



(11) **EP 4 026 453 A1**

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
13.07.2022 Bulletin 2022/28

(51) International Patent Classification (IPC):
A43B 23/02 (2006.01)

(21) Application number: **19944208.8**

(52) Cooperative Patent Classification (CPC):
A43B 23/02

(22) Date of filing: **05.09.2019**

(86) International application number:
PCT/JP2019/034967

(87) International publication number:
WO 2021/044577 (11.03.2021 Gazette 2021/10)

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

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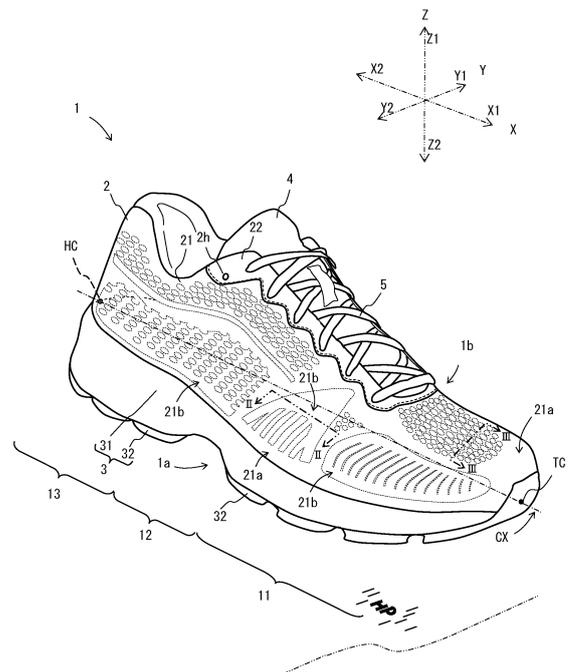
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(54) **UPPER AND SHOE**

(57) An upper is formed using a fiber sheet that includes: a connected part in which a surface layer and an inner layer are connected to each other; and a non-connected part in which these layers are not connected to each other, in order to provide a shoe having a low risk of causing complicated production processes or discharge of a large amount of waste materials even when shoes with a large number of different types are produced.

Fig. 1



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Description

FIELD

[0001] The present invention relates to a shoe upper and a shoe.

BACKGROUND

[0002] A shoe is conventionally formed of a sole, an upper, and the like. In a conventional sport shoe or the like, an upper is generally formed of a plurality of members including a fiber sheet. A main component for forming this kind of upper is a fiber sheet that is cut into such a shape as to conform to a shoe last when formed into a three-dimensional shape. As an example in which such a fiber sheet is provided on an upper, disclosed in Patent Literature 1 below is a shoe including an upper formed of a knitted fabric.

CITATION LIST

Patent Literature

[0003] Patent Literature 1: WO 2016/033051 A

SUMMARY

Technical Problem

[0004] The upper is not only desired to have specific functional characteristics such as strength or air permeability, but is also thought to be important to have certain appearance. In this regard, there are some cases where the upper includes, in addition to the fiber sheet, a different member from the fiber sheet, such as a leather sheet. For example, a shoe upper can have a leather sheet sewn to a fiber sheet to depict a figure or a letter on the surface of the upper.

[0005] A leather sheet used to depict a particular figure, a letter, or the like for a certain appearance of a shoe is generally made by a method in which a single large raw material sheet is punched with a die. The leather sheet does not always have such a shape as to be punched out of the raw material sheet without waste. Therefore, the proportion of the raw material sheet that is not effectively used as shoe members but becomes a waste material is not sufficiently low. The use of the leather sheet for such a purpose in a shoe can also be a factor of increasing time and effort in the shoe production processes. Thus, production of shoes with a number of different designs may result in complicated production processes or discharge of a large amount of waste materials.

[0006] The present invention has been conceived in view of the above problems, and it is an object of the present invention to provide a shoe having a low risk of causing complicated production processes or discharge of a large amount of waste materials even when shoes

with a large number of different types are produced.

Solution to Problem

[0007] The present invention seeks to solve the above problem by providing a method of easily depicting a figure, a letter, or the like on a fiber sheet itself.

[0008] In order to solve the above problem, the present invention provides an upper of a shoe, the upper including: a fiber sheet, in which the fiber sheet includes: a surface layer configuring an outer surface of the shoe; an inner layer disposed on an inner side of the surface layer; and an intermediate layer provided between the surface layer and the inner layer, each of the surface layer, the inner layer, and the intermediate layer is formed of fibers, the fiber sheet has the intermediate layer provided only partially, and includes: a connected part in which the surface layer and the inner layer are connected to each other by the intermediate layer; and a non-connected part in which the surface layer and the inner layer are not connected to each other with the intermediate layer being absent therebetween.

[0009] In order to solve the above problem the present invention provides a shoe including the upper as aforementioned.

BRIEF DESCRIPTION OF DRAWINGS

[0010]

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Fig. 1 is a schematic perspective view showing a shoe with an upper of one embodiment.

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Fig. 2 is a schematic view showing a state of a cross section of the upper in a midfoot portion, and is a cross sectional view taken along line and viewed in the direction of arrows II-II thereof in Fig. 1.

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Fig. 3 is a schematic view showing a state of a cross section of the upper in a forefoot portion, and is a cross sectional view taken along line and viewed in the direction of arrows III-III thereof in Fig. 1.

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Fig. 4 is a schematic perspective view showing a shoe with a different upper from that in Fig. 1.

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Fig. 5 is a schematic view showing a state of a cross section of the upper in a midfoot portion, and is a cross sectional view taken along line and viewed in the direction of arrows V-V thereof in Fig. 4.

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Fig. 6 is a schematic cross sectional view showing a state where a different member (balloon) is housed in a space formed in an upper.

Fig. 7 is a schematic cross sectional view showing a state where a different member (balloon) is housed in the space formed in an upper.

Fig. 8 is a schematic cross sectional view showing a state where a different member (sheet) is housed in a space formed in an upper.

Fig. 9 is a schematic cross sectional view showing a state where a different member (cured product) is housed in a space formed in an upper.

DESCRIPTION OF EMBODIMENTS

[0011] One example of an embodiment of the present invention will be hereinafter described with reference to the drawings. The description will be hereinafter given by taking a sneaker as an example.

[0012] Fig. 1 shows a shoe of this embodiment. Hereinafter, when a description is given on the shoe shown in Fig. 1, a direction along a shoe center axis CX connecting a heel center HC and a toe center TC may be referred to as a length direction X. Among directions along the shoe center axis CX, a direction X1 directed from the heel to the toe may be referred to as, for example, a forward direction, and a direction X2 directed from the toe to the heel may be referred to as, for example, a rearward direction. Among directions orthogonal to the shoe center axis CX, a direction parallel to a horizontal plane HP may be referred to as a width direction Y. Regarding the width direction Y, a direction Y1 directed to the first toe side may be referred to as, for example, a medial side direction, and a direction Y2 directed to the fifth toe side may be referred to as, for example, a lateral side direction. A vertical direction Z orthogonal to the horizontal plane HP may be referred to as a thickness direction or a height direction. Further, hereinafter, a direction Z1 directed upward in this vertical direction Z may be referred to as an upward direction, and a direction Z2 directed downward may be referred to as a downward direction.

[0013] As shown in Fig. 1, the shoe 1 of this embodiment includes an upper 2 and a shoe sole 3. The shoe sole 3 includes a midsole 31 and an outsole 32. The shoe 1 of this embodiment includes the outsole 32 in its bottommost position. The outsole 32 of this embodiment has, for example, a sheet shape, and is arranged in the bottommost position of the shoe 1 so that the thickness direction thereof corresponds to the vertical direction Z. The shoe 1 includes the midsole 31 between the outsole 32 and the upper 2 that covers a foot of a wearer from the upper side. As shown in Fig. 1, the shoe 1 of this embodiment further includes a shoe tongue 4 and a shoe lace 5.

[0014] The upper 2 of this embodiment has a plurality of lace holes 2h in a portion superposed on both ends in the width direction of the shoe tongue 4. The upper 2 of this embodiment includes a fiber sheet 21. The fiber sheet 21 of this embodiment is provided on the upper side of the shoe sole 3 in such a three-dimensional shape as to conform to an outer surface of a shoe last (not shown).

[0015] The upper 2 of this embodiment can include another member in addition to the fiber sheet 21. The upper 2 of this embodiment can include a leather sheet 22 formed of a natural leather, an artificial leather, or the like. In the upper 2 of this embodiment, the leather sheet 22 is disposed in the portion in which the lace holes 2h are provided. The leather sheet 22 in this embodiment is bonded to the fiber sheet 21 in a state of being overlaid on an outer side of the fiber sheet 21.

[0016] The fiber sheet 21 can be a knitted fabric or a woven fabric. The fiber sheet 21 can be a non-woven fabric.

[0017] In the case where the fiber sheet 21 is a knitted fabric, a method for knitting the fabric can be warp knitting or weft knitting. That is, the fiber sheet 21 can be a warp knitted fabric or a weft knitted fabric. In the case where the fiber sheet 21 is a warp knitted fabric, a method for knitting the fabric can be tricot knitting, Raschel knitting, or Milanese knitting. In the case where the fiber sheet 21 is a weft knitted fabric, a method for knitting the fabric can be flat knitting, rib knitting, double side knitting, or purl knitting.

[0018] In the case where the fiber sheet 21 is a woven fabric, a method for weaving the fabric can be plain weaving, satin weaving, or twill weaving.

[0019] In the case where the fiber sheet 21 is a non-woven fabric, the fiber sheet 21 can be a spunbonded non-woven fabric or a melt-blown non-woven fabric. The fiber sheet 21 can be a thermal bonded non-woven fabric, a chemical bonded non-woven fabric, or a spunlace non-woven fabric. The fiber sheet 21 can be a needle-punched non-woven fabric, a spunlace non-woven fabric, or a stitch bonded non-woven fabric.

[0020] Any kind of fiber can be used as a material of the fiber sheet without particular limitation, and examples thereof include synthetic resin fibers such as polypropylene, polyethylene, polyesters (e.g., polyethylene terephthalate, polybutylene terephthalate, copolymerized polyesters), polyamides (e.g., aliphatic polyamide, aromatic polyamide), and fluorocarbon polymers (e.g., polytetrafluoroethylene, tetrafluoroethylene-perfluoroalkyl ether copolymer, polyvinylidene fluoride). The fiber can be composed of a natural fiber such as cotton, hemp, bamboo, wool, silk, or rock wool. The fiber can be a regenerated fiber such as cupra or rayon, or a semi-synthetic fiber such as acetate. The fiber can be a metal fiber such as steel wool.

[0021] The fiber does not necessarily have a single structure, and can have, for example, a core-sheath structure, a side-by-side structure, or a multicore structure.

[0022] The thickness of the fiber in this embodiment is not particularly limited. The thickness of the fiber in this embodiment can be, for example, 0.5 dtex or more and 50 dtex or less. The fiber sheet 21 can include two or more types of fibers having different thicknesses and/or composed of different materials.

[0023] The fiber sheet 21 can be composed of a staple fiber, can be composed of a continuous fiber, or can be composed of a staple fiber and a continuous fiber in combination.

[0024] The fiber sheet 21 can be composed of a spun yarn, can be composed of a filament yarn, or can be composed of a spun yarn and a filament yarn in combination. The filament yarn can be a bulky textured yarn such as a crimped yarn. The filament yarn can be a monofilament yarn, or can be a multifilament yarn. The multi-

filament yarn can be a paralleled yarn formed simply by paralleling filaments, or can be a twisted yarn formed by twisting filaments.

[0025] The twisted yarn can be a soft twisted yarn having a number of twists of less than 500 twists per meter, can be a medium twisted yarn having a number of twists of 500 twists per meter or more and less than 1000 twists per meter, can be a hard twisted yarn having a number of twists of 1000 twists per meter or more and less than 2500 twists per meter, or can be a super hard twisted yarn having a number of twists of 2500 twists per meter or more.

[0026] In the case where the spun yarn or the filament yarn is used in this embodiment, the total fineness thereof is not particularly limited. The total fineness can be, for example, 100 dtex or more and 10000 dtex or less.

[0027] As shown in Fig. 2 and Fig. 3, the fiber sheet 21 of this embodiment has a layered structure of at least three layers including a surface layer 211 forming an outer surface of the shoe 1, an inner layer 213 disposed on an inner side of the surface layer 211, and an intermediate layer 212 provided between the surface layer 211 and the inner layer 213.

[0028] Each of the surface layer 211, the inner layer 213, and the intermediate layer 212 is composed of any of the aforementioned fibers. The surface layer 211, the intermediate layer 212, and the inner layer 213 can have different thicknesses, fiber densities, and the like, and can be composed of different fibers from each other. For example, in the fiber sheet 21 in this embodiment, one of the surface layer 211, the intermediate layer 212, and the inner layer 213 can be composed of a multifilament yarn or a spun yarn, and another one can be composed of a monofilament yarn. The fiber sheet 21 in this embodiment can have a thickness of, for example, 1 mm or more and 8 mm or less. Each of the surface layer 211, the intermediate layer 212, and the inner layer 213 can be formed to generally have a thickness of 0.5 mm or more and 4 mm or less.

[0029] In the fiber sheet 21 of this embodiment, the area of the surface layer 211 and the area of the inner layer 213 are substantially equal to each other, but the area of the intermediate layer 212 is smaller than that of the surface layer 211 and that of the inner layer 213. That is, in the fiber sheet 21 of this embodiment, the intermediate layer 212 is only partially provided. The fiber sheet 21 of this embodiment includes connected parts 21a each of which has the surface layer 211 and the inner layer 213 connected to each other by the intermediate layer 212, and non-connected parts 21b each of which has the surface layer 211 and the inner layer 213 not connected to each other with no intermediate layer 212 provided therebetween.

[0030] In the non-connected part 21b in this embodiment, a clearance corresponding to the thickness of the intermediate layer 212 is provided between the surface layer 211 and the inner layer 213. That is, a space 210 is formed inside the non-connected part 21b.

[0031] In the fiber sheet 21 of this embodiment, the connected parts 21a and the non-connected parts 21b are distributedly located at a plurality of places. One connected part 21a extends to continue across the entire region of the fiber sheet 21, and a plurality of the non-connected parts 21b surrounded by the one connected part 21a are distributedly located in the fiber sheet 21. In this embodiment, a plurality of small connected parts 21a can be distributedly located within at least one of the plurality of the non-connected parts 21b.

[0032] In the fiber sheet 21 of this embodiment, the connected parts 21a exert high strength. In the fiber sheet 21 of this embodiment, the non-connected parts 21b exert excellent flexibility. The non-connected parts 21b are also excellent in air permeability.

[0033] The fiber sheet 21 of this embodiment includes the non-connected parts 21b having a relatively large area in each of a forefoot portion 11, a midfoot portion 12, and a rearfoot portion 13, of the shoe 1. The forefoot portion 11, the midfoot portion 12, and the rearfoot portion 13 correspond respectively to portions of the shoe 1 obtained by dividing the shoe 1 into three portions in the length direction X, that is, a portion in which an arch part is formed, and the remaining front and rear portions. That is, the shoe 1 of this embodiment includes the forefoot portion 11, the midfoot portion 12, and the rearfoot 13 arranged in order from a front toward a back of the shoe 1.

[0034] The non-connected parts 21b can house a different member from the fiber sheet 21 as will be described later. In the upper 2 of this embodiment, such a different member enables the adjustment of strength and design. However, in order to simplify the production process of shoes or to obtain lightweight shoes, it is preferable that the fiber sheet 21 be formed to exert desired characteristics without relying on such a different member. Specifically, in the upper 2 of this embodiment, it is preferable that the rearfoot portion 13 have a large area ratio of the connected parts 21a to the non-connected parts 21b. Generally, a shoe upper is demanded to have a rearfoot portion excellent in stiffness. According to the preferable configuration as described above, such a demand can be satisfied.

[0035] In the midfoot portion 12, it is preferable that the area of the connected parts each having a larger dimension in a vertical direction of the shoe than a dimension in a front-back direction of the shoe be larger than the area of the non-connected parts each having a larger dimension in the front-back direction than a dimension in the vertical direction. Generally, a shoe upper is demanded to have a midfoot portion exerting high resistance against stretch in the vertical direction. According to the preferable configuration as described above, such a demand can be satisfied. It is preferable that a plurality of the connected parts 21 each having a large dimension in the vertical direction be formed on at least one of a medial side and a lateral side of the shoe 1. Particularly, in the shoe 1 of this embodiment, it is preferable that the connected parts 21a and the non-connected parts 21b,

which are elongated in the vertical direction, be arranged alternately with each other from a toe side to a heel side of the midfoot portion 12. In other words, it is preferable that, in the upper 2 of this embodiment, one or a plurality of groups each in which one connected part 21a having an elongated shape in the vertical direction and one non-connected part 21a having an elongated shape in the vertical direction are adjacent to each other be aligned from the toe side to the heel side.

[0036] In the forefoot portion 11 of this embodiment, it is preferable that the area ratio of the non-connected parts 21b to the connected parts 21a be higher than both that of the midfoot portion 12 and that of the rearfoot portion 13. Generally, a shoe upper is demanded to have a forefoot portion having high air permeability. According to the preferable configuration as described above, such a demand can be satisfied. Particularly, in the shoe 1 of this embodiment, the forefoot portion 11 has an area ratio of the non-contacted parts 21b to the total area of the connected parts 21a and the non-connected parts 21b that is preferably 25% or more. The area ratio is more preferably 30% or more, further preferably 35% or more, particularly preferably 40% or more. However, the area ratio is preferably 95% or less since excessive formation of the non-connected parts 21b makes it difficult for the shoe 1 to exert sufficient strength.

[0037] The surface layer 211 of this embodiment is composed of fibers as aforementioned. The fibers can form the surface layer 211 in the form of yarns. The surface layer 211 in this embodiment formed of fibers have gaps between the fibers and between the yarns through which light passes. That is, in the upper 2 of this embodiment, the appearance of the intermediate layer 212 is made visible from the outside through the gaps of the surface layer 211. The non-connected parts 21b, which have no intermediate layer 212 provided therein, enable the inner layer 213 to be easily visible through the surface layer 211 when viewed from the surface side. Thus, the fiber sheet 21 of this embodiment has the connected parts 21a and the non-connected parts 21b visually different from each other, and their shapes are changed to be thereby able to freely depict letters, figures, and the like.

[0038] The appearance of the intermediate layer 212 in the connected parts 21a and the appearance of the inner layer 213 in the non-connected parts 21b are more easily visible as larger the gaps are formed in the surface layer 211. Thus, it is preferable that the surface layer 211 be formed of a yarn having a certain thickness. In the fiber sheet 21 of this embodiment, the surface layer 211 is formed of a front yarn 2111. It is preferable that at least a part of the surface layer 211 be formed of a monofilament yarn in term of better visibility of the appearance of the inside. That is, in this embodiment, it is preferable that a part or all of the front yarn 2111 be a monofilament yarn. In order to more remarkably exert the aforementioned effect, the monofilament yarn occupies preferably 10 mass % or more, more preferably 25 mass % or more,

still more preferably 50 mass % or more, of the front yarn 2111. In order to allow the appearance of the intermediate layer 212 and the inner layer 213 to be more easily visible, the monofilament yarn is preferably colorless and transparent. That is, the monofilament yarn is preferably made of a synthetic resin having a natural color and containing no pigment or filler, and is preferably a polyester monofilament, a polyamide monofilament, a fluorocarbon monofilament, or the like.

[0039] In order to allow the appearance of the intermediate layer 212 and the inner layer 213 to be more easily visible, the fiber sheet 21 of this embodiment can be, for example, provided with through holes 211h as shown in Fig. 4 and Fig. 5. That is, the fiber sheet 21 of this embodiment can have the through holes 211h penetrating through the surface layer 211 in one or both of the connected parts 21a and the non-connected parts 21b.

[0040] The fiber sheet 21 of this embodiment is preferably a single knitted fabric, and preferably includes portions respectively serving as the surface layer 211, the intermediate layer 212, and the inner layer 213 in the thickness direction of the knitted fabric. It is more preferable that the fiber sheet 21 be a warp knitted fabric. In the warp knitted fabric, generally, the surface layer 211 is formed of the front yarn 2111, the inner layer 213 is formed of a lining yarn 2131, and the intermediate layer 212 is formed of an intermediate yarn 2121 that is knitted on both the front yarn 2111 and the lining yarn 2131, so that the intermediate layer 212 is easily formed to have a relatively large thickness. This configuration allows the warp knitted fabric to easily form the space 210 that is relatively large between the surface layer 211 and the inner layer 213. In the warp knitted fabric, the through holes 211h and the like can also be easily formed.

[0041] In the fiber sheet 21 of this embodiment, a different member from the fiber sheet 21 can be housed in the space 210 between the surface layer 21 and the inner layer 213. The member can be housed in the space 210 in the state of being bonded to one or both of the surface layer 211 and the inner layer 213.

[0042] The member can be housed in the space 210 in the state of not being bonded to the fiber sheet 21 at all. In such a case, in order to make the housed member movable within the space 210, the member can be made to have a smaller area than the area of each of the non-connected parts 21b. The size (area) of the member can be, for example, 80% or less of the area of the non-connected part 21b. The size of the member can be 50% or less of the area of the non-connected part 21b. The space 210 can house a plurality of members.

[0043] In the case where a plurality of non-connected parts 21b (spaces 210) including a first non-connected part 21b (i.e., a first space 210) and a second non-connected part 21b (i.e., a second space 210) are formed in the fiber sheet 21, a first member to be housed in the first space 210 and a second member to be housed in the second space 210 can share the same material and/or size, or can have different materials and/or sizes.

[0044] Examples of the member to be housed in the space 210 can include a hollow balloon P1, as shown in Fig. 6. When the hollow balloon P1 formed of a transparent film is housed in the space 210, a difference in light transmission between the connected part 21a and the non-connected part 21b can be more remarkable.

[0045] Inside the balloon P1, gas can be housed, liquid can be housed, or powder can be housed. In the fiber sheet 21, the configuration can be such that the balloon P1 has a different color from that of the fiber sheet 21 so that the difference in appearance between the connected part 21a and the non-connected part 21b becomes more remarkable. In this case, the balloon P1 can be colored, or can be made transparent and include a colored liquid therein.

[0046] The balloon P1 can be, for example, formed of a material excellent in light reflectiveness such as an aluminum laminate film. That is, the difference in design between the balloon P1 and the fiber sheet 21 can be expressed by their colors, or can be expressed by their difference in light reflectiveness (gloss).

[0047] Forming the through holes 211h in the surface layer 211 of the non-connected part 21b in which the balloon P1 is housed enables the balloon P1, which has a different design from that of the fiber sheet 21, to be directly visible from the outside of the upper 2 through the through holes 211h.

[0048] The balloon P1 formed of, for example, a rubber can cause a change in the volume of the member housed in the space 210. In the case where the member that can change its volume is housed in the space 210, the balloon P1 can be formed to have a thickness equal to or larger than that of the intermediate layer 212 to bulge the non-connected part 21b outward, as shown in Fig. 7.

[0049] Examples of the member to be housed in the space 210 can include a sheet P2 having a smaller thickness than that of the intermediate layer 212, as shown in Fig. 8. Figures, letters, and the like can be depicted on the sheet P2. In this case, the sheet P2 having a different design from that of the fiber sheet 21 more remarkably differentiates the appearance between the connected part 21a and the non-connected part 21b. In the non-connected part 21b inside which the sheet P2 is housed, the surface layer 211 can have the through holes 211h therethrough.

[0050] As shown in Fig. 9, for example, a cured product P3 obtained by curing a liquid can be housed in the space 210 as the member. In this case, a curable liquid is introduced into the space 210 for curing thereafter, so that a part of the liquid is impregnated in the surface layer 211 and the inner layer 213 and cured to obtain the cured product P3 that can be firmly held.

[0051] The liquid can include light reflective powder such as metal flakes. In the case where the cured product is transparent, the light reflectiveness of the powder in the liquid can be effectively exploited for differentiating the appearance between the connected part 21a and the non-connected part 21b.

[0052] The liquid can be a foamable liquid, such as a urethane foam raw fluid. That is, the cured product P3 can be a foam. In this case, the non-connected part 21b can be brought into a state of bulging outward by the cured product P3 (foam).

[0053] Similar to the cases of the balloon P1 and the sheet P2, the cured product P3 can have a different design from that of the fiber sheet 21 to be capable of being used for a design of the upper 2. The cured product P3 is also effective in reinforcing the upper 2. For example, the cured product P3 functions as a heel counter when the non-connected part 21b is arranged in the rearfoot portion 13 so as to cover the heel of a foot and the cured product P3 is provided in the non-connected part 21b. In this case, it is preferable that the non-connected part 21b be provided to cover the heel from three sides namely the medial side, the lateral side, and the rear side of the heel. It is preferable that the non-connected part 21b be provided to contact the shoe sole 3.

[0054] Any other member than those aforementioned can be housed in the space 210. For example, the space portion 210 can be filled with a fibrous material such as yarn or cotton. The fibrous material can cause the non-connected part 21b to bulge outward as in the balloon P1 if an excessive amount of the fibrous material is filled relative to the volume of the space 210 in a natural state. The fibrous material to be housed in the space 210 can be applied with any color.

[0055] The fiber sheet 21 of this embodiment can have colors applied or figures depicted on the surface of the inner layer 213 facing the space 210, in substitution for providing such a member in the space 210.

[0056] In a conventional upper, a leather sheet processed into a specific outer shape is attached to a fiber sheet to depict figures, letters, and the like thereon. In the shoe 1 of this embodiment, the connected part 21a and the non-connected part 21b are formed into certain shapes to depict letters, figures, or the like by themselves on the fiber sheet itself used for forming the upper 2. Thus, the number of leather sheets for use can be reduced as compared with the conventional shoe.

[0057] A leather sheet serving as a forming member of a shoe upper is generally obtained from a raw material sheet having a larger area than that of the leather sheet and having such a size as to allow several to several tens of the leather sheets to be obtained therefrom. In order to produce a number of types of shoes having different designs, raw material sheets having different colors or composed of different materials are prepared, from which leather sheets having certain shapes are to be obtained. The shoe 1 of this embodiment in which various figures and letters are easily depicted on the upper without use of the leather sheet saves time and effort for production as compared with a conventional shoe. The shoe 1 of this embodiment suppresses the remaining raw material sheets from being wasted after the leather sheets are obtained in producing the shoe 1, and is thus excellent also in saving resources.

[0058] It should be noted that the aforementioned description has been given on some examples of the present invention relating to the upper and the shoe, and the present invention is not limited to the aforementioned examples. For example, the aforementioned description has been given by taking, for example, the case where the fiber sheet provided on the upper includes three layers namely the surface layer, the intermediate layer, and the inner layer. However, the upper of the present invention can include another layer further on the inner side of the inner layer. In addition to such a matter, various modifications can be made to the aforementioned examples of the present invention. That is, in the present invention, conventionally known technical matters relating to shoes and uppers can be widely employed without remarkably impairing the effect of the present invention.

REFERENCE SIGNS LIST

[0059]

- 1: Shoe
- 2: Upper
- 3: Shoe sole
- 4: Shoe tongue
- 5: Shoe lace
- 21: Fiber sheet
- 21a: Connected part
- 21b: Non-connected part
- 22: Leather sheet
- 31: Midsole
- 32: Outsole
- 211: Surface layer
- 212: Intermediate layer
- 213: Inner layer
- 2111: Front yarn
- 2121: Intermediate yarn
- 2131: Lining yarn

Claims

1. An upper of a shoe, the upper comprising:
 a fiber sheet, wherein
 the fiber sheet comprises: a surface layer configuring an outer surface of the shoe; an inner layer disposed on an inner side of the surface layer; and an intermediate layer provided between the surface layer and the inner layer,
 each of the surface layer, the inner layer, and the intermediate layer is formed of fibers,
 the fiber sheet has the intermediate layer provided only partially, and comprises: a connected part in which the surface layer and the inner layer are connected to each other by the intermediate layer; and a non-connected part in which the surface layer and the inner layer are not connected

to each other with the intermediate layer being absent therebetween.

- 2. The upper according to claim 1, wherein the shoe comprises: a forefoot portion; a midfoot portion; and a rearfoot portion arranged in order from a front toward a back of the shoe, and
 an area ratio of the connected part to the non-connected part in the rearfoot portion is higher than that in the forefoot portion.
- 3. The upper according to claim 1, wherein the shoe comprises: a forefoot portion; a midfoot portion; and a rearfoot portion arranged in order from a front toward a back of the shoe, and
 in the midfoot portion, an area of the connected part having a larger dimension in a vertical direction of the shoe than a dimension in a front-back direction of the shoe is larger than an area of the non-connected part having a larger dimension in the front-back direction than a dimension in the vertical direction.
- 4. The upper according to claim 1, wherein the shoe comprises: a forefoot portion; a midfoot portion; and a rearfoot portion arranged in order from a front toward a back of the shoe, and
 an area ratio of the non-connected part to the connected part in the forefoot portion is higher than that in each of the midfoot portion and the rearfoot portion.
- 5. The upper according to any one of claims 1 to 4, wherein
 the fiber sheet comprises a warp knitted fabric, and
 the surface layer comprises a front yarn, the inner layer comprises a lining yarn, and the intermediate layer comprises an intermediate yarn that is knitted on both the front yarn and the lining yarn.
- 6. The upper according to any one of claims 1 to 5, wherein at least a part of the surface layer comprises a monofilament yarn.
- 7. The upper according to any one of claims 1 to 6, wherein the non-connected part has a space disposed between the surface layer and the inner layer, and
 a different member from the fiber sheet is housed in the space.
- 8. A shoe comprising the upper according to any one of claims 1 to 7.

Fig.2

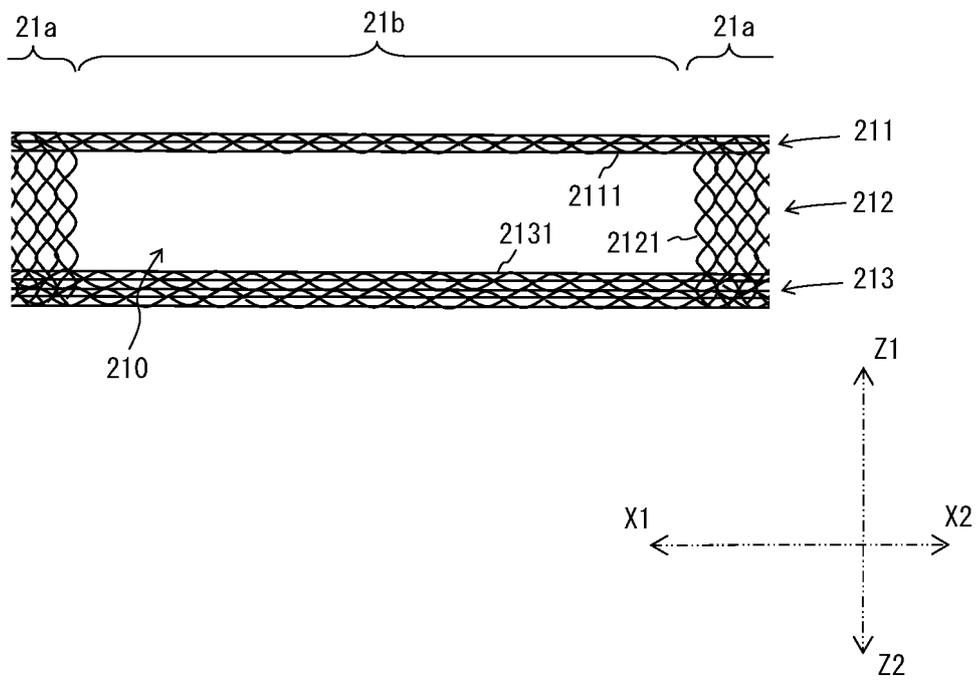


Fig.3

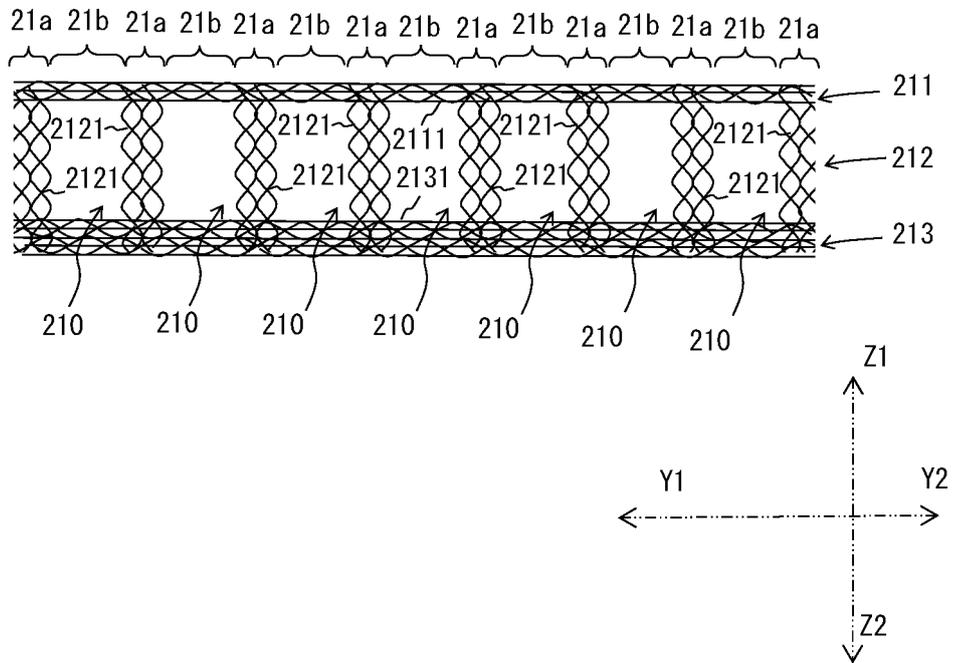


Fig.4

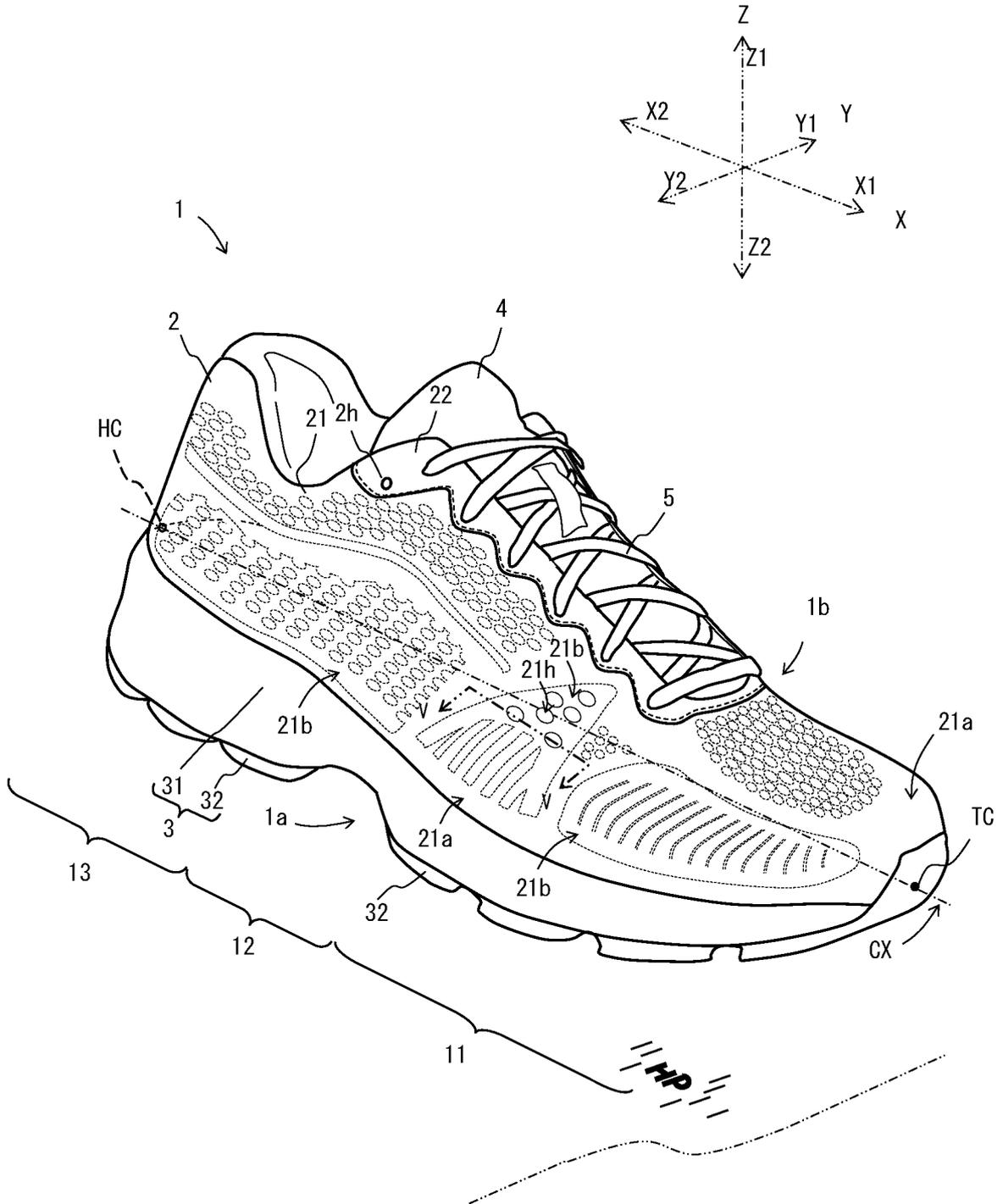


Fig.5

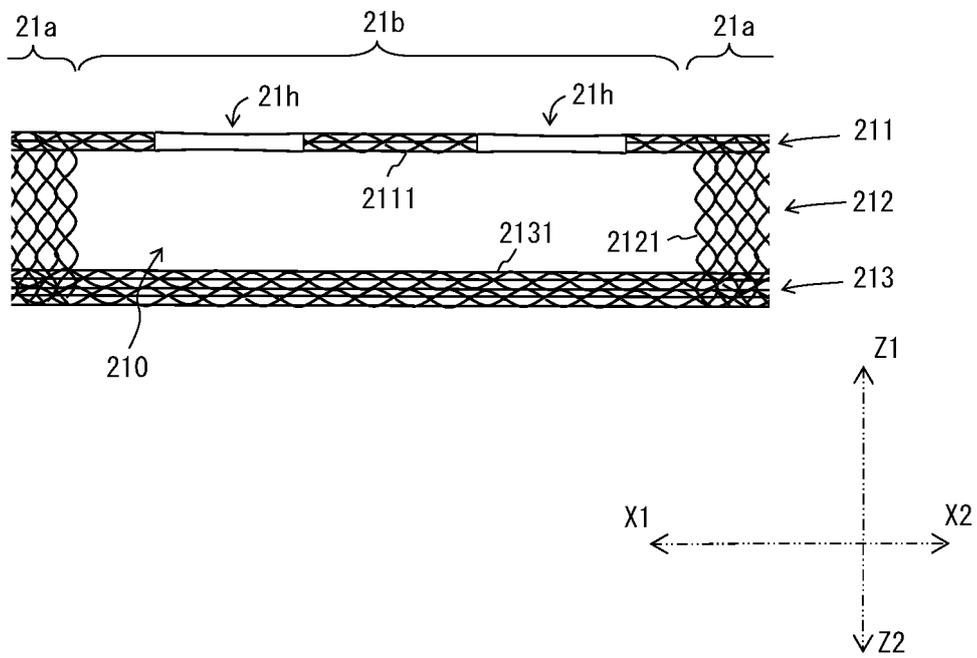


Fig.6

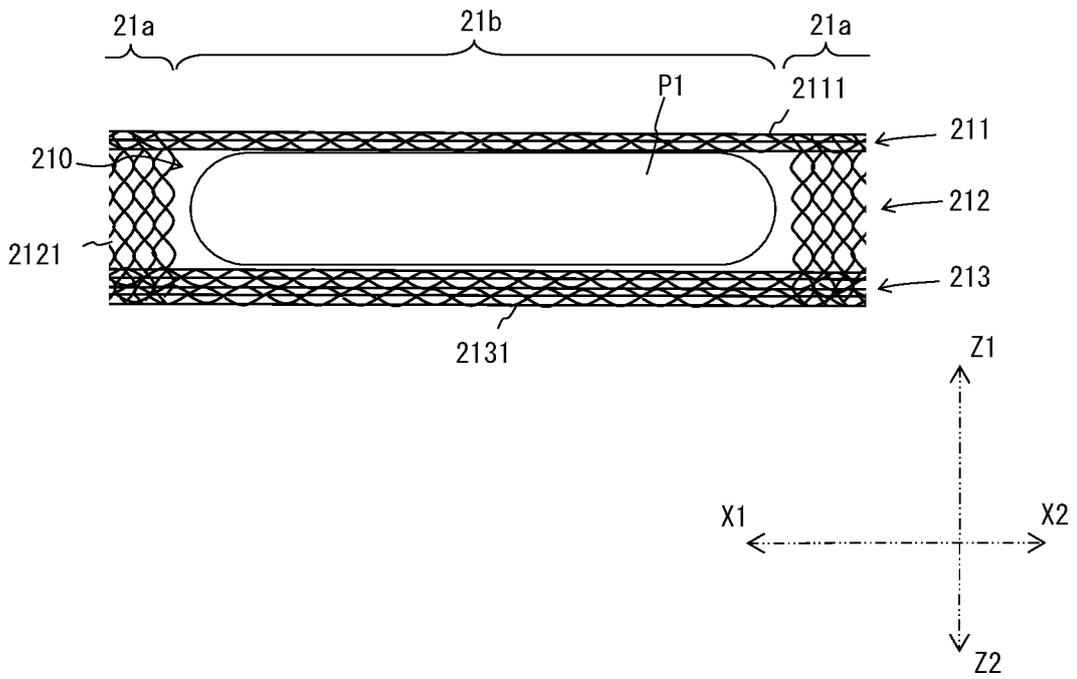


Fig. 7

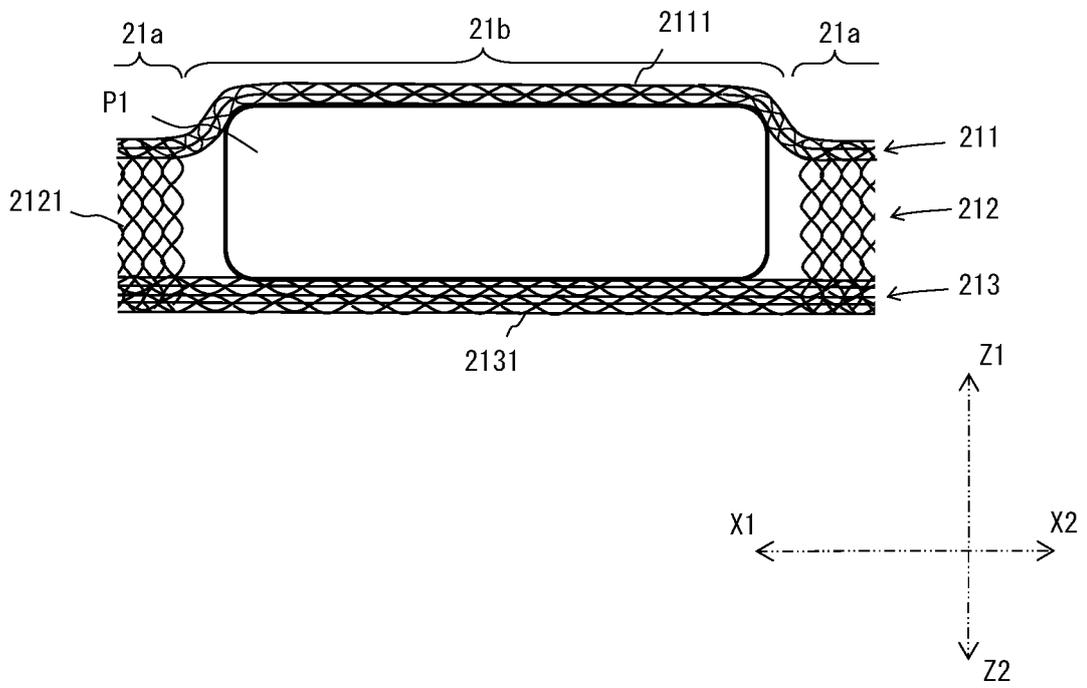


Fig.8

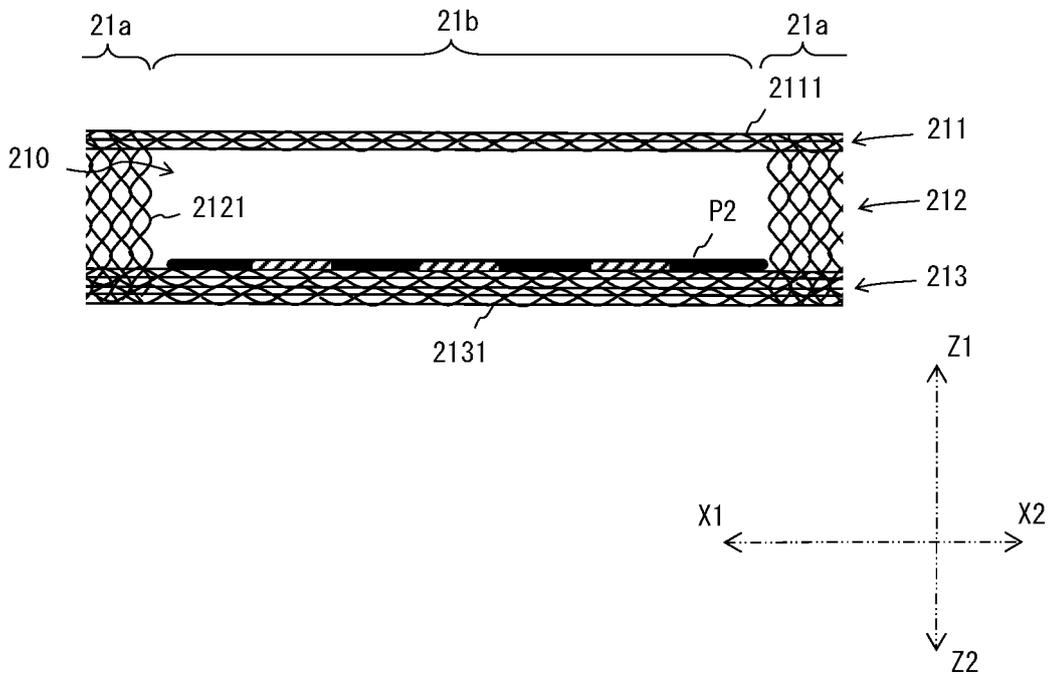
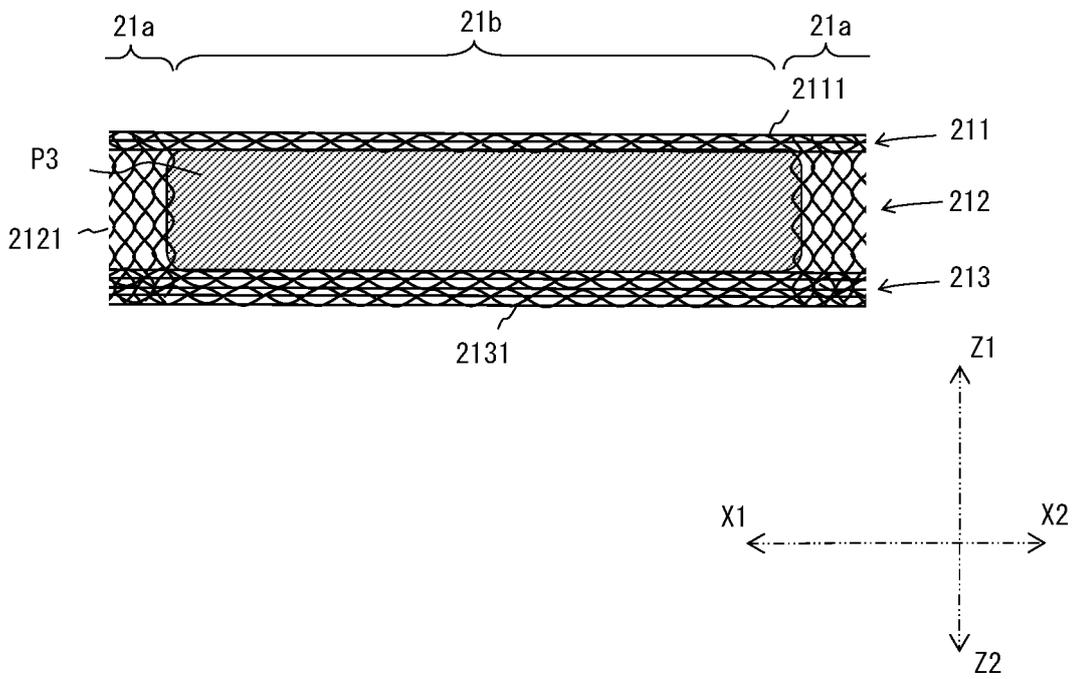


Fig.9



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2019/034967

A. CLASSIFICATION OF SUBJECT MATTER Int.Cl. A43B23/02 (2006.01) i 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) Int.Cl. A43B23/02		
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	1971-2019	
Registered utility model specifications of Japan	1996-2019	
Published registered utility model applications of Japan	1994-2019	
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI (Derwent Innovation)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 8-197660 A (TORAY INDUSTRIES, INC.) 06 August 1996, paragraphs [0012]-[0020], [0071], fig. 1-2, 4 (Family: none)	1, 5, 8
Y		2-8
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 137920/1977 (Laid-open No. 65234/1979) (ASICS CORPORATION) 09 May 1979, specification, pp. 3-5, fig. 1 (Family: none)	2-8
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.		<input type="checkbox"/> See patent family annex.
* Special categories of cited documents:		"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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"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 14 November 2019 (14.11.2019)	Date of mailing of the international search report 26 November 2019 (26.11.2019)	
Name and mailing address of the ISA/ Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer Telephone No.	

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2019/034967

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2013-502301 A (NIKE INTERNATIONAL LTD.) 24 January 2013, paragraph [0033], fig. 8A & US 2011/0041359 A1, paragraph [0042], fig. 8A & WO 2011/028444 A1 & EP 2941974 A1 & CN 102497793 A & KR 10-2012-0068859 A	7-8

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2016033051 A [0003]