

DECLARATION OF STEPHANIE BOX

I, STEPHANIE BOX, pursuant to 28 U.S.C. § 1746, hereby declare as follows:

1. I am a Translator at TransPerfect, Inc., and have been translating technical documents for more than twenty years with an educational background that includes a Bachelor's degree in Chemistry and a Bachelor's degree in Japanese from the University of Washington (Seattle, Washington, USA), a Master's of Science degree in Chemical Engineering from the University of Washington (Seattle, Washington, USA), and a Master's of Philosophy degree in General Linguistics and Philology from Oxford University (Oxford, England, United Kingdom).
2. I submit this declaration to certify the accuracy of the English translation of JPU-1991003203.
3. My statements are based on personal knowledge and my review of JPU-1991003203 and its Japanese to English translation. If called as a witness about the facts contained in these statements, I could testify competently based on such personal knowledge and the investigation I have conducted.
4. I certify that the attached document translated from Japanese to the English language is a true, correct, and complete translation of the corresponding source text from JPU-1991003203.
5. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true. Further, I am aware that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001. I declare under penalty of perjury that the foregoing is true and correct.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on September 19, 2024, at AUBURN, CALIFORNIA, USA



STEPHANIE BOX

EXHIBIT A

⑫ 公開実用新案公報(U)

平3-3203

⑤ Int.Cl.⁵

A 43 B 23/02

識別記号

1 0 1 A

庁内整理番号

6617-4F

④ 公開 平成3年(1991)1月14日

審査請求 未請求 請求項の数 2 (全2頁)

④ 考案の名称 靴

② 実 願 平1-64786

② 出 願 平1(1989)6月1日

⑦ 考 案 者 堀 井 利 裕 大阪府大阪市中心区北浜4丁目1番23号 美津濃株式会社
内

⑦ 出 願 人 美 津 濃 株 式 会 社 大阪府大阪市中心区北浜4丁目1番23号

⑤ 実用新案登録請求の範囲

- 1 横編よりなる生地や丸編よりなる多層構造ニットの生地を甲被部材に用いたことを特徴とする靴。
- 2 横編又は丸編よりなる1枚物の甲被部材で甲被全体を構成した請求項1記載の靴。

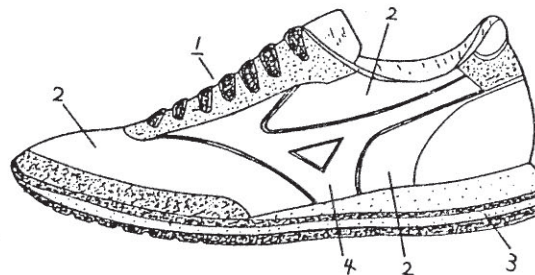
図面の簡単な説明

第1図は、本考案に係る靴の一実施例を示す斜視図、第2図は、本考案の丸編による多層構造ニットを示す概略図、第3図乃至第6図は、本考案

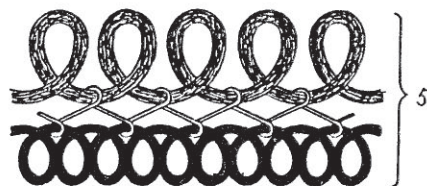
に係る甲被部材のその他の編物の実施例を示す平面図、第7図乃至第8図は、従来より公知の甲被部材を示す斜視図。

1……靴、2……甲被部材、3……靴底、4……ライン部材、5……多層構造ニット、6……表目の生地、7……裏目の生地、8……ウェール、9……コース、10……ゴム編の生地、11……パール編の生地、12……タフタの生地、13……スポンジ、14……甲被部材。

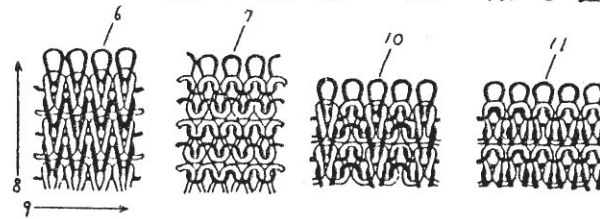
第 1 図



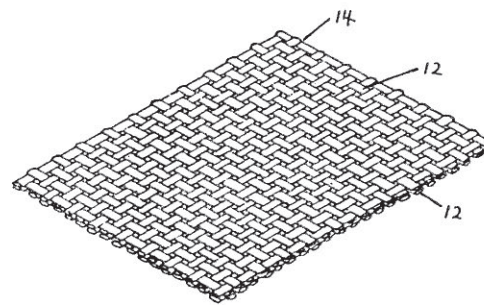
第 2 図



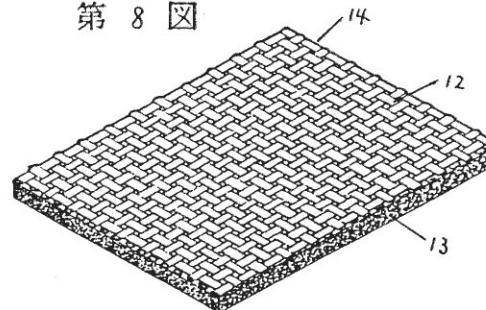
第3図 第4図 第5図 第6図



第7図



第8図



- 1 : 靴
- 2 : 甲被部材
- 3 : 靴底
- 4 : ライン部材
- 5 : 多層構造ニット
- 6 : 表目の生地
- 7 : 裏目の生地
- 8 : ウェール
- 9 : コース
- 10 : ゴム編の生地
- 11 : パール編の生地
- 12 : タフタの生地
- 13 : スポンジ
- 14 : 甲被部材

公開実用平成 3- 3203

⑨ 日本国特許庁(JP)

⑩ 実用新案出願公開

⑫ 公開実用新案公報(U) 平3-3203

⑮ Int. Cl.⁵

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⑰ 出 願 平 1 (1989) 6 月 1 日

⑱ 考 案 者 堀 井 利 裕 大阪府大阪市中央区北浜 4 丁目 1 番 23 号 美津濃株式会社
内

⑲ 出 願 人 美 津 濃 株 式 会 社 大阪府大阪市中央区北浜 4 丁目 1 番 23 号

明細書

1. 考案の名称

靴

2. 実用新案登録請求の範囲

1 横編よりなる生地や丸編よりなる多層構造ニットの生地を甲被部材に用いたことを特徴とする靴。

2 横編又は丸編よりなる1枚物の甲被部材で甲被全体を構成した請求項1記載の靴。

3. 考案の詳細な説明

(産業上の利用分野)

本考案は、靴の甲被部材の改良に係るものである。

(従来技術)

従来より、スポーツ靴やカジュアル靴等の甲被部材に用いている生地としては、ナイロン、ポリエステル等の合成繊維を使用したタフタやその他の織物やトリコット等の縦編物、あるいは綿を用いた織物が一般に使用されている。

これらの甲被部材は、適度な硬さや生地の厚

みを出すために、第 7 図及び第 8 図に示すように、タフタ等の生地には他の生地を貼り付けたり、タフタ等の生地にはスポンジを貼り合わせて甲被部材として用いる場合がほとんどであった。

（考案が解決しようとする課題）

しかし、これら従来の甲被部材においては、以下のような問題点を有していた。

従来の靴用の甲被部材の場合、1 枚物の織物では、生地の厚みが薄く甲被部材としての硬さが出ないと言った欠点があった。そのため、1 枚物の生地で厚みを出そうとすれば、逆に硬くなり過ぎて製造原価も高くなると言った問題点をも有していた。このことは、トリコット等の縦編の生地を使用した場合も同様であった。

それ故、従来から織物や縦編物等の生地を 1 枚物として使用することは、殆ど行われていなかった。

そこで甲被部材として厚みを持たせるために、第 7 図や第 8 図に示すように、タフタ等の生地 1 2 に他の生地を貼り合わせたり、タフタ等の

生地 1 2 にスポンジ 1 3 を貼り合わせて用いる等の手段が取られている。しかし、このような甲被部材 1 4 では、まず貼り合わせに使用される接着剤や^{タフタ等の}生地 1 2 やスポンジ 1 3 により、甲被部材 1 4 に必要な通気性が損なわれて、靴内部の温度が高くなり過ぎたり、甲被部材に吸収された汗が外部に発散されないことから、足が蒸れ易くなると言った欠点を有していた。

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更に、貼り合わせ加工により、甲被部材が必要以上に硬くなったり、工数が掛かるため製造原価が高くなると言った問題点を有していた。

又、従来の織物では、生地のワンロットの生産量がどうしても多くなり、靴のように多品種少量生産のものでは、ロスが多く出て不経済になると言った欠点を有していた。

（課題を解決するための手段）

本考案は、これら従来の欠点に鑑み通気性が良好で、且つ靴にとって適度な硬さとクッション性を有する甲被部材で甲被を構成した靴を供給することを目的になされたものである。

即ち、横編機により形成された横編の生地や丸編機により形成された丸編の多層構造ニットよりなる生地を甲被部材に用いたことを特徴とする靴である。又、これら多層構造ニットの生地よりなる丸編等の1枚物の生地で甲被部材を構成した靴も可能である。

(作用)

以上のような構成にしたことにより、以下のような作用が生じる。

本考案においては、横編機で形成した横編の生地や丸編機で形成した丸編の多層構造ニットよりなる生地を甲被部材に用いた靴であるから、第2図に示すように、多層構造ニットの間隙により、通気性は極めて良好となるため、靴内の温度が高くなり過ぎると言ったことを防止することが出来るほか、甲被部材に吸収された汗が通気性の改善により速やかに発散するため、足が蒸れることを防止出来るものである。

又、多層構造ニットにより、ボリューム感のある適度な厚みに形成することが出来るため、

よりクッション性が向上するものである。

更に、多層構造の種類を任意に選択することにより、甲被部材として必要な硬さを適宜出すことが出来るものである。

その他、多層構造ニットよりなる丸編の1枚物の甲被部材で甲被を構成した靴も可能である。

このようにすることにより、丸編の生地の特徴を最大限に活用することが可能となる。

即ち、丸編では、編物である生地の量を必要最低限のロットで製造することが出来るため、従来のタフタのようにワンロットの数量が多くなり多品種少量生産の場合に生じる生地のロスが多くなると言った不経済性は改善出来るものである。

又、本考案の横編や丸編の生地を使用する場合、例えば丸編の生地では必要な厚さと甲被分の長さの筒状の編物を編製し、その筒状編物の一部を裁断することにより、必要な大きさの1枚物の生地を形成することが出来るため、前述のごとく多品種少量生産に有利である。



更に、本考案の甲被部材では、従来の甲被部材のように貼り合わせ加工により、甲被部材が必要以上に硬くなったり、製造原価が高くなると言った問題点もなくなるものである。

又、本考案の甲被部材を使用することにより、靴のような多品種少量生産の物では、小ロット生産が可能となるため、各種の編み方の編物を使用したり、色々な色調の甲被部材を準備することが出来るため、靴そのものの設計の自由度が従来に比べて、著しく向上するものである。

(実施例)

本考案に関する実施例を図面に基づいて説明すると、第1図に示すように、横編又は丸編よりなる多層構造ニットの生地を甲被部材2として用いたことを特徴とする靴1である。

又、横編又は丸編よりなる1枚物の甲被部材2で甲被全体を構成したことを特徴とする靴1も可能である。

又、第2図の多層構造ニット5のようにすれば、厚みが比較的形成しやすく、且つ通気性や

卷之四

なお、厚手の編物とするには、太目の糸を使用して、編目の縦の並びであるウェール8と編目の横の並びであるコース9を形成すれば、更にクッション性の良好な甲被部材2を作ることが出来るものである。

又、第6図に示すように、パール編の生地11を甲被部材として使用することにより、縦方向の伸縮性を大きくすることが出来るため、足の甲の高い人に好適となる。

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その他、図示はしなかったが、タック編の甲被部材を使用すれば、模様や凹凸が出せるためデザインの的にも面白みのある靴を供給することが可能となる。又、浮き糸の出来る浮き編や透かし模様の出来るレース編やループ状のバイルが出来るバイル編等の甲被部材を適宜選択して使用できるため、更に靴の設計の自由度が向上するものである。バイル編の内装部材を靴の内壁部に貼り付けた靴は、従来から公知であるが、本考案では、バイル編の生地単独で甲被部材を構成しているため、従来の靴にはなかった通気性の良さと、厚手のバイル地のクッション性は、履用時の快適性が一段と向上するものである。

なお、本考案の甲被部材の素材の一例としては、強度と吸汗性を両立させるために、ナイロン、ポリエステル吸水加工品を表裏に使用し、縫糸にナイロン、ポリエステルの強力糸を使用すると言った工夫をすることが好ましい。

又、本考案の靴 1 では、横編や丸編よりなる生地を甲被部材に使用していることから、スポ

ーツ靴やカジュアル靴に好適であるが、それ以外に、室内履や甲被部分を畳んで持ち運び出来る携帯用の靴としても有益である。

(考案の効果)

本考案は以上のような構成であるため、以下のような効果を奏するものである。

本考案においては、丸編機等の編機により形成した、多層構造ニットよりなる丸編等の生地で甲被部材を構成した靴であるから、生地が1枚だけでも適度な厚みとクッション性を有すると共に、通気性は極めて良好となるため、履用により靴内の温度が高くなり過ぎると言ったこともなく、甲被部材に吸収された汗も良好な通気性のために速やかに発散するため、足が蒸れると言ったことは防止出来る効果がある。

更に、多層構造ニットの種類を任意に選択することにより、甲被部材として必要な厚みやクッション性や硬さを適宜出すことが出来るものである。

その他、本考案の甲被部材では、横編の生地

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や多層構造ニットよりなる丸編の1枚物の生地を甲被部材として使用出来るため、従来の平織や綾織のように生産ロットの数量が多く多品種少量生産ではロスが出やすいものと異なり、横編や丸編では、編物である生地の量を必要最低限の生産ロットで製造することが出来ることから、生地のロスを防止し経済的である。

更に、本考案の甲被部材では、従来の甲被部材のように貼り合わせ加工により、甲被部材が必要以上に硬くなったり、製造原価が高くなると言ったこともなく、安価な甲被部材を供給できる効果も生じるものである。

又、本考案の甲被部材を使用することにより、小ロット生産が可能となるため、横編や丸編の編み方を適宜組み合わせたり、選択することにより、色々な模様や色調の甲被部材を準備することが出来るため、靴そのものの設計の自由度が従来に比べて、著しく向上すると言った効果を奏するものである。

以上のように本考案の靴においては、その特

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性からスポーツ靴やカジュアル靴は勿論のこと
室内履用靴に有益であり、その他折り畳みも可
能となるため携帯用の靴として有益である。

4. 図面の簡単な説明

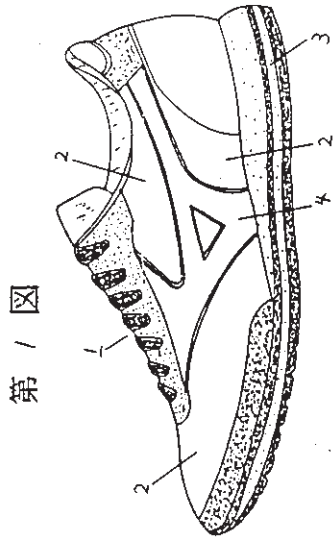
第1図は、本考案に係る靴の一実施例を示す
斜視図、第2図は、本考案の丸編による多層構
造ニットを示す概略図、第3図乃至第6図は、
本考案に係る甲被部材のその他の編物の実施例
を示す平面図、第7図乃至第8図は、従来より
公知の甲被部材を示す斜視図。

1 : 靴、2 : 甲被部材、3 : 靴底、4 : ライ
ン部材、5 : 多層構造ニット、6 : 表目の生地、
7 : 裏目の生地、8 : ウェール、9 : コース、
10 : ゴム編の生地、11 : パール編の生地、
12 : タフタの生地、13 : スポンジ、14 :
甲被部材。

実用新案登録出願人

美津濃株式会社

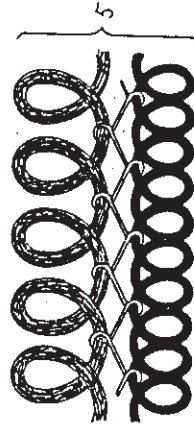
代表者 水野 正人



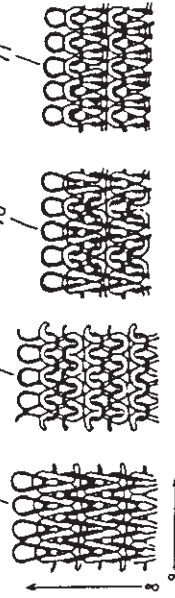
第 1 図

- 1 : 靴
- 2 : 甲被部材
- 3 : 靴底
- 4 : ライン部材
- 5 : 多層構造ニット
- 6 : 表目の生地
- 7 : 裏目の生地
- 8 : ウェール
- 9 : コース
- 10 : ゴム編の生地
- 11 : パール編の生地
- 12 : タフタ[®]の生地
- 13 : スポンジ
- 14 : 甲被部材

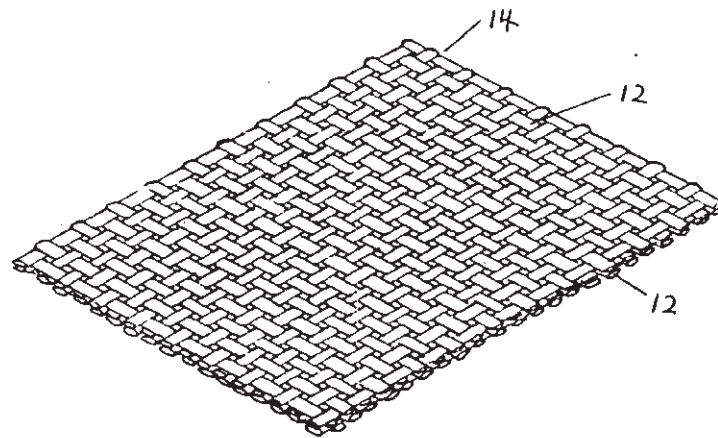
第 2 図



第 3 図 第 4 図 第 5 図 第 6 図



第 7 図



第 8 図

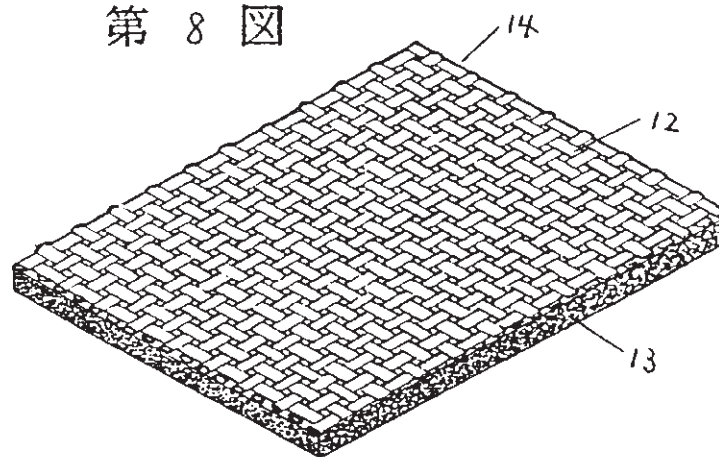


EXHIBIT B

**(12) Japanese Unexamined Utility
Model Application Publication
(U)**

H03-003203

(51) Int. Cl.⁵
A 43 B 23/02Identification codes JPO file number
101 A 6617-4F

(43) Publication date January 14, 1991

Request for examination Not yet requested Number of claims 2 (Total of 2 pages)

(54) Title of the Invention Shoes

(21) Japanese Utility Model Application H01-064786

(22) Date of Application June 1, 1989

(72) Inventor Toshihiro Horii c/o Mizuno Corporation, 4-1-23 Kitahama, Chuo-ku, Osaka-shi, Osaka

(71) Applicant Mizuno Corporation 4-1-23 Kitahama, Chuo-ku, Osaka-shi, Osaka

(57) Scope of Utility Model Claims

1. Shoes that are characterized by the use of fabric made through weft knitting or multi-layer knit fabric made through circular knitting.
2. The shoes according to Claim 1, wherein the entire upper part of the shoes is constructed of a single upper member of a weft knit or circular knit.

Brief Description of the Drawings

Figure 1 is a perspective view showing one example of embodiment of the shoes according to the present invention. Figure 2 is a schematic diagram showing the multi-layer knit

made through circular knitting according to the present invention. Figure 3 through Figure 6 are plan views showing an example of embodiment of the knitting of the upper member according to the present invention. Figure 7 through Figure 8 are perspective views showing the conventional well-known upper members.

1 Shoes, 2 Upper member, 3 Sole, 4.....Line member, 5 Multi-layer knit, 6..... Knit fabric, 7 Purl fabric, 8 Wale, 9 Course, 10 Rib-stitch fabric, 11 Purl-stitch fabric, 12 Taffeta fabric, 13 Sponge, 14 Upper member

Figure 1

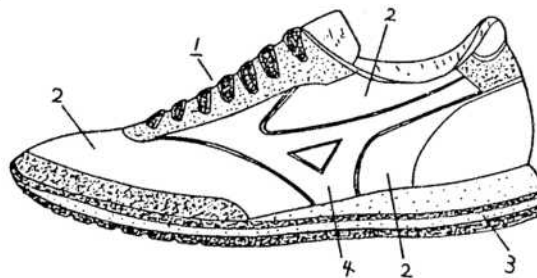
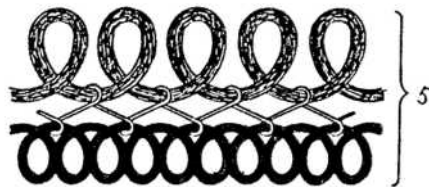


Figure 2



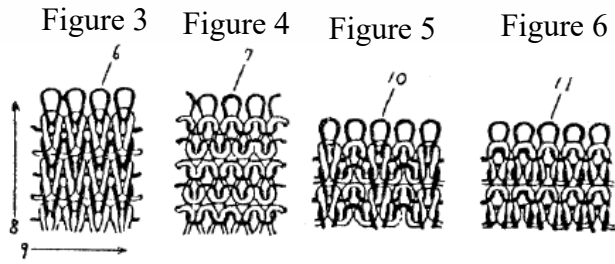


Figure 7

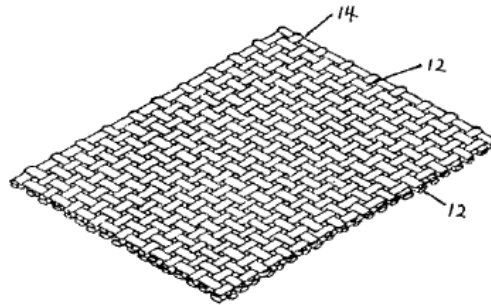
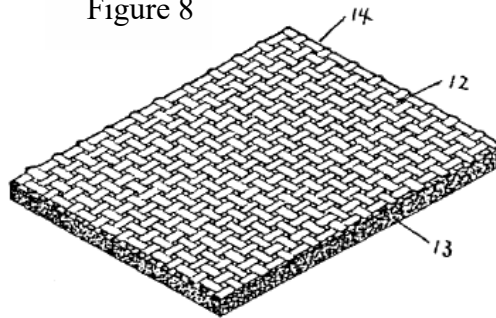


Figure 8



- 1: Shoes
- 2: Upper member
- 3: Sole
- 4: Line member
- 5: Multi-layer knit
- 6: Knit fabric
- 7: Purl fabric
- 8: Wale
- 9: Course
- 10: Rib-stitch fabric
- 11: Purl-stitch fabric
- 12: Taffeta fabric
- 13: Sponge
- 14: Upper member

Japanese Unexamined Utility Model Application Publication H03-003203

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⑤④ Title of the Invention Shoes

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Specification

1. Title of the Invention

Shoes

2. Scope of Utility Model Claims

1. Shoes that are characterized by the use of fabric made through weft knitting or multi-layer knit fabric made through circular knitting.

2. The shoes according to Claim 1, wherein the entire upper part of the shoes is constructed of a single upper member of a weft knit or circular knit.

3. Detailed Description of the Invention

(Field of Industrial Application)

The present invention relates to the improvement of the upper member of shoes.

(Prior Art)

Traditionally, taffeta and other woven fabrics or warp knit fabrics such as tricot using synthetic fibers such as nylon or polyester, or woven fabrics using cotton, have been commonly used as the fabric used for upper members of shoes such as sports shoes and casual shoes.

In order to ensure moderate hardness and fabric thickness, it was common to use these upper members as upper members formed by affixing another fabric to the taffeta fabric, etc., or to affix a sponge to the taffeta fabric, etc., as shown in Figure 7 and Figure 8.

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(Problem to be Solved by the Invention)

However, these conventional upper members suffered the following types of problems.

In the case of the conventional upper member for shoes, the thickness of a single woven fabric was thin, resulting in the disadvantage of being unable to achieve hardness as the upper member. Therefore, there was also the problem that, when attempting to ensure greater thickness with a single piece of fabric, it would conversely become too hard and the cost of manufacturing would be high. The same was true when using a warp-knit fabric such as tricot.

As a result, traditionally, fabrics such as textiles and warp-knit fabrics were rarely used as a single piece.

Therefore, in order to ensure the thickness of the upper member, as shown in Figure 7 and Figure 8, means such as laminating other fabrics onto fabric 12 such as taffeta, or laminating sponge 13 onto fabric 12 such as taffeta, etc., have been employed. However, with this type of upper member 14, first upper member 14 would lose the required breathability as a result of the adhesive used for this lamination or as a result of fabric 12 such as taffeta or sponge 13, causing the temperature inside the shoe to be too high, and because sweat absorbed by the upper member cannot evaporate to the outside, there was the problem that the foot would be susceptible to sweating.

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Furthermore, there was a problem with the lamination process, in which the manufacturing cost would be higher due to excessive hardening of the upper member more than necessary and the man-hours required for this labor.

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In addition, with the conventional textiles, the production volume of one lot of fabric must necessarily be large, and with the production of a small volume of a wide variety of products such as shoes, there was the disadvantage in that losses would increase, making the production uneconomical.

(Means for Solving the Problem)

The present invention is intended to provide shoes constructed with an upper made of an upper member that has good breathability, moderate hardness, and cushioning for the shoe in light of these disadvantages with the prior art.

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In other words, these shoes are characterized by the use of fabric made through weft knitting formed using a flat knitting machine or multi-layer knit fabric made through circular knitting formed using a circular knitting machine as the upper member. Further, shoes constructed of an upper member made of a single piece of fabric such as these fabrics made through weft knitting or multi-layer knit fabrics made through circular knitting are also possible.

(Operation)

The following operation will occur as a result of the above-noted configuration.

In the present invention, the shoes are made of fabric made through weft knitting formed using a flat knitting machine or multi-layer knit fabric made through circular knitting formed using a circular knitting machine as the upper member. Therefore, as shown in Figure 2, there will be extremely good breathability through the gaps in the multi-layer knit, so not only will it be possible to prevent the temperature within the shoes from becoming too high, it will also be possible to prevent the foot from becoming sweaty because the sweat absorbed into the upper member will be promptly released thanks to the improved breathability.

In addition, the multi-layer knit makes it possible to form a voluminous and moderate thickness, which improves cushioning.

Furthermore, by selecting the type of multi-layer structure, it will be possible to ensure the appropriate hardness required in the upper member.

In addition, it will also be possible to construct shoes with an upper that is made of an upper member of a single piece of circular knitting constructed of a multi-layer knit.

By doing this, it will be possible to maximally utilize the characteristics of the circular knitting fabric.

In other words, with circular knitting, the amount of fabric that is knitted can be manufactured as the minimum required number of lots, making it possible to improve the poor economic properties of the conventional material, in which the fabric losses would increase during small volume production of a wide variety of products due to an increase in one-lot volumes such as taffeta.

In addition, when using weft knitted fabric or circular knitted fabric according to the present invention, for instance, by preparing a cylindrical knit with the length of the upper portion and the required thickness using a circular knitted fabric and then cutting one part of the cylindrical knit, it will be possible to form a single piece of fabric with the required size, which is beneficial during small volume production of a wide variety of products, as described above.

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In addition, with the upper member according to the present invention, it will be possible to eliminate the problem of the increased manufacturing costs due to excessive hardening of the upper member as a result of the lamination process such as that used in the conventional upper member.

Also, as a result of the use of the upper member according to the present invention, it will be possible to perform small-lot production with a product subject to small volume manufacturing of a wide variety of products, such as shoes, and therefore, by using various types of knitted fabric, it will be possible to prepare upper members with a variety of colors, enabling marked improvement in the degree of freedom in the design of the shoes themselves compared to the prior art.

(Example of Embodiment)

An example of embodiment of the present invention is described based on the drawings. As shown in Figure 1, shoes 1 are characterized by the fact that a multi-layer knit fabric constructed through weft knitting or circular knitting is used as upper member 2.

Also, it is possible to construct shoes 1 that are characterized by the fact that the entire upper is constructed of a single piece of upper member 2 that is made through weft knitting or circular knitting.

In addition, if multi-layer knit 5 in Figure 2 is used, it will be possible to provide upper member 2 for which it is comparatively easy to form the thickness, and that also boasts good breathability and cushioning.

Further, as shown in Figures 3 through 4, the design of the shoes itself can be changed because it will be possible to use fabric known as plain knitting amongst weft knitted fabrics in the state of knit fabric 6 or purl fabric 7 as upper member 2.

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In order to ensure a thick knit, by using thick thread to form wale 8 that is the vertical line of the knitted stitch and course 9 that is the horizontal line of the knitted stitch, it will be possible to create upper member 2 with even better cushioning.

Furthermore, as shown in Figure 5, by using rib-knit fabric 10, it will be possible to provide shoes that fit well without any tightness even for people with wide feet.

In addition, as shown in Figure 6, the vertical stretch can be increased by using purl-knit fabric 11 as the upper member, resulting in shoes that are optimal for people with high arches.

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Additionally, although not shown in the figures, it will be possible to supply shoes that are interesting in design because the use of a tuck stitch upper member will enable the creation of patterns or surface irregularities. In addition, because it is possible to appropriately select and use an upper member made of float-stitch fabric made of float yarn, lace fabric to enable a transparent pattern, or pile-stitch fabric with looped pile, etc., it will be possible to further improve the degree of freedom in the design of the shoes. Although shoes with a pile-stitch fabric inner member affixed to the interior of the shoes are well-known conventionally, according to the present invention, the upper member may be constructed of the pile-stitch fabric itself, and therefore, it will be possible to ensure breathability that was not present in the conventional shoes, and the cushioning of the thick pile fabric will result in further improvement of the comfort when wearing the shoes.

It should be noted that as an example of the material of the upper member according to this invention, it is preferable to use nylon and polyester water-absorbing products on the front and back to achieve both strength and sweat-wicking properties, and to use strong nylon and polyester yarns for the threads.

In addition, in shoe 1 according to this invention, fabric constructed of weft knitting or circular knitting is used as the upper member, so it is suitable for sports shoes and casual shoes, but it is also useful as slippers or portable shoes that can be carried around after folding the upper part of the shoes.

(Effect of the Invention)

Because the present invention has the above-described type of structure, it can bring about the following types of effects.

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In the present invention, the shoe is constructed of an upper member made of a fabric such as circular knitting fabric consisting of a multi-layer knit that has been formed using a knitting machine such as a circular knitter or the like. Therefore, it not only has the appropriate thickness and cushioning in only a single piece of fabric, the breathability will also be extremely good, so there will be no instance in which the temperature within the shoe becomes too hot during wearing, and any sweat absorbed into the upper member will be promptly released due to the good breathability, so there is the effect of preventing the feet becoming sweaty within the shoe.

Furthermore, by selecting the type of multi-layer structure as desired, it will be possible to ensure the appropriate thickness, cushioning, and hardness required in the upper member.

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In addition, a single piece of circular knitting fabric constructed of a multi-layer knit or weft knitting fabric can be used as the fabric of the upper member according to the present invention. Therefore, unlike the conventional plain stitch or twill fabric in which there are many production lots and it is easy to suffer losses in a small volume production of a wide variety of products, it is possible to perform manufacture in weft knitting or circular knitting for the minimum required number of lots to produce the knit fabric, making it possible to prevent fabric losses and ensure economical production.

In addition, with the upper member according to the present invention, it will be possible to eliminate the problem of the increased manufacturing costs due to excessive hardening of the upper member as a result of the lamination process such as that used in the conventional upper member, generating the effect of being able to supply inexpensive upper members.

Further, by using the upper member according to the present invention, it will be possible to perform production of small lots, and by appropriately selecting and combining the knitting method such as weft knitting or circular knitting, it will be possible to prepare upper members with a wide variety of patterns or colors. Therefore, this brings about the effect of being able to markedly improve the degree of freedom in the design of the shoe itself in comparison to the prior art.

As described above, the shoes according to the present invention are suitable for sports shoes or casual shoes based on their characteristics, but they are also advantageous for indoor shoes as well, and because the shoes can also be folded, they are useful as portable shoes.

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4. Brief Description of the Drawings

Figure 1 is a perspective view showing one example of embodiment of the shoes according to the present invention. Figure 2 is a schematic diagram showing the multi-layer knit made through circular knitting according to the present invention. Figure 3 through Figure 6 are plan views showing an example of embodiment of the knitting of the upper member according to the present invention. Figure 7 through Figure 8 are perspective views showing the conventional well-known upper members.

1: Shoes, 2: Upper member, 3: Sole, 4: Line member, 5: Multi-layer knit, 6: Knit fabric, 7: Purl fabric, 8: Wale, 9: Course, 10: Rib-stitch fabric, 11: Purl-stitch fabric, 12: Taffeta fabric, 13: Sponge, 14: Upper member

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shoes

Upper member

Sole

Line member

Multi-layer knit

Knit fabric

Purl fabric

Vale

Course

Rib-stitch fabric

Purl-stitch fabric

Taffeta fabric

Sponge

Upper member

Figure 1

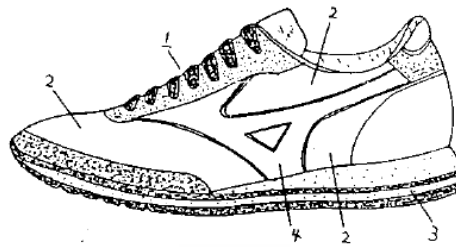


Figure 2

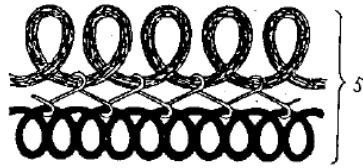
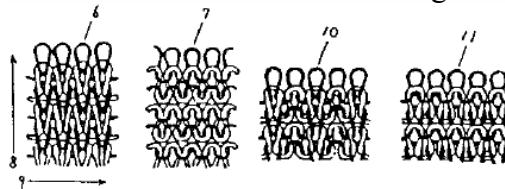


Figure 3

Figure 4

Figure 5

Figure 6



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Figure 7

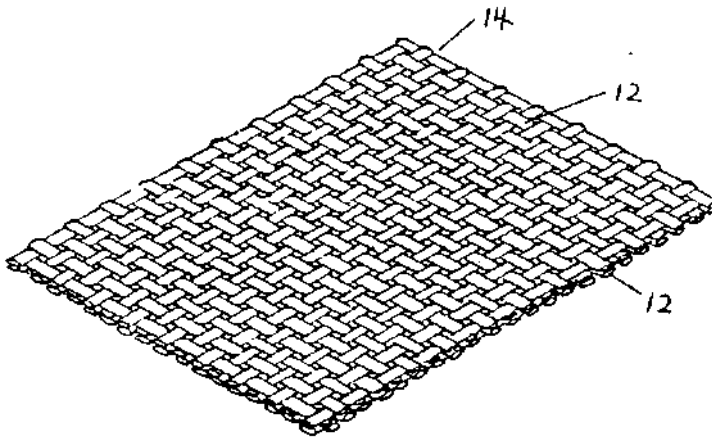
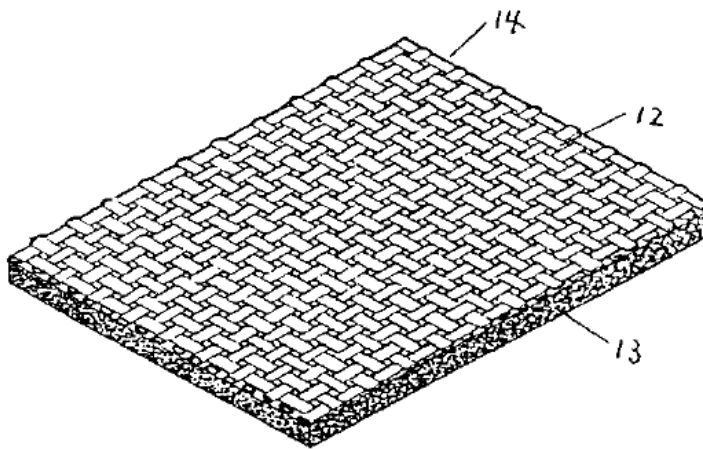


Figure 8



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