Title: PERSPIRATION ABSORBING ITEMS

Abstract: A perspiration-absorbing and fungus-inhibiting item may be constructed from three layers. A semi-permeable upper layer permits moisture to pass downward through the layer and air to pass both upwardly and downwardly through the layer to an absorbent center layer that has a perimeter slightly smaller than the perimeter of the upper layer. The center layer absorbs any moisture passing through the upper layer. An absorbent powder, such as baking soda, is infused into the absorbent layer. A non-permeable lower layer has a perimeter equal to the perimeter of the upper layer and prevents moisture from leaving the item. Means such as thermoelectric welding, cold compression forming or crimping are provided for joining the upper layer to the lower layer along their perimeters. Typically, the item is sized and shaped to fit on and attach removably to an upper surface of an insole of a shoe using an adhesive strip affixed to an underside of the lower layer. In other variants of the invention, the item is sized and shaped to serve as a headband, neckband, wristband or hospital gown. In still another variant, the item is sized and shaped to serve as a bed pad and further includes means for attaching the pad to a bed sheet such as reversibly separable loop and hook pads affixed to an upper surface of the bed sheet and a lower surface of the bed pad or a strip of adhesive tape, the tape being affixed adjacent the perimeter of the upper layer.
Perspiration Absorbing Items

Field of Invention

The invention pertains to items for absorbing perspiration. More particularly, the invention relates to inserts for shoes and boots, headbands, neckbands, armbands and pads for attachment to bed sheets.

Background of the Invention

Various devices have been developed to help absorb excessive bodily perspiration in shoes, under clothing during sporting activities, and in bedding. U.S. Patent No. 5,203,806 issued to Broida is directed to an absorbent pad for medical use. The pad is formed of a flexible laminate with a liquid-permeable inner layer, an intermediate layer of absorbent material, and a liquid-impermeable outer layer. An adhesive layer is provided on the peripheral border of the pad for sealing to the patient’s skin.

U.S. Patent No. 5,858,014 issued to Kepes et al., relates to absorbent pads for the breast. The pads are used for absorbing moisture around the breast area of a woman and comprise a layer of absorbent material as well as a layer of moisture retention material. A base layer is disposed on one side of the pad and has a releasable adhesive material. The material of the pad device is provided with notches to allow conformance of the material to the shape of the brassiere and the breasts.

U.S. Patent No. 5,990,376, issued to Inoue et al. is directed to a disposable absorbent undergarment. The garment includes a liquid-permeable top sheet, a liquid-impermeable back sheet, and an absorbent core disposed therebetween. The disposable absorbent undergarment of this invention may take the form of a disposable diaper, an incontinence pad, or pants, as well as being used as a sanitary napkin. U.S. Patent No. 5,792,129 issued to Johansson et al. discloses a sanitary napkin and takes the form of a
primary absorbent body that is able to absorb discharge fluid and is enclosed between a fluid-permeable layer and a fluid-impermeable casing sheet. U.S. Patent No. 5,768,713 issued to Crick discusses to a hosiery article with moisture absorbing pads.

While other variations exist, the above-described designs for perspiration absorbing items are typical of those encountered in the prior art. It is an objective of the present invention to provide for reliable control of bodily perspiration using comfortable, disposable, padding devices. It is a further objective to provide such absorption in an inexpensive, readily adaptive form for different sized users. It is a still further objective of the invention to provide for items that can absorb perspiration while remaining comfortable to wear. It is yet a further objective to provide for perspiration-absorbing device that may be augmented with absorbent powders for increased dryness next to the skin.

While some of the objectives of the present invention are disclosed in the prior art, none of the inventions found include all of the requirements identified.

Summary of the Invention

The present invention addresses all of the deficiencies of prior art weighing and counting inventions and satisfies all of the objectives described above.

A perspiration-absorbing and fungus-inhibiting item providing the desired features may be constructed from the following components. A semi-permeable upper layer is provided. The upper layer has a first perimeter and permits moisture to pass downwardly through the layer and air to pass both upwardly and downwardly through the layer. An absorbent center layer is provided. The center layer has a second perimeter slightly smaller than the first perimeter and absorbs any moisture passing through the upper layer. An absorbent powder is provided. The powder is infused into the absorbent layer. A non-
permeable lower layer is provided. The lower layer has a third perimeter equal to the first perimeter and prevents moisture from leaving the perspiration-absorbing item. Means are provided for joining the upper layer to the lower layer along the first and third perimeters.

In a variant of the invention, the absorbent powder is baking soda. In another variant, the means for joining the upper layer to the lower layer along the first and third perimeters is either of thermoelectric welding, cold compression forming or crimping.

In still another variant of the invention, the item is sized and shaped to fit on an upper surface of an insole of a shoe. In yet another variant, means are provided for removably attaching the item to the insole of the shoe. In still a further variant, the means for removably attaching the item to the insole of the shoe is an adhesive strip affixed to an underside of the lower layer.

In yet a further variant of the invention, the item is sized and shaped to serve as a headband. In another variant, the item is sized and shaped to serve as a neckband. In yet another variant, the item is sized and shaped to serve as a wristband. In still another variant, the item is sized and shaped to serve as a bed pad and further includes means for attaching the pad to a bed sheet.

In still a further variant of the invention, the means for attaching the pad to the bed sheet comprises at least one pair of reversibly separable loop and hook pads affixed to an upper surface of the bed sheet and a lower surface of the bed pad. In yet another variant, the means for attaching the pad to the bed sheet includes a strip of adhesive tape, the tape being affixed adjacent the first perimeter of the upper layer.

In a final variant of the invention, the item is sized and shaped to serve as a hospital gown, the gown having an inner surface formed of the semi-permeable upper layer and an outer surface formed of the non-permeable lower layer with the absorbent center layer located between the inner surface and the outer surface.
An appreciation of the other aims and objectives of the present invention and an understanding of it may be achieved by referring to the accompanying drawings and the detailed description of a preferred embodiment.

Description of the Drawings

Figure 1 is a perspective view of the preferred embodiment of the invention, illustrating placement of the invention into a shoe;

Figure 2 is a cross-sectional view of the Figure 1 embodiment taken along the line 2-2;

Figure 3 is a partial enlarged cross-sectional view taken along the line 3-3;

Figure 4 is a perspective view of a second embodiment of the invention designed for use as a headband and a third embodiment designed for use as a neck band;

Figure 5 is a perspective view of a fourth embodiment of the invention designed for use as a wristband; and

Figure 6 is a perspective view of a fifth embodiment of the invention designed for use as a bed pad illustrating an adhesive means of attachment to the bed;

Figure 7 is a perspective view of the fifth embodiment of the invention, illustrating hook and loop means of attachment to the bed; and

Figure 8 is a perspective view of the sixth embodiment of the invention, designed for use as a hospital gown.

Detailed Description of the Preferred Embodiment

Figures 1-7 illustrate a perspiration absorbing and fungus-inhibiting item providing the desired features. As illustrated in Figures 1-3, a semi-permeable upper layer is provided. The upper layer has a first perimeter and permits moisture to pass
downwardly through the layer 14 and air 26 to pass both upwardly and downwardly through the layer 14. An absorbent center layer 30 is provided. The center layer 30 has a second perimeter 34 slightly smaller than the first perimeter 18 and absorbs any moisture 22 passing through the upper layer 14. An absorbent powder 38 is provided. The powder 38 is infused into the absorbent layer 30. A non-permeable lower layer 42 is provided. The lower layer 42 has a third perimeter 46 equal to the first perimeter 18 and prevents moisture 22 from leaving the perspiration-absorbing item 10. Means 50 are provided for joining the upper layer 14 to the lower layer 42 along the first 18 and third perimeters 46.

In a variant of the invention, the absorbent powder 38 is baking soda. In another variant, the means 50 for joining the upper layer 14 to the lower layer 42 along the first 18 and third 46 perimeters is either of thermoelectric welding, cold compression forming or crimping.

In still another variant of the invention, the item 10 is sized and shaped to fit on an upper surface 54 of an insole 58 of a shoe 62. In yet another variant, means 66 are provided for removably attaching the item 10 to the insole 58 of the shoe 62. In still a further variant, the means 66 for removably attaching the item 10 to the insole 58 of the shoe 62 is an adhesive strip 70 affixed to an underside 74 of the lower layer 42.

In yet a further variant of the invention, as illustrated in Figure 4, the item 10 is sized and shaped to serve as a headband 78. In another variant, the item 10 is sized and shaped to serve as a neckband 82. In yet another variant, as illustrated in Figure 5, the item 10 is sized and shaped to serve as a wristband 84. In still another variant, as illustrated in Figures 6 and 7, the item 10 is sized and shaped to serve as a bed pad 86 and further includes means 90 for attaching the pad 86 to a bed sheet 94.

In still a further variant of the invention, as illustrated in Figure 7, the means 90 for attaching the pad 86 to the bed sheet 94 comprises at least one pair 98 of reversibly
separable loop 102 and hook 106 pads affixed to an upper surface 110 of the bed sheet 94 and a lower surface 114 of the bed pad 86. In yet another variant, as illustrated in Figure 6, the means 90 for attaching the pad 86 to the bed sheet 94 includes a strip of adhesive tape 118, the tape 118 being affixed adjacent the first perimeter 18 of the upper layer 14.

In a final variant of the invention, as illustrated in Figure 8, the item 10 is sized and shaped to serve as a hospital gown 122, the gown 122 having an inner surface 126 formed of the semi-permeable upper layer 14 and an outer surface 130 formed of the non-permeable lower layer 42 with the absorbent center layer 30 located between the inner surface 126 and the outer surface 130.

The perspiration-absorbing item 10 has been described with reference to particular embodiments. Other modifications and enhancements can be made without departing from the spirit and scope of the claims that follow.
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CLAIMS

1. A perspiration absorbing and fungus-inhibiting item, comprising:
   a semi-permeable upper layer, said upper layer, having a first perimeter and permitting moisture to pass downwardly through the layer and air to pass both upwardly and downwardly through the layer;
   an absorbent center layer, said center layer having a second perimeter slightly smaller than said first perimeter and absorbing any moisture passing through the upper layer;
   an absorbent powder, said powder being infused into said absorbent layer;
   a non-permeable lower layer, said lower layer, having a third perimeter equal to said first perimeter and preventing moisture from leaving the perspiration absorbing item; and
   means for joining the upper layer to the lower layer along the first and third perimeters.

2. A perspiration absorbing and fungus-inhibiting item, as described in Claim 1, wherein the absorbent powder is baking soda.

3. A perspiration absorbing and fungus-inhibiting item, as described in Claim 1, wherein the means for joining the upper layer to the lower layer along the first and third perimeters is chosen from the group comprising:
   thermoelectric welding, cold compression forming and crimping.

4. A perspiration absorbing and fungus-inhibiting item, as described in Claim 1, wherein the item is sized and shaped to fit on top of the insole of a shoe.
5. A perspiration absorbing and fungus-inhibiting item, as described in Claim 4, further comprising a means for removably attaching the item to the insole of a shoe.

6. A perspiration absorbing and fungus-inhibiting item, as described in Claim 5, wherein the means for removably attaching the item to the insole of a shoe is an adhesive strip affixed to an underside of the lower layer.

7. A perspiration absorbing and fungus-inhibiting item, as described in Claim 1, wherein the item is sized and shaped to serve as a headband.

8. A perspiration absorbing and fungus-inhibiting item, as described in Claim 1, wherein the item is sized and shaped to serve as a neckband.

9. A perspiration absorbing and fungus-inhibiting item, as described in Claim 1, wherein the item is sized and shaped to serve as a wristband.

10. A perspiration absorbing and fungus-inhibiting item, as described in Claim 1, wherein the item is sized and shaped to serve as a bed pad and further includes means for attaching the pad to a bed sheet.

11. A bed pad as described in Claim 10, wherein the means for attaching the pad to the bed sheet comprises at least one pair of reversibly separable loop and hook pads affixed to an upper surface of the bed sheet and a lower surface of the bed pad.
12. A bed pad as described in Claim 10, wherein the means for attaching the pad to the bed sheet comprises a strip of adhesive tape, said tape being affixed adjacent the first perimeter of the upper layer.

13. A perspiration absorbing and fungus-inhibiting item, as described in Claim 1, wherein the item is sized and shaped to serve as a hospital gown, said gown having an inner surface comprised of the semi-permeable upper layer and an outer surface comprised of the non-permeable lower layer with the absorbent center layer disposed between said inner surface and said outer surface.