A stretchable sweatband for using a cap comprising a stretchable band, a fabric and a seaming portion is provided. The stretchable band has at least one rubber band and a plurality of elastic yarns, which are sewed together along a longitudinal direction. The fabric covers the stretchable band along the longitudinal direction thereof. The seaming portion is used to sew the fabric and the stretchable band together, which is capable of adjusting the longitudinal direction of the stretchable sweatband.
Fig. 8
STRETCHABLE SWEATBAND WITH SEAMING PORTION AND STRETCHABLE CAP USING THE SAME

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention
[0002] The present invention relates generally to a stretchable sweatband. More particularly, the present invention relates to a stretchable sweatband with a seaming portion and a stretchable cap using the same.
[0003] 2. Description of the Prior Art
[0004] Caps are becoming one part of life of human being. In occasions such as exercises or going-out, people often utilize a cap/headgear to shade the sunlight, to absorb sweat or to hold their hair to prevent the hair from interfering eyesight. Generally, a cap usually has a peak to shade the sunlight. The cap is made of fabrics with good absorption, and is provided with a stretchable elastic band, so that the cap may fit the wearer's head properly and comfortably. Such cap allows the wearer to easily put on and to avoid the tense feeling of having something tied to his/her head.

[0005] Caps not only can serve the purposes of shading rain and sunlight but also can be used to match clothing of various styles, thus they are becoming one essential part of the clothing among consumers.
[0006] Taking a cap structure for example, the conventional structure of a cap is provided with a peak made of soft plastic, the top of the peak is combined to a crown portion having an elastic band at the rear end. The tension of the elastic band, the cap can fit to wearers with various head sizes. Therefore, the extensibility of the elastic band is an important requirement of headgear products.
[0007] According to the prior art under U.S. Pat. No. 6,625,818 discloses an elastic band including layers of stretchable fabrics and elastic stitching, such that when the elastic band is pulled by force, the area thereof will expand. However, as the layers of fabrics are secured by the elastic stitching in a lengthways direction of the elastic band, the lengthways stretch ability of the elastic band is the smallest of all the fabrics and the stitching, which could be none since the fabrics may be uniaxially or multiaxially stretchable as disclosed in the patent specification.

[0008] Since the lengthways stretch ability of the elastic band is limited by its material, therefore the choice of materials for the elastic band is also limited. When improper materials are selected and the lengthways stretch ability will be poor, a wearer may feel tense while wearing a wrong cap, and gradually feel stressed after a period of time.

[0009] Accordingly, the inventor provides a new idea to improve the extensibility of the elastic bands of the prior art which allows the wearer to wear the elastic band products, such as headbands and headgear comfortably without feeling restrained or stressed.

SUMMARY OF THE INVENTION

[0010] It is an object of the present invention to provide a stretchable sweatband, which utilizes a fabric covering a stretchable band and utilizes a particular sewing method/weave to increase elasticity. It is another object of the present invention to provide at least one or more than one seaming portion sewed on the stretchable band directly, and would not limit its elasticity. It is another object of the present invention to provide a stretchable sweatband, which can increase ventilation, sweat absorption, sweat drain and heat dissipation. It is another object of the present invention to provide a stretchable band which expands in a longitudinal direction in accordance a variety of head sizes.

[0011] The present invention achieves the above-mentioned objectives by providing a stretchable sweatband or a stretchable cap comprising a stretchable band, a fabric and a seaming portion. The stretchable band has at least one rubber band and a plurality of elastic yarns sewed together to form the stretchable band extending along a longitudinal direction. The fabric entirely covers the stretchable band along the longitudinal direction. The seaming portion is used to sew the fabric and the stretchable band together for adjusting the length of the stretchable sweatband in the longitudinal direction.

[0012] In a preferable embodiment, the fabric includes at least two cut ends. The two cut ends of the fabric are lapped over one surface of the stretchable band, and then are seamed together by the seaming portion. In other embodiments, the two cut ends of the fabric are disposed corresponding to each other and position on one surface of the stretchable band. Moreover, the type of the stretchable band is preferably a meshed-elastic band knitted by the rubber bands and elastic yarns. The fabric includes a stretchable fabric. Therefore, the stretchable sweatband is made of the above-mentioned components which can stretch in the longitudinal direction.

[0013] The foregoing objects and summary provide only a brief introduction to the present invention. To fully appreciate these and other objects of the present invention as well as the invention itself, all of which will become apparent to those skilled in the art, the following detailed description of the invention and the claims should be read in conjunction with the accompanying drawings. Throughout the specification and drawings identical reference numerals refer to identical or similar parts.

[0014] Many other advantages and features of the present invention will become manifest to those versed in the art upon making reference to the detailed description and the accompanying sheets of drawings, where a preferred structural embodiment incorporating the principles of the present invention is shown by way of illustrative example.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG. 1 is an exploded view of the stretchable sweatband according to the present invention;
[0016] FIG. 2a is a perspective view of the stretchable sweatband of the present invention;
[0017] FIG. 2b illustrates a cross-sectional view of FIG. 2a.
[0018] FIG. 3a-3d illustrate a perspective view of embodiments of the invention, showing the stretchable sweatband sewed with the seaming portion;
[0019] FIG. 4a-4d illustrate a perspective view of a cross-sectional view of FIG. 3a-3d;
[0020] FIG. 5 illustrates a view of the stretchable sweatband under a lengthwise force;
[0021] FIG. 6 illustrates a view of the combination of the stretchable sweatband with a cap according to the present invention;
[0022] FIG. 7 illustrates a view of the combination of another embodiment of the present invention with a cap; and
FIG. 8 illustrates an exemplified application of the present invention in a headband.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention provides a stretchable sweatband having an elastic fabric covering a meshed stretchable band for increasing ventilation, sweat absorption, sweat drain and heat dissipation. In a preferable embodiment, the elastic fabric uses needles and is sewed with the elastic band, so that a seaming portion is formed in a seamed part there between. The weave of the seaming portion could be varied. Furthermore, the embodiments of the present invention, is preferably applied to headgear products including caps and headbands. However, in other embodiments, the present invention can also be used in clothes or other textile products. In order to illustrate the present invention, various embodiments and structures thereof are described below and are accompanied with drawings.

As shown in FIG. 1, the stretchable sweatband 100 in accordance with the present invention includes a stretchable band 200, a fabric 300 and a seaming portion 400. The stretchable band 200 further includes at least one rubber band 210 and a plurality of elastic yarns 220 woven together. In the embodiment shown in FIG. 1, the stretchable band 200 is preferably a meshed-elastic band. Each of the rubber bands 210 and the elastic yarns 220 crosses one another to form the stretchable band 200. The materials of the elastic yarns 220 may include polyester, polyamides, polypropylene, spandex fibers, acrylic, acetate, nylon or other textile materials. However, in other embodiments, the flexibility of the stretchable band 200 may be contributed by a structure thereof instead of the material of the stretchable band 200. For example, the material of the stretchable band 200 can be contributed by a structure having provided spaces between each of the yarns. The material of the stretchable band 200 mentioned above includes pure cottons, pure linens or other suitable materials.

The fabric 300 has four cut ends, wherein two cut ends 302, 304 are wound around the stretchable band 200 along a longitudinal direction thereof, as shown in FIG. 2a. Afterwards, the two cut ends 302, 304 of the fabric 300 are covered the stretchable band 200 to form the stretchable sweatband 100. The material of the fabric 300 mentioned above is selected from one of the materials above-mentioned of the elastic yarn 220 or the combination thereof, and therefore the fabric 300 not only has flexibility but also the advantage of absorbing sweat and increasing ventilation.

Referring to FIG. 2a and FIG. 2b, the two cut ends 302, 304 of the fabric 300 are sewed together by the seaming portion 400 while the fabric 300 is covered the stretchable band 200. The two cut ends 302, 304 can be disposed in various positions depending on the weave of the seaming portion 400. The seaming portion 400 could be made by using a needle or more than one needle, and the sewed position of the seaming portion 400 also depends on the demand of the invention. However, in other embodiments, the seaming portion may also include attaching, sticking, fastening or other connecting methods. In the embodiment of shown in FIGS. 2a and 2b, the two cut ends 302, 304 of the fabric 300 lap over one surface of the stretchable band 200. One cut end 304 is disposed at bottom end of the stretchable band 200, and one end of the other cut end 302 is folded disposed close to the middle of the stretchable band 200. The weave of the seaming portion 400 according to the preferable embodiment is a vertical looper and flatbed made by using a multi-needle and double chain stitch machine.

However, in the embodiment shown in FIG. 3a, the cut end 302 may not also required to be folded disposed near the middle of the stretchable band 200. Moreover, in the embodiment shown in FIG. 3b, the cut end 304 is disposed close to the middle of the stretchable band 200, and the other cut end 302 is folded corresponding to the cut end 304. In the embodiment shown in FIG. 3c, the two cut ends 302, 304 of the fabric 300 may also disposed facing each other on one surface of the stretchable band 200. In the embodiment shown in FIG. 3d, the two cut ends 302, 304 may overlap one another near the middle of the stretchable band 200.

The position of the two cut ends 302, 304 are relative to weave of the seaming portion 400. FIG. 4a to FIG. 4d illustrate the front elevation view of the stretchable sweatband according to the present invention. In the embodiment shown in FIG. 4a, the weave of the seaming portion 400 is three-threats high speed weave made by using one needle and over lock machine, and corresponds to FIG. 3a. In the embodiment of FIG. 4b, the weave of the seaming portion 400 is a vertical looper and flatbed weave made by using two needles and double chain stitch machine, and corresponds to FIG. 3b. Furthermore, in the embodiment of FIG. 4c, the weave of the seaming portion 400 is a high speed and lockstitch weave made by using a single needle and zigzag sewing machine, and corresponds to FIG. 3c. In the embodiment of FIG. 4d, the weave of the seaming portion 400 is a high speed, flatbed and interlock weave made machine, and corresponds to FIG. 3d.

As depicted above, the weave of the seaming portion 400 may further include a vertical looper and a flatbed weave made by using a multi-needle and double chain stitch machine. A high speed, cylinder-bed and lockstitch weave made by using a needle and bar tacking machine. A high speed, lockstitch and cylinder-bed weave made by using a single needle and electronic round hole tacking machine. A lockstitch and pressor foot feed weave made by using a single needle and zigzag sewing machine. One thread high speed weave made by using one needle and over lock machine, a blind stitching machine, or a blanket stitching machine, etc.

When the stretchable sweatband 100 is under a force, the seaming portion 400, the stretchable band 200 and the fabric 300 will extend along the longitudinal direction or the orientation of the exerted force, as shown in FIG. 5. In the embodiment shown in FIG. 5, the seaming portion 400 may slightly limit the extensibility of the stretchable sweatband 100, where the weave of the seaming portion is a lockstitch and pressor foot feed weave made by using a single needle and zigzag sewing machine, etc. However, in other embodiments, some of the weave of the seaming portion 400 may help the extensibility of the stretchable sweatband 100, such as the weave of the seaming portion is a high speed, cylinder-bed and lockstitch weave made by using a needle and bar tacking machine, etc.

The stretchable band 100 has a preferred extensibility, so that the headgear products can fit different wearers with a range of head sizes. Thus, when the stretchable sweatband 100 is worn, the wearers will feel comfortable without any constraint. Accordingly, any position on the stretchable band 100, would not create any constraint within the stretchable band 200 or the seaming portion 400 due to the force exerted to the stretchable sweatband 100.
Referring to FIG. 6, the stretchable sweatband 100 structure according to the present invention can be applied to headgear products. The headgear products such as a stretchable cap 500 which includes a peak 520, at least a crown portion 530 and a stretchable sweatband 100. The stretchable sweatband 100 is sewed on the inner side of the lower peripheral rim 510 of the crown portion 530 and forms a ring. However, in other embodiments, the stretchable sweatband 100 can also be disposed in two segments and sewed on the top and bottom ends of the lower peripheral rim of the crown portion respectively (not illustrated). In addition, in the embodiment shown in FIG. 7, the stretchable sweatband 100 can be sewed at the rear of the stretchable cap 600 such as tennis caps or a sun visor hats. The stretchable sweatband 100 in the preferred embodiment can be formed a ring on the rear of the stretchable cap 600. However, in the other embodiments, the stretchable sweatband 100 may be disposed in a single segment and is sewed at the rear of the stretchable cap 600.

As shown in FIG. 8, the embodiment is preferably applied to a headband 700. When use wears the headband 700 (the headband 700 is substantially a stretchable sweatband 100), an extra covering layer of the fabric 300 contacts the use’s skin, and then gives the wearer comfort and also drains sweat more easily. Meanwhile, the headband 700 not only can be easily bound to the wearer’s head to hold the wearer’s hair but also absorbing sweat without putting pressure on the wearer’s head. Furthermore, the lengthways extensibility of the stretchable sweatband 100 is greater than the sideways extensibility of the stretchable sweatband 100. Nevertheless, the sideways extensibility of the stretchable sweatband 100 may be inefficient according to wearer. Even so, the stretchable sweatband 100 according to present invention can be expanded both lengthways and sideways, and thereby has a multi-directional extensibility.

While certain novel features of this invention have been shown and described and are pointed out in the annexed claim, it is not intended to be limited to the details above, since it will be understood that various omissions, modifications, substitutions, and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing in any way from the spirit of the present invention.

1. A stretchable sweatband for using a cap, comprising:
   a stretchable band having at least one band and a plurality of elastic yarns sewed together along a longitudinal direction;
   a fabric covering the stretchable band along the longitudinal direction thereof; and
   a seaming portion used to seam the fabric and the stretchable band together.

2. The stretchable sweatband of claim 1, wherein the fabric includes at least two cut ends.

3. The stretchable sweatband of claim 2, wherein the two cut ends of the fabric are lapped over one surface of the stretchable band, and then are seamed together with the seaming portion.

4. The stretchable sweatband of claim 2, wherein the two cut ends of the fabric are disposed corresponding to each other on one surface of the stretchable band, and are seamed together with the seaming portion.

5. The stretchable sweatband of claim 1, wherein the stretchable band includes a meshed-elastic band.

6. The stretchable sweatband of claim 1, wherein the fabric includes a stretchable fabric.

7. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes a vertical looper and flatbed weave made by using a multi-needle and double chain stitch machine.

8. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes a vertical looper and flatbed weave made by using two needles and double chain stitch machine.

9. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes a high speed, flatbed and interlock weave made machine.

10. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes a high speed, cylinder-bed and lockstitch weave made by using a needle and bar tacking machine.

11. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes a high speed, lockstitch and cylinder-bed weave made by using a single needle and electronic round hole tacking machine.

12. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes a lockstitch and presser foot feed weave made by using a single needle and zigzag sewing machine.

13. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes a high speed and lockstitch weave made by using a single needle and zigzag sewing machine.

14. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes one-thread high speed weave made by using one needle and over lock machine.

15. The stretchable sweatband of claim 1, wherein the weave of the seaming portion includes three-threads high speed weave made by using one needle and over lock machine.

16. The stretchable sweatband of claim 1, wherein the weave of the seaming portion is made by using a blind stitching machine.

17. The stretchable sweatband of claim 1, wherein the weave of the seaming portion is made by using a blanket stitching machine.

18. A stretchable cap comprising the stretchable sweatband as cited in claim 1.

19. A stretchable cap comprising the stretchable sweatband as cited in claim 2.

20. A stretchable cap comprising the stretchable sweatband as cited in claim 3.