SWEAT ABSORBER AND HEADWEAR USING THE SAME

Inventor: Byoung-Woo Cho, Gyeonggi-do (KR)

Assignee: Yupoong, Inc., Seoul (KR)

The present invention relates to a sweat absorber and headwear using the sweat absorber. The sweat absorber is formed by a porous panel including a first layer that is knitted in a warp direction to have a plurality of first porous structures, a second layer that is knitted in a warp direction to have a plurality of second porous structures, and a plurality of connecting yarns for connecting the first layer and the second layer. The porous panel may be a double raschel fabric panel.

The sweat absorber may semi-permanently maintain a shape of a crown portion of a headwear and may be prevented from being contaminated from sweat. In addition, a contaminated part may be replaced.
FIG. 3a
FIG. 3b
SWEAT ABSORBER AND HEADWEAR USING THE SAME

BACKGROUND OF THE INVENTION

[0001] (a) Field of the Invention

[0002] The present invention relates to a sweat absorber and headwear using the sweat absorber. More particularly, the present invention relates to a sweat absorber formed by a porous multi-layered fabric panel (e.g., double raschel fabric) to increase ventilation, sweat evaporation, shape recovery, and wearing comfort properties, and headwear including the sweat absorber.

[0003] (b) Description of the Related Art

[0004] Generally, headwear (e.g., a cap, a hat, a visor, etc.) includes a crown portion for being worn on a head of a wearer, and a visor portion formed entirely or partially at an interior circumference of a bottom side of the crown portion. Such headwear may include a sweat absorber combined thereto at its lower interior.

[0005] The sweat absorber is formed in a band shape provided along an interior circumference of the bottom side of the crown portion. The sweat absorber absorbs sweat from a head or forehead of a wearer, such that the headwear may maintain its comfort. In addition, the sweat absorber prevents a wearer from being directly touched by seams of the crown portion or the visor portion, and the headwear may not be easily removed.

[0006] Accordingly, the sweat absorber closely contacts the wearer.

[0007] Generally, the sweat absorber includes an inner panel, and a covering portion surrounding the inner panel. Headwear having the crown portion that is not elastic or headwear having a size controller for controlling a head circumference of the crown portion uses woven or knitted fabric as the covering portion, and uses sponge or non-woven fabric as the inner panel to absorb sweat and provide a cushion function.

[0008] In the elastic head wear without the size controller, the sweat absorber is formed of a slim elastic band, or the covering portion formed by the elastic woven or knitted fabric panel is sewed to the elastic band circumference to form the sweat absorber.

[0009] However, when the sweat absorber is formed by the elastic band or overlapping double or triple fabric panels, there are problems that uncomfortable pressure is applied to the wearer and the temperature where the sweat absorber touches skins of the wearer increases.

[0010] In addition, when the headwear is worn for a long time, the sweat absorber may lose elasticity, its shape may be varied, and the headwear may be easily removed.

[0011] Further, sweat stays in the sweat absorber so that the sweat absorber may be easily contaminated.

[0012] The above information disclosed in this Background section is only for enhancement of understanding of the background of the invention and therefore it may contain information that does not form the prior art that is already known in this country to a person of ordinary skill in the art.

SUMMARY OF THE INVENTION

[0013] The present invention has been made in an effort to provide a sweat absorber having great elasticity so that a shape of a crown portion is semi-permanently maintained, and headwear using the sweat absorber.

[0014] In addition, the present invention has been made in an effort to provide a sweat absorber having great ventilation so that the sweat absorber is not easily contaminated, and headwear using the sweat absorber.

[0015] Further, the present invention has been made in an effort to provide a sweat absorber having great elasticity, efficient absorption of sweat, and efficient evaporation of the sweat, and headwear using the sweat absorber.

[0016] Still further, the present invention has been made in an effort to provide a sweat absorber that may be replaced when the sweat absorber is contaminated, and headwear using the sweat absorber.

[0017] According to an exemplary embodiment of the present invention, headwear includes a crown portion, a visor portion, and a sweat absorber. The crown portion is worn on a head of a wearer, the visor portion is combined to the crown portion, and the sweat absorber is combined to a lower part of an inner surface of the crown portion. The sweat absorber is formed by a porous panel including a first porous layer that is knitted in a warp direction, a second porous layer that is knitted in a warp direction and a plurality of connecting yarns for connecting the first layer and the second layer. The porous panel may be a double raschel fabric panel.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 is a perspective view representing headwear using a sweat absorber according to a first exemplary embodiment of the present invention.

[0019] FIG. 2 is a perspective view representing the sweat absorber according to the first exemplary embodiment of the present invention.

[0020] FIG. 3a and FIG. 3b are cross-sectional views along a line of III-III shown in FIG. 2.

[0021] FIG. 4 is a graph comparing pressures between headwear using the sweat absorber according to the first exemplary embodiment of the present invention and headwear using the conventional sweat absorber.

[0022] FIG. 5 is a perspective view representing headwear using a sweat absorber according to a second exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0023] In the following detailed description, only certain exemplary embodiments of the present invention have been shown and described, simply by way of illustration.

[0024] Throughout the specification, a sweat absorber is applied to elastic headwear without a head circumference controller, but it is not limited thereto.

[0025] For example, a sweat absorber according to an exemplary embodiment of the present invention may be applied to all types of headwear including set size headwear having a crown portion, headwear having a size controller for controlling a head circumference, and elastic headwear, and it may be applied to a baseball cap having a visor portion and a visor having a visor portion and a sweat absorber.

[0026] When the sweat absorber according to the exemplary embodiment of the present invention is applied to the elastic headwear, extensible yarn may be used to enhance elasticity of the sweat absorber.

[0027] In addition, yarn disposed in a height direction (Y axis direction) is defined as a "weft", and yarn disposed in a length direction (X axis direction) is defined as a "warp", but
they are not limited thereto. For example, the yarn disposed in the height direction may be defined as the “warp”, and the yarn disposed in the length direction may be defined as the “weft”. [0028] A sweat absorber according to a first exemplary embodiment of the present invention and headgear using the sweat absorber will now be described with reference to FIG. 1 to FIG. 4.

[0029] Headwear 100 according to an exemplary embodiment of the present invention includes a crown portion 130 for being worn on a head of the wearer, a visor portion 150 extending from the crown portion 130, and sweat absorber 170 disposed on a lower part of an inner surface of the crown portion 130. The sweat absorber 170 may be provided to the entire area of the lower part of the inner surface of the crown portion 130, or it may be provided to the lower part of the inner surface of the crown portion 130 except for a front part where the visor portion 150 is combined thereto.

[0030] The sweat absorber 170 according to the exemplary embodiment of the present invention is formed to efficiently absorb sweat flowing from a head or a forehead of the wearer, efficiently evaporate the sweat, ventilate air, and maintain the shape of the crown portion.

[0031] Accordingly, the sweat absorber 170 according to the first exemplary embodiment of the present invention is formed by using a porous panel without using an additional covering portion.

[0032] The porous panel 17 is formed in a multi-layered configuration so that the headwear does not slip and does not impart uncomfortable pressure. That is, the porous panel 17 includes a first layer 171 that is knitted in a warp direction by a raschel knitting device to have a plurality of first porous structures 171a, a second layer 173 that is knitted in a warp direction by the raschel knitting device to have a plurality of second porous structures 173a, and a plurality of connecting yarns 175 for connecting the first layer 171 and the second layer 173 (in a Z-axis direction). The porous structures may include many pores or other small spaces or interstices or vessels or holes that can hold a gas or liquid or allow it to pass through.

[0033] The multi-layered configuration may be formed in a honeycombed shape or in a cube shape.

[0034] In this case, the first porous structure 171a may be the same size as the second porous structure 173a, and as shown in FIG. 2, and the size of the first porous structure 171a may be greater than that of the second porous structure 173a.

[0035] When the size of the first porous structure 171a is greater than that of the second porous structure 173a, the second layer 173 may be disposed on an inner surface of the sweat absorber 170 to provide a comfort feeling and the first layer 171 is disposed on an outer surface of the sweat absorber 170 to quickly absorb and evaporate sweat.

[0036] The plurality of first porous structures 171a and the plurality of second porous structures 173a are sequentially formed in a honeycombed shape, in a cube shape, or in a flower shape.

[0037] The porous panel 17 may be formed in a double raschel texture of one fabric panel in which a front surface (a first layer), a connecting yarn (an connecting yarn), and a rear surface (a second layer) are simultaneously knitted in an initial knitting step.

[0038] In this case, the connecting yarn is formed in a monofilament bundle in which the front and rear surfaces are alternately and vertically weaved, and therefore elastic strength may be provided.

[0039] The elastic strength may be adjusted according to a thickness of the connecting yarn, and cushion strength may be adjusted according to a length of the connecting yarn.

[0040] In the above configuration, problems in which sweat is absorbed by a sponge or a non-woven fabric of a conventional sweat absorber and is unpleasantly evaporated and the sponge or the non-woven fabric is contaminated by the sweat may be easily solved.

[0041] That is, in the double raschel texture, the sweat is quickly evaporated through an empty space between the connecting yarns of the front and rear surfaces, and therefore the wearer may feel comfort.

[0042] In addition, the connecting yarn is formed of a monofilament yarn in which polyester is used and a polyurethane yarn at 0 to 20% is mixed according to its elasticity, poly 52d/36f or 75d/72f is used for yarns of the front and rear surfaces, and poly 20d/1f is used for a yarn for a middle cushion function, and therefore elasticity may be further provided.

[0043] In addition, the connecting yarn 175 may be integrally formed when one fabric panel is knitted, or a first connecting yarn 175a connected to the first layer 171 and a second connecting yarn 175b connected to the second layer 173 may be combined to form the connecting yarn 175. That is, the first and second connecting yarns 175a and 175b may further include male and female combining portions 175aa and 175bb.

[0044] When the first connecting yarn 175a connected to the first layer 171 and the second connecting yarn 175b of the second layer 173 are combined, tension of a part of the first connecting yarn 175a or the second connecting yarn 175b that touches a forehead is increased to semi-permanently maintain its elasticity and shape.

[0045] In addition, the first layer 171 or the second layer 173 may be separated and replaced.

[0046] Accordingly, when the sweat absorber is partially contaminated, or the elasticity of the sweat absorber is deteriorated, at least one of the first and second layers 171 and 173 may be separated and replaced.

[0047] Although the connecting yarns 175 is formed of a monofilament yarn such as polyester or nylon to have a predetermined tension, the connecting yarns 175 are knitted or weaved to have a deformable porous structure. Accordingly the crown portion expands when the sweat absorber 170 is placed over the head and is recovered to its original shape when the headwear is removed from the head, so that the shape of the crown portion may be maintained.

[0048] In addition, since the plurality of connecting yarns 175 expand at a part receiving pressure and are recovered to the original shape at a part where the pressure is not applied, the headwear may not be easily removed, and the shape of the headwear is appropriately formed.

[0049] FIG. 4 is a graph comparing pressures between the headwear using the sweat absorber according to the first exemplary embodiment of the present invention and the headwear using the conventional sweat absorber.

[0050] In FIG. 4, a load (g) according a head size is measured while headwear of 52 cm are put on a measuring unit.

[0051] When the load according to the head size increases, the pressure increases.
As shown in FIG. 4, the pressure of the headwear using the sweat absorber according to the exemplary embodiment of the present invention is less than that of the headwear using the conventional sweat absorber.

In addition, the sweat absorber may be prevented from being contaminated since the sweat absorbed by the sweat absorber is quickly evaporated through the porous structure.

Further, a protrusion portion 177 is formed of a material such as synthetic resin, synthetic rubber, natural rubber, and urethane on the first layer 171 and the second layer 173 to prevent the connecting yarn 175 from being damaged by excessive tension when the headwear is worn and removed. In this case, the protrusion portion 177 is protruded from the first layer 171 to the second layer 173 or from the second layer 173 to the first layer 171.

Headwear 100 using a sweat absorber according to a second exemplary embodiment of the present invention will now be described with reference to FIG. 5.

A sweat absorber according to the second exemplary embodiment of the present invention includes the porous portion 17 used as an inner panel and disposed in a band shape, a covering portion 18 covering the porous panel 17, and one or more lines of sewn portions 181 that are sewn in a width direction.

When the headwear is the elastic headwear, the sewn portion 181 is formed of yarn.

The covering portion is formed of one of cotton, polyester, nylon, wool, and acryl, or texture formed by a combination of 70 to 98% thereof and polyurethane of 2% to 30%.

A sweat absorber 170 is formed in a multi-layered configuration so that the headwear does not slip and does not impart uncomfortable pressure. That is, the porous portion 17 includes a first layer that is knitted in a warp direction by a raschel knitting device to have a plurality of first porous structures, a second layer that is knitted in a warp direction by the raschel knitting device to have a plurality of second porous structures, and a plurality of connecting yarns for connecting the first layer and the second layer (in a Z-axis direction shown in FIG. 2), which are the same as the sweat absorber according to the first exemplary embodiment of the present invention, and therefore detailed descriptions thereof will be omitted.

According to the exemplary embodiment of the present invention, a sweat absorber may semi-permanently maintain a shape of a crown portion of a headwear and may be prevented from being contaminated from sweat. In addition, a contaminated part may be replaced.

Further, elasticity may be semi-permanently maintained, sweat may be efficiently absorbed and evaporated, and a shape of a crown portion may be maintained according to a shape of a head of a wearer.

While this invention has been described in connection with what is presently considered to be practical exemplary embodiments, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

What is claimed is:

1. Headwear comprising:
a crown portion for being worn on a head of a wearer;
a visor portion combined to the crown portion; and
a sweat absorber combined to a lower part of an inner surface of the crown portion,
wherein the sweat absorber is formed by a porous panel including a first layer that is knitted in a warp direction to have a plurality of first porous structures, a second layer that is knitted in a warp direction to have a plurality of second porous structures, and a plurality of connecting yarns for connecting the first layer and the second layer.

2. The headwear of claim 1, wherein the porous panel is a double raschel fabric panel.

3. The headwear of claim 2, wherein a monofilament yarn in which polyester is used as the connecting yarn in the double raschel fabric panel.

4. The headwear of claim 2, wherein the porous panel of the sweat absorber comprises a covering portion for efficiently absorbing sweat.

5. The headwear of claim 1, wherein the covering portion is formed of one of cotton, polyester, nylon, wool, and acryl, or texture formed by a combination of 70 to 98% thereof and polyurethane at 2% to 30%.

6. The headwear of claim 1, wherein the connecting yarn is integrally knitted with the first and second layers, and elasticity of the porous panel is determined according to a width and a length of the connecting yarn woven or knitted.

7. The headwear of claim 1, wherein the connecting yarn includes a first connecting yarn connected to the first layer and a second connecting yarn connected to the second layer.

8. The headwear of claim 7, wherein tension of a part of the first connecting yarn or the second connecting yarn that touches a forehead is formed to be greater.

9. The headwear of claim 7, wherein the first connecting yarn and the second connecting yarn comprise male and female members so that at least one of the first and second layers may be replaced.

10. The headwear of claim 1, further comprising at least one protrusion portion that is protruded from the first layer to the second layer or from the second layer to the first layer, and that has a width and tension that are greater than the connecting yarn.

11. A sweat absorber formed by a porous panel including a first layer that is knitted in a warp direction to have a plurality of first porous structures, a second layer that is knitted in a warp direction to have a plurality of second porous structures, and a plurality of connecting yarns for connecting the first layer and the second layer.

12. The sweat absorber of claim 11, wherein the porous panel is a double raschel fabric panel.

13. The sweat absorber of claim 11, further comprising a covering portion formed of one of cotton, polyester, nylon, wool, and acryl, or texture formed by a combination of 70 to 98% thereof and polyurethane at 2% to 30%.

14. The sweat absorber of claim 11, wherein a first porous structure of the first layer is larger than a second porous structure of the second layer, the first porous structures of the first layer are sequentially connected, and the second porous structures of the second layer are non-sequentially connected.

15. The sweat absorber of claim 11, wherein the connecting yarn is integrally knitted with the first and second layers, and elasticity of the porous panel is determined according to a width and a length of the connecting yarn woven or knitted.

16. The sweat absorber of claim 11, wherein the connecting yarn includes a first connecting yarn connected to the first layer and a second connecting yarn connected to the second layer.
17. The sweat absorber of claim 11, wherein tension of a part of the first connecting yarn or the second connecting yarn that touches a forehead is formed to be greater.

18. The sweat absorber of claim 16, wherein the first connecting yarn and the second connecting yarn comprise male and female members so that at least one of the first and second layers may be replaced.

19. The sweat absorber of claim 11, further comprising at least one protrusion portion that is protruded from the first layer to the second layer or from the second layer to the first layer, and that has a width and tension that are greater than the connecting yarn.

* * * * *