A moisture management bed sheet for providing enhance moisture wicking properties without compromising structural strength may define a moisture wicking top sheet or a moisture wicking bottom sheet includes a frame portion disposed around the perimeter, a body portion of moisture wicking material, and a plurality of internal supports which attached to the frame portion and pass through the body portion. The body portion, which forms the primary covering (or laying) area under where a user would typically be when positioned on a mattress, is constructed of a conventional wicking fabric material. As the wicking fabric material may have a decreased tensile strength than conventional bed sheet materials, the frame portion and internal supports are operative to enhance the structural strength of the moisture management bed sheet.
MOISTURE MANAGEMENT BED SHEET

BACKGROUND OF THE INVENTION

[0001] Field of the Invention

This invention relates generally to bedding and sheets and, more particularly, to a reinforced sheet which includes moisture management properties.

[0002] Description of the Prior Art

[0003] The design and use of a conventional bed sheets defining the cloth bodies that are used either to cover a mattress (i.e. a bottom sheet) or those sleeping upon the mattress (i.e. a top sheet) is well known. Typically, the bottom sheet is fitted with elastic so as to keep it in place when on top of a mattress, while the top sheet is defined by a more defined rectangular shape and a uniform construction. While bed sheets are commonly made of varying materials, such as cotton, linen, satin, silk, mykon, bamboo fibre, polypropylene spunbond, and blends of cotton with polyester, a problem which still exists is that any typical bed sheets are not generally adapted to wick moisture away from the body of a user. Indeed, because pressure ulcers, also known as bed sores, are exacerbated by moisture it is well established protocol to rotate hospital patients that have difficulty moving and to change their bedding and cloth often to prevent the accumulation of moisture as perspiration in locations of pressure ulcers. Thus, there remains a need for a moisture management bed sheet which includes conventional moisture wicking fabric that operates to move a user’s perspiration from their skin to the opposite side of the sheet. It would be helpful if such a moisture management bed sheet included an external frame of a natural fabric so as to provide enhanced structural integrity relative to a sheet completely constructed of moisture wicking material. It would be additionally desirable for such a moisture management bed sheet to include internal supports of conventional material which operated to further enhance the strength of the sheet.

[0005] The Applicant’s invention described herein provides for a moisture management bed sheet adapted to remove moisture from the surface of a user’s skin on contact without absorbing and retaining the same. The primary aspects of Applicant’s moisture management bed sheet are a frame portion, a body portion and a plurality of internal supports. When in operation, the moisture management bed sheet enables more effective and efficient moisture management for not just the bedridden but anyone who may be prone to sweating in their sleep. As a result, many of the limitations imposed by prior art structures are removed.

SUMMARY OF THE INVENTION

[0006] A moisture management bed sheet for providing enhance moisture wicking properties without compromising structural strength. The moisture management bed sheet, which may define a moisture wicking top sheet or a moisture wicking bottom sheet, comprises a frame portion disposed around the perimeter, a body portion of moisture wicking material, and a plurality of internal supports which attached to the frame portion and pass through the body portion. The body portion, which forms the primary covering (or laying) area under where a user would typically be when positioned on a mattress, is constructed of a conventional wicking fabric material. As the wicking fabric material may have a decreased tensile strength than conventional bed sheet materials, the frame portion and internal supports are operative to enhance the structural strength of the moisture management bed sheet.

[0007] It is an object of this invention to provide a moisture management bed sheet which includes conventional moisture wicking fabric that operates to move a user’s perspiration from their skin to the opposite side of the sheet.

[0008] It is another object of this invention to provide a moisture management bed sheet which includes a external frame of a natural fabric so as to provide enhanced structural integrity relative to a sheet completely constructed of moisture wicking material.

[0009] It is yet another object of this invention to provide a moisture management bed sheet which includes internal supports of conventional material which operated to further enhance the strength of the sheet.

[0010] These and other objects will be apparent to one of skill in the art.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a top plan view of a top sheet embodiment of a moisture management bed sheet built in accordance with the present invention.

[0012] FIG. 2 is a top plan view of a bottom sheet embodiment of a moisture management bed sheet built in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0013] Referring now to the drawings and in particular FIGS. 1 and 2, a moisture management bed sheet is shown as a moisture wicking top sheet 10 and a moisture wicking bottom sheet 20. The moisture wicking top sheet 10, which may be sized as a conventional top bed sheet, includes a frame portion 11, a body portion 12 and a plurality of internal supports 13. In the preferred embodiment, the frame portion 11 and internal supports 13 each define a section of natural fabric material, such as cotton, and the body portion 12 defines a section of wicking fabric material, such as a polyester blends which is woven such that moisture is forced into and through the gaps in the weave towards one side of the exterior surface of the material.

[0014] As such wicking fabric material may have a decreased tensile strength relative to conventional bed sheet material, it is contemplated that the frame portion 11 operates to provide enhanced support around the perimeter of the moisture wicking top sheet 10, particularly in the areas where the moisture wicking top sheet 10 may be pulled or tucked by a user. It is further contemplated that the internal supports 13 operate to provide enhanced internal support to the moisture wicking top sheet 10 so as to tension forces resulting from a user pulling the frame portion 11. It is appreciated that the diagonal orientation of the internal supports 13 is operative to provide support against both normal (perpendicular) stress and shear stress exerted from any side of the moisture wicking top sheet 10.
It is contemplated, that in various embodiments, the frame portion 11 and internal supports 13 may define an alternate conventional sheet material that has an increased tensile strength relative to the body portion 12.

It is appreciated that the moisture wicking top sheet 10 may be constructed in various sizes for use on different sized beds, or sized for use in other lying or seated applications.

Similar to the moisture wicking top sheet 10, the moisture wicking bottom sheet 20, includes a frame portion 21, a body portion 22 and a plurality of internal supports 23. It is contemplated that the body portion 22 and internal supports 23 are construct and operative in a manner similar to those elements in the moisture wicking top sheet 10. The frame portion 21 of the moisture wicking bottom sheet 20, however, may include conventional fitting elements 24 which allow it to hold itself in place when on top of a conventional mattress or other structure. It is appreciated that these fitting elements 24 are advantageously integrated with the frame portion 21 as the strongest portion of the moisture wicking bottom sheet 20, understanding they will be pulled and stretched.

It is contemplated that although the moisture wicking bottom sheet 20 may not allow for substantial evaporation of moisture under a location that a user was presently disposed, it would allow for faster evaporation once the user moved (in addition to providing the wicking effect.

The instant invention has been shown and described herein in what is considered to be the most practical and preferred embodiment. It is recognized, however, that departures may be made therefrom within the scope of the invention and that obvious modifications will occur to a person skilled in the art.

What is claimed is:

1. A moisture management bed sheet, comprising:
   a sheet body having a frame portion, a body portion and at least one internal support;
   said frame portion defining a contiguous perimeter of the sheet body which is constructed of a natural woven fabric;
   said body portion fully contained by the contiguous perimeter formed by said frame portion and constructed of a wicking fabric material having a first side and an opposing second side and which is woven such that moisture which contacts the first side is forced into and through gaps in the weave towards the second side; and
   said at least one internal support defining an elongated support connected at each end to the frame portion, extending across the body portion, and constructed of a natural woven fabric.

2. The moisture management bed sheet of claim 1, wherein said at least one internal support extends linearly through said body portion.

3. The moisture management bed sheet of claim 2, wherein said sheet body includes a plurality of internal supports.

4. The moisture management bed sheet of claim 3, wherein said internal supports intersect while extending through said body portion.

5. The moisture management bed sheet of claim 1, wherein said sheet body includes a plurality of internal supports.

6. The moisture management bed sheet of claim 5, wherein said internal supports intersect while extending through said body portion.

7. The moisture management bed sheet of claim 1, wherein said frame portion includes at least one elastic fitting element.

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