SWEATBAND WITH ABSORBENT BAMBOO INNER LAYER AND RELATED METHOD OF USE

Inventor: Steven Wieder, Sarasota, FL (US)

Correspondence Address:
HERBERT L. ALLEN
ALLEN, DYER, DOPPELT, MILBRATH & GIL-CHRIST, P.A.
255 SOUTH ORANGE AVENUE, SUITE 1401, P. O. BOX 3791
ORLANDO, FL 32802-3791 (US)

Filed: Sep. 11, 2009

Publication Classification
Int. Cl.
A41D 20/00 (2006.01)
U.S. Cl. 2/170

ABSTRACT
The invention relates to a sweatband comprising a wicking sheath, preferably made of Nylon and Lycra®, having a first end, a second end, a first wicking layer and a second wicking layer—as well as an interior absorbent layer comprised in part of bamboo cloth or merino wool maintained within the wicking sheath. Attached to both the first and second end of the wicking sheath is a fastening means, which can be a hook-and-loop fastener. The sweatband may include ornamentation or can maintain a digital music player. The invention is also directed toward a method to prevent accumulation of sweat through placing a first sweatband on the wrist, a second proximate to the elbow and a third on the upper bicep, and securing each sweatband through connecting the male panel to the female panel. The method can include placing finger bands proximate to the knuckles.
SWEATBAND WITH ABSORBENT BAMBOO INNER LAYER AND RELATED METHOD OF USE

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. Provisional Patent Application Ser. No. 61/228,776, filed on Jul. 27, 2009, entitled “Perforated Hook-and-Loop Fastener for Sports Apparel,” the contents of which are incorporated by reference herein.

FIELD OF THE INVENTION

[0002] The present invention is directed to a sweatband comprised of a wicking sheath having a first wicking layer and a second wicking layer, as well as an absorbent layer made in part of bamboo cloth (or similar natural fiber) placed between the first and second wicking layers of the wicking sheath. The invention further relates to a method of placing multiple sweatbands throughout the arms and legs to reduce accumulation of sweat during any sweat inducing activity.

BACKGROUND OF THE INVENTION

[0003] The underlying technology used in the manufacture of sports apparel has greatly improved over the past few years. Traditionally, the design of sports and outdoor apparel has focused on using comfortable and highly absorbable materials. These materials have typically been cotton or other natural fibers to help absorb sweat secreted from the body during an activity.

[0004] Recent advances in sports and outdoor apparel design have led to the use of non-cotton based materials. This is because once cotton-based materials become saturated with sweat they can become heavy, stiff and bulky. Moreover, the wearing of saturated cotton-based sports apparel for long periods of time can lead to discomfort, chaffing and even the breaking of skin. The direct result is decreased performance and potential injury to the wearer during a sweat inducing activity.

[0005] Manufacturers have begun to employ new materials for sports and outdoor apparel, which help wick sweat away from the body to allow this fluid to evaporate in the outside air during an activity. These often include synthetic materials to create more breathable systems that draw moisture away from the wearer.

[0006] Despite advances in next generation fabrics for use in sports and outdoor apparel to wick away sweat from the body, there have been very few advances in the technology relating to manufacture of sweatbands. Instead, sweatbands continue to be primarily manufactured from cotton Terry cloth. When performing sweat inducing activities for long periods of time, these traditional sweatbands become fully-absorbed with sweat. This not only renders them useless (as no additional sweat can be absorbed), but they also become heavy, bulky and stiff.

[0007] Because of the current limitations in sweatband technology, an individual engaging in sweat inducing activity (including but not limited to a sportsmen or outdoorsmen) will often wear multiple sweatbands along his or her wrists—or alternatively be forced to change out sweatbands periodically during a sweat inducing activity. This has multiple limitations. First, the addition of multiple sweatbands along the wrist and arms can be uncomfortable, especially when they become saturated with sweat after long term use. Second, the added weight of the saturated sweatband on the individual can decrease performance during the sweat inducing activity.

[0008] There is a need for an improved non-cotton based sweatband that is not only absorbent but is also capable of wicking away and evaporating sweat from an outdoorsman. More specifically, there is a need for a multi-part constructed sweatband that is light-weight yet effective in drawing sweat away from the sportsman or outdoorsman. In addition, there is a need for placing multiple light weight sweatbands on the outdoorsman to keep that individual’s wrists and hands dry.

SUMMARY OF THE INVENTION

[0009] In view of the foregoing background, the current invention solves the limitations found in current terry cloth sweatbands. The preferred embodiment of the improved sweatband includes a wicking sheath having a first edge, a second edge, a first wicking layer and a second layer. The wicking sheath is preferably a synthetic material, such as a blend of Nylon and Lycra®. Placed between the first and second wicking layers is an inner absorbent layer comprised of a natural fiber, such as bamboo cloth. Other natural fibers such as merino wool could also be used. The sweatband further includes a fastening means located at both the first edge and second edge of the wicking sheath.

[0010] The preferred fastener for use with the sweatband is a perforated hook-and-loop fastener having a male panel and corresponding female panel. This hook-and-loop fastener can be perforated such that it has a plurality of pass-through conduits.

[0011] In addition, the invention also contemplates a method of preventing accumulation of sweat on the arms during outdoor activity. The preferred method includes placement of three different sweatbands proximate to the wrists, forearms and upper-biceps.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a front view of the preferred sweatband including the wicking sheath and fastener.

[0013] FIG. 2 is a cut-away view of the preferred sweatband showing the first wicking layer, the inner absorbent layer and the second wicking layer.

[0014] FIG. 3A is a front view of the preferred configuration of the male panel of the fastener.

[0015] FIG. 3B is a front view of the preferred configuration of the female panel of the fastener.

[0016] FIG. 4A is a front view of the preferred sweatband with a plurality of adhesive portions to add ornamentation.

[0017] FIG. 4B is a 180 degree view of the illustration offered in FIG. 4A.

[0018] FIG. 4C is a front view of the preferred sweatband with ornamentation attached to the exterior wicking layer.

[0019] FIG. 4D is a 180 degree view of the illustration offered in FIG. 4C.

[0020] FIG. 5 is a front view of the preferred sweatband having a pouch sufficient to house a digital music device.

[0021] FIG. 6 illustrates use of finger bands made of wicking material to absorb sweat on the wearer’s hands.
FIG. 7 shows a plurality of sweatbands placed proximate to the wrist, forearm and upper bicep, as well as use of finger bands to wick sweat away from the hands.

DETAILED DESCRIPTION OF THE INVENTION

The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Like numbers refer to like elements throughout.

The underlying invention (described in greater detail below) is directed to multi-layer sweatband 100 that is light-weight, sturdy and highly adjustable. One or more of these sweatbands 100 can be placed along the arms of the wearer 300 to maintain an effective and dry hand grip on an instrument and/or positioned along the legs or ankles to ensure dry and stable footing. In addition, this multi-layer sweatband 100 eliminates build up of accumulated sweat through a process of wicking and evaporation that further reduces the need to remove and replace saturated traditional sweatbands. The end result is improved performance and safety in any form of sport and/or outdoor activity.

Multi-Layer Sweatband System

As illustrated in FIG. 1, the present invention relates to a multi-layer sweatband 100 that includes an inner absorbent layer 150 housed by a wicking sheath 200. The inner absorbent layer 150 is preferably thin, rectangular and of sufficient size and dimension to fit within the wicking sheath 200. A variety of natural fibers can be preferably used as part of the inside absorbent layer 150. However, bamboo cloth 101 should be the primary natural fiber, while merino wool is an alternative natural fiber.

There exist numerous advantages for having the inner absorbent layer 150 manufactured in part from bamboo cloth 101. Bamboo cloth 101 is a natural textile made from bamboo fibers. Bamboo is a fast growing grass that is readily available and highly sustainable. Cloth made from bamboo fibers has excellent wicking properties and absorbs more water than cotton fabric prior to saturation. Bamboo fibers also contain a substance referred to as ‘bamboo koh,’ which has anti-microbial properties. Also, bamboo cloth 101 has a high carbon content and is quite porous so as to have a high surface area. The carbon in bamboo cloth 101 may also bind with organic molecules, thereby interrupting microbe growth.

The inner absorbent layer 150, made at least in part from bamboo cloth 101 and/or merino wool, is contained within the wicking sheath 200. As further shown in FIG. 1, the wicking sheath 200 is primarily rectangular in shape and has a top edge 201, a bottom edge 202, a first edge 203 and a second edge 204. The wicking sheath 200 is preferably made of a blend of synthetic fibers such as (but not necessarily limited to) Nylon and Lycra®. More specifically, it is preferred the wicking sheath 200 be made of 87 percent Nylon and 13 percent Lycra®. However, any blend of 80 to 90 percent Nylon and 10 to 20 percent Lycra is likewise contemplated by the invention.

The wicking sheath 200 has an upper sewn portion 210 directly below the top edge 201, and a lower sewn portion 211 directly above the bottom edge 202. Both the upper and lower sewn portions 210 and 211 act to secure and maintain the inner absorbent layer 150 housed by the wicking sheath 200.

FIG. 2 provides a cut-away view of the components of the preferred sweatband. As shown, the wicking sheath 200 is comprised of both a first wicking layer 250 and a corresponding second wicking layer 260. The first wicking layer 250 is placed directly in contact with the wearer 300, while the second wicking layer 260 is exposed to the outside air 400. Placed between both wicking layers 250 and 260 is the inner absorbent layer 150. This construction allows sweat to be wicked away from the wearer 300, through the first wicking layer 250 and into the inner absorbent layer 150. Next, the properties of the second wicking layer 260 draw absorbed sweat out of the inner absorbent layer 150 to be evaporated in the outside air 400.

In addition, the sweatband further includes a fastener 500 to connect the left side edge 203 with the right side edge 204. While the fastener 500 is preferably a hook-and-loop fastener, it can be any connector known to one of ordinary skill in the art. As illustrated in FIG. 1, the preferred fastener 500 is a perforated hook-and-loop fastener that includes a male panel 510 and a corresponding female panel 520. In addition, a plurality of pulls 530 can be affixed to either of the panels 510 and 520 (either panel or potentially both) to assist in attaching and detaching the sweatband 100.

Perforated Hook-and-Loop Fastener

FIGS. 3A and 3B further illustrate the components of the preferred fastener 500. Both the male panel 510 and the corresponding female panel 520 of the preferred fastener 500 include a plurality of uniquely placed flow-through perforations 501 of sufficient size and dimension to allow sweat to exit the skin of the wearer 300. The male panel 510 is attached to the wicking sheath 200 at the first edge 203. Likewise, the female panel 520 is attached to the outside wicking sheath 200 at the second edge 204.

There are multiple benefits and advantages for having flow-through perforations 501 within each panel 510 and 520 of the fastener 500 shown in FIGS. 3A and 3B. First, including flow-through perforations 501 helps decrease the overall weight of each panel 510 and 520, which makes the sweatband less bulky and more comfortable to wear. Second, the positioning of these flow-through perforations 501 helps reduce stiffness and folds within each panel 510 and 520 that often result in traditional hook-and-loop fasteners. Put another way, the flow-through perforations 501 relax to a certain degree the stiffness of the panel (510 and 520) which assists in creating a more comfortable fastener to wear during an activity.

The fastener 500 illustrated in FIGS. 3A and 3B provides the further benefit of improved air circulation between the wearer 300 and outside air 400. By allowing the pass-through conduits created through each flow-through perforation 501, each panel 510 and 520 allows perspiration to exit the sweatband 100 during an activity. This helps increase evaporation of moisture away from the body to decrease accumulation of sweat below and around the hook-and-loop fastener 500. By allowing the skin to breathe, this reduces skin irritation and provided greater comfort to the outdoorsman.
FIG. 3A illustrates the male panel 510 of the preferred hook-and-loop fastener 500. The male panel 510 includes a right side edge 521, a left side edge 522, a top edge 523 and a bottom edge 524. As shown, it is preferable that the plurality of flow-through perforations 501 be arranged and positioned near the center of the male panel 510.

Concentrating together flow-through perforations 501 in the middle of the female panel 520 shown in FIG. 3B helps ensure the edges of the female panel 520 (as well as the male panel 510) do not become disengaged or loose during exertion. Put another way, non-perforated material along the edges of each male panel 510 and corresponding female panel 520 helps create a more effective seal for the hook-and-loop fastener 500. Both panels 510 and 520 can be manufactured from a variety of materials, including but not limited to plastic, neoprene or synthetic rubber.

Ornamentation of the Sweatband

The sweatband 100 can further include ornamentation 600 placed on the wicking sheath 200. There are various reasons and purposes for ornamentation 600 on the multi-layer sweatband 100. First, such ornamentation 600 may be an identification number for use during athletic events such as a marathon, triathlon or similar sporting activity. Second, such ornamentation 600 may identify a license or contract number for a skilled laborer. Third, ornamentation may identify a team on which the wearer 400 is playing—such as a professional or university sports team. Finally, such ornamentation 600 may simply be to support the underlying professional or university sports team preferred by the wearer.

FIGS. 4A through 4D illustrate the preferred system for affixing ornamentation 600 to a sweatband 100. FIG. 4A illustrates one preferred method of affixing ornamentation 600 through use of one or more adhesive strips 601, 602 and 603 on the wicking layer 200 of the sweatband 100. While an essentially “U” shaped orientation is illustrated, any configuration sufficient to affix the ornamentation 600 to the exterior wicking layer 260 may be used. Moreover, although any known adhesive strip (601-603) may be used, it is preferable the adhesive is a perforated hook-and-loop fastener. FIG. 4B is a 180 degree view of the illustration offered in FIG. 4A.

FIG. 4C illustrates how the ornamentation 600 is located on the wicking layer 200 by using one or more adhesive strips (601-603) and 604. FIG. 4A. Here, a University logo is displayed for purposes of rooting-on or supporting a particular team. FIG. 4D is a 180 degree view of the illustration offered in FIG. 4C.

Pouch for Securing a Digital Music Player

As an alternative to showing ornamentation 600, the lightweight and sturdy construction of the next generation sweatband 100 can also include a pouch 700 of sufficient size and dimension so as to house a digital music player 750. FIG. 5 illustrates the preferred construction and orientation of the pouch 700. As shown, the pouch 700 is sewn onto the exterior wicking layer 260 of the sweatband 100.

The system also includes an upper opening 710 sufficient to allow the digital music player 750 to fit into the pouch 700. Alternatively, the front portion 720 of the pouch 700 can be translucent or clear to allow the readout of the music player 750 to be viewed by the wearer.

Finger Bands

In addition to the next generation sweatband 100, the invention is further directed toward a series of finger bands 800 placed proximate to the knuckles of the wearer's 300 hands. FIG. 6 illustrates one placement and orientation of finger bands 800. As shown, it is preferable that the finger bands 800 be placed above the knuckle of each finger. While a variety of fibers can be used, it is preferable that each finger band 800 be constructed of nylon and Lycra®.

The specific arrangement and positioning of the finger bands 800 shown in FIG. 6 assist in absorbing sweat away from the hands to ensure the wearer 300 can maintain a firm grip on athletic equipment such as a tennis racket, golf club or dumbbell. In addition, such finger bands 800 can assist an outdoorsman to keep a firm grip on equipment such as a jackhammer, shovel or related instrument.

Method for Preventing Sweat Accumulation

In addition to the aforementioned systems for a sweatband 100 and finger band 800, the invention is further directed toward a method for preventing the accumulation of sweat on the wearer's 300 arms. As shown in FIG. 7, placement of a plurality of sweatbands 100 proximate to the wrists 310, elbows 320 and upper biceps 330 of the wearer 300 helps ensure that sweat will not accumulate during an outdoor activity. In addition, a plurality of finger bands 800 can be placed above and below the knuckles 340 (shown in FIG. 6) of each hand 350.

More specifically, the preferred method includes first placing a first sweatband 110 proximate to the wrist 310. The first sweatband 110 includes an inside absorbent layer 150 and a wicking sheath 200 having a first edge 203, a second edge 204, a first wicking layer 250 and a second wicking layer 260. The wicking sheath 200 being of sufficient size and dimension to house the inner absorbent layer 150, which is preferably (but not necessarily) made of bamboo cloth. In addition, the wicking sheath 200 is preferably made of a synthetic blend, which can be a combination of 87 percent nylon and 13 percent Lycra®.

In addition, the first sweatband 110 includes a fastener 500 having a male panel 510 attached to a first edge 203 and a corresponding female panel 520 attached the second edge 204. The fastener 500 is preferably a hook-and-loop fastener. After placing the first sweatband 110 on the wrist, the method next contemplates fastening the first sweatband 110 by connecting the male panel 510 to the corresponding female panel of the fastener 500. By doing so, the first sweatband 110 would be custom fit onto the unique dimensions of the wrist 310 of the wearer 300.

Similarly, a second sweatband 120 is next placed proximate to the elbow 320. The second sweatband 120 has the same components and construction as the first sweatband 110. However, the second sweatband 120 may be of a different length and width as compared to the first sweatband 110. After placing the second sweatband 120 on the elbow 320, the male fastener 510 is connected to the corresponding female fastener 520.

Yet a third sweatband 130 can be placed proximate to the upper bicep 330. This third sweatband 130 has the same components and construction compared to the first and second sweatbands 110 and 120. However, the third sweatband 130 can have a different length and width compared to the other two sweatbands 110 and 120. After placing the third sweatband 130 on the upper bicep 330, the male fastener 510 is connected to the corresponding female fastener 520.

Additionally, after affixing one or more sweatbands (110-130) along each arm, the method can further include
placing a plurality of finger bands 800 proximate to the knuckles 340 of the hands 350. The finger bands are made of a natural fiber, preferably wicking cloth. Through combination of these various sweatbands (110-130) and finger bands 800, the aforementioned method helps wick sweat away from the hands during a sweat inducing activity.

1. A sweatband comprising:
   a wicking sheath having a first edge, a second edge, a first wicking layer and a second wicking layer;
   an inner absorbent layer containing bamboo cloth of sufficient size and dimension to be positioned between the first wicking layer and second wicking layer of the wicking sheath; and
   a means for fastening the first edge of the wicking sheath to the second edge.

2. The sweatband of claim 1, wherein:
   the fastening means includes a male panel and a corresponding female panel, said male panel connected to the first edge and said female panel connected to the second edge.

3. The sweatband of claim 1, wherein:
   the wicking sheath is a Nylon and Lycra® blend.

4. The sweatband of claim 3, wherein:
   the specific blend is of the order of 80-90 percent Nylon and of the order of 10-20 percent Lycra®.

5. The sweatband of claim 2, wherein:
   both the male panel and corresponding female panel are a perforated hook-and-loop fastener.

6. The sweatband of claim 5, wherein:
   the male panel and corresponding female panel both have pass through conduits.

7. The sweatband of claim 1, further comprising:
   one or more adhesive strips placed on the wicking sheath; and
   ornamentation affixed to said strip or strips.

8. The sweatband of claim 1, further comprising:
   a pouch placed on the wicking sheath, said pouch having an upper opening sufficient to house a digital music player.

9. The sweatband of claim 8, wherein:
   the pouch includes a front portion which is clear to allow viewing of the digital music player.

10. A method of preventing accumulation of sweat during outdoor activity, comprising the steps of:
   (a) placing a first sweatband proximate to a wearer's wrist, said first sweatband having wicking sheath that includes a first edge, a second edge, a first wicking layer and a second wicking layer, and an inner absorbent layer containing bamboo cloth of sufficient size and dimension to be positioned between the first wicking layer and second wicking layer of the wicking sheath; and
   (b) fastening the first sweatband through a fastening means attached to the first edge and second edge of the sweatband.

11. The method of claim 10 further comprising the steps of:
   (c) placing a second sweatband proximate to a wearer's elbow, said second sweatband having wicking sheath that includes a first edge, a second edge, a first wicking layer and a second wicking layer, and an inner absorbent layer containing bamboo cloth of sufficient size and dimension to be positioned between the first wicking layer and second wicking layer of the wicking sheath; and
   (d) fastening the second sweatband through a fastening means attached to the first edge and second edge of the sweatband.

12. The method of claim 10 further comprising the steps of:
   (e) placing a third sweatband proximate to a wearer's upper bicep, said third sweatband having wicking sheath that includes a first edge, a second edge, a first wicking layer and a second wicking layer, and an inner absorbent layer containing bamboo cloth of sufficient size and dimension to be positioned between the first wicking layer and second wicking layer of the wicking sheath; and
   (f) fastening the third sweatband through a fastening means attached to the first edge and second edge of the sweatband.

13. The method of claim 10, wherein: the wicking sheath is a Nylon and Lycra® blend.

14. The method of claim 10, wherein:
   the specific blend is of the order of 80-90 percent Nylon and of the order of 10-20 percent Lycra®.

15. The method of claim 10, wherein:
   the fastening means includes a male panel and a corresponding female panel, said male panel connected to the first edge and said female panel connected to the second edge.

16. The method of claim 15, wherein:
   both the male panel and corresponding female panel are a perforated hook-and-loop fastener.

17. The method of claim 15 wherein:
   the male panel and corresponding female panel both have pass through conduits.

18. The method of claim 10, further comprising the step of:
   placing a plurality of finger bands proximate to the knuckles of one or more fingers.

19. The method of claim 18 wherein:
   each finger band is made at least in part of a blend of Nylon and Lycra®.

20. The method of claim 19, wherein:
   the specific blend is of the order of 80-90 percent Nylon and of the order of 10-20 percent Lycra®.

* * * * *