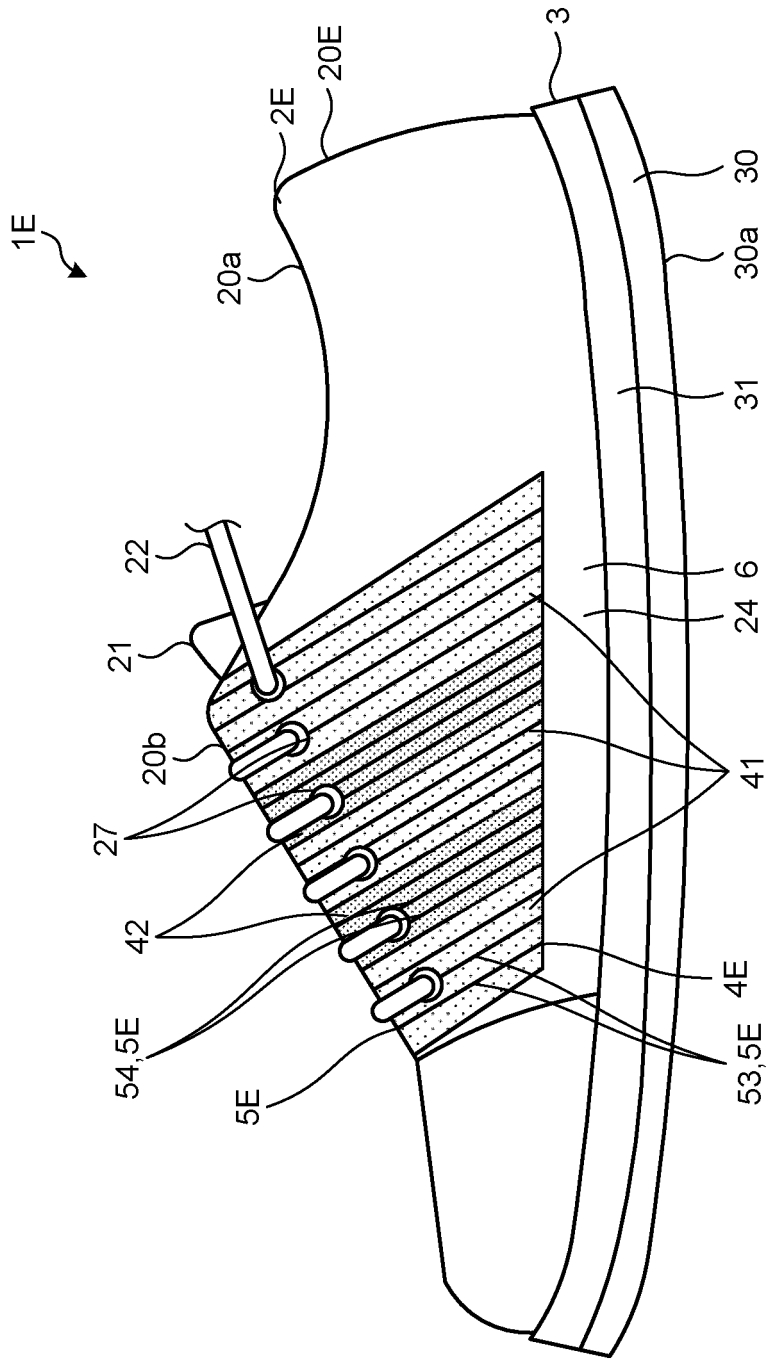
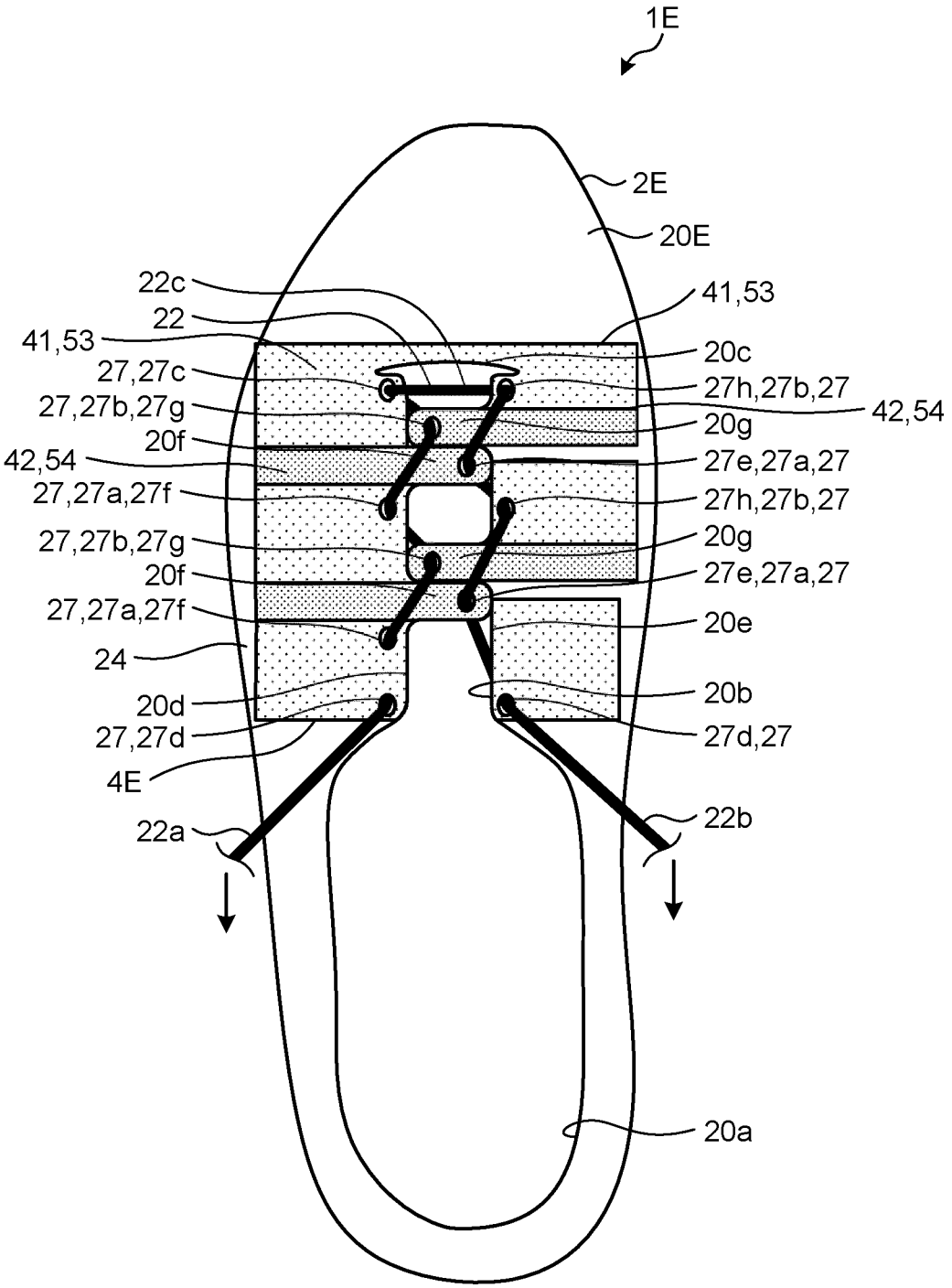


FIG.15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20f
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20f
27,27a,27f
24
20d
27,27d
4E
22a
41,53
20c
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42,54
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20b
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22b
20a

FIG.16

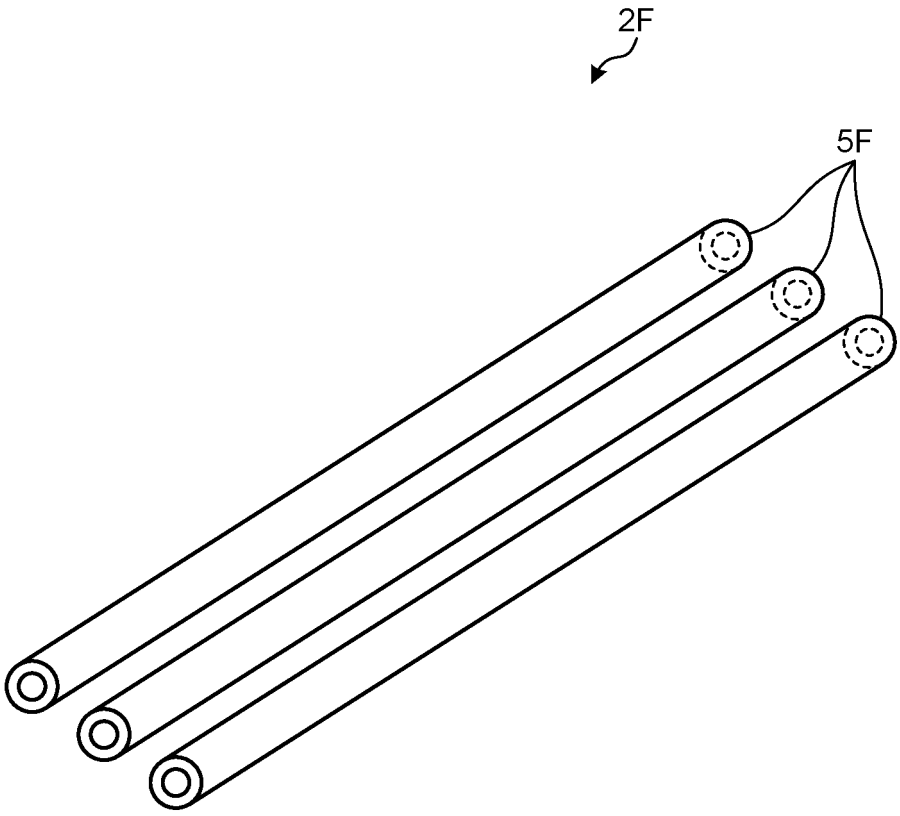
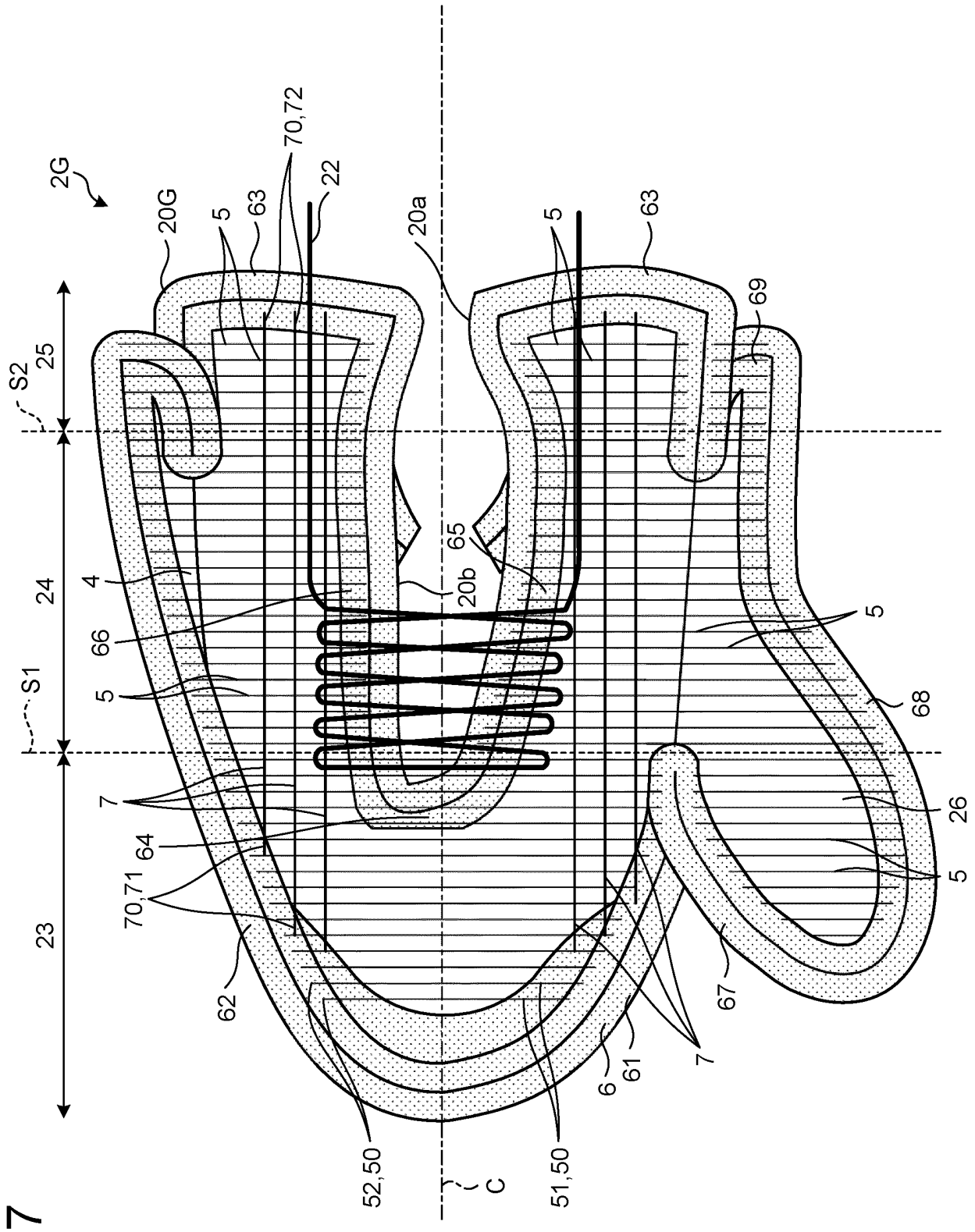


FIG.17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S1
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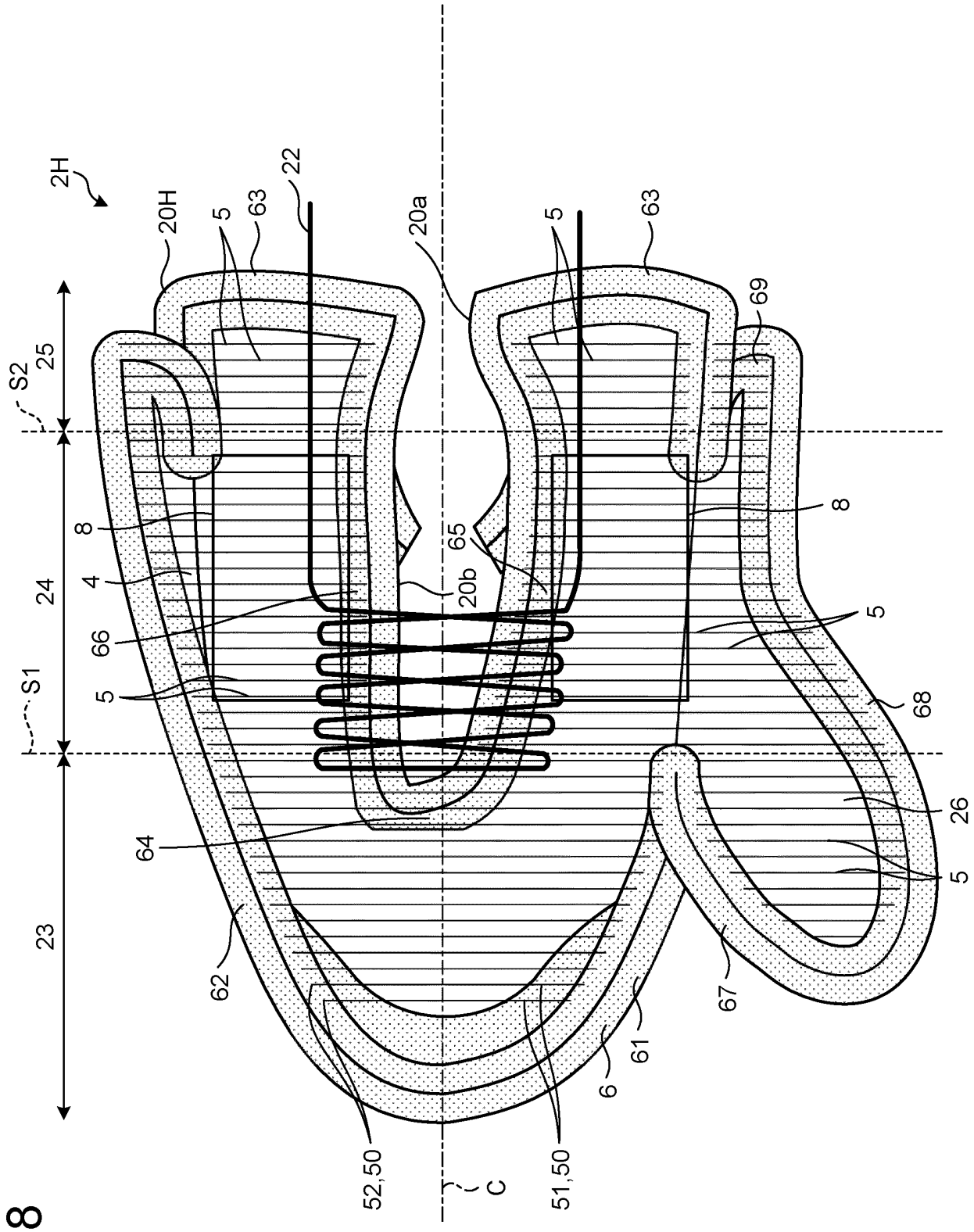
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S2
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S1
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67
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6
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C
51,50

FIG.18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2021/002082

A. CLASSIFICATION OF SUBJECT MATTER
A43B 23/00(2006.01)i
FI: A43B23/00 B
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A43B23/00

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

Published examined utility model applications of Japan	1922–1996
Published unexamined utility model applications of Japan	1971–2021
Registered utility model specifications of Japan	1996–2021
Published registered utility model applications of Japan	1994–2021

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	JP 2002-306204 A (MIZUNO CORPORATION) 22 October 2002 (2002-10-22) paragraphs [0023]-[0062], fig. 1-13	1-4, 7-12 5-6
A	WO 2018/173094 A1 (ASICS CORPORATION) 27 September 2018 (2018-09-27) paragraphs [0049]-[0083], fig. 1-12	1-12
A	DE 9213747 U1 (ITO DESIGN GMBH) 03 December 1992 (1992-12-03) page 2, line 19 to page 6, line 8, fig. 1-2	1-12

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
29 March 2021 (29.03.2021)	13 April 2021 (13.04.2021)

Name and mailing address of the ISA/	Authorized officer
Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application no.
PCT/JP2021/002082

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
JP 2002-306204 A	22 Oct. 2002	US 2002/0148142 A1 paragraphs [0034]-[0070], fig. 1-13	
WO 2018/173094 A1	27 Sep. 2018	US 2020/0029655 A1 paragraphs [0038]-[0155], fig. 1-12 EP 3581056 A1	
DE 9213747 U1	03 Dec. 1992	(Family: none)	

Form PCT/ISA/210 (patent family annex) (January 2015)

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Patent documents cited in the description

- JP 2013177736 A **[0003]**