CRIB MATTRESS SHEET

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ABSTRACT
A crib mattress sheet comprises a top panel, a bottom panel, lateral panels and an end panel configured to provide an enclosure for a crib mattress. The top panel includes a central portion and a flap portion, wherein the flap portion extends laterally beyond the central portion and extends outward from the enclosure opening a distance of approximately 1/3 of the length of the central portion of the top panel. The sheet is applied by placing the mattress in the enclosure and tucking the flap portion into area adjacent the mattress at the bottom and lateral panels.
CRIB MATTRESS SHEET

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] This invention relates to a baby crib mattress sheet and more particularly to a baby crib mattress sheet which allows a mattress on which it is placed to be inverted when one side of the sheet becomes soiled, and which can be quickly and easily secured to a baby crib mattress without fasteners, but also in a manner which prevents a baby, or even a more active toddler, from removing the crib sheet.

[0003] 2. Introduction

[0004] Common bed sheets, that is, sheets that are rectangular pieces of fabric and are placed on a mattress by folding the ends and sides of the fabric rectangle under the mattress, most often with a corner fold, i.e. a hospital corner, are unsatisfactory for use on baby crib mattresses. This is particularly so where the baby is an active toddler who may be able to remove the fabric from the mattress. In such a case the sheet may pose a safety concern because an active toddler may dislodge the sheet and become entangled in the fabric.

[0005] Common fitted sheets are similarly unsatisfactory. These sheets are typically rectangular fabric pieces which are gathered at the corners of the fabric, usually with elastic, so that the sheet may be securely fitted over a mattress. While the sheet is generally secure to the mattress an active toddler may still remove the sheet by pulling on the fabric near the corner. In sum, both common sheets and fitted sheets may pose safety hazards to active toddlers.

[0006] Because common and fitted sheets are unsatisfactory, crib sheets are often constructed such that the crib mattress is entirely encased in fabric. For example, U.S. Pat. No. 6,067,677 (Reen et al.) discloses a crib sheet which completely encases the mattress. The sheet comprises top and bottom panels, two side panels and an end panel. At the end of the sheet opposite the end panel, an opening is provided through which the mattress may be inserted. The opening is surrounded by a sleeve with elastic so that the opening may be stretched to insert the mattress and, thereafter, closes around the end. The opening is further covered by a flap which is secured to the sheet at the underside of the mattress by a fastening means, most commonly, a hook and loop type fastening means.

[0007] Similarly, the crib sheet disclosed in U.S. Pat. No. 6,634,042 (Blossman) completely encases the mattress. The Blossman sheet, like the Reen sheet includes top and bottom panels, two side panels and an end panel. However, closure of the Blossman sheet is provided by a zipper provided at the closing end. Additionally, side flaps proximate the zipper, containing hook and loop fasteners, cover at least a portion of the zipper to prevent an infant from dislodging the sheet. U.S. Pat. No. 6,804,844 (Cushing) also discloses a crib mattress sheet which entirely covers the mattress. Like Reen and Blossman, the Cushing sheet comprises top and bottom panels, two side panels and an end panel. However, closure is provided by overlapping end panels which have cooperating fasteners on their facing and overlapping edges.

[0008] Finally, U.S. Pat. No. 5,642,540 (Culver, et al.) discloses a cover for a playpen pad which completely encloses the pad. The sheet includes top and bottom panels, side panels and an end panel. At the open end a flap extends from the top panel. The flap is either fastened to the underside of the bottom panel by a single fastener, for example a button, or it is tucked between the bottom panel and the mattress.

[0009] Each of these prior art inventions disclose crib mattress sheets which may prevent an infant from removing them from the mattress. However, each also disadvantageously requires fasteners which are cumbersome to fasten and unfasten and therefore, increase the time necessary to change the sheet. While Culver suggests that a flap may serve to secure the sheet without a fastener, the flap taught by Culver is disposed only between the bottom of the mattress and the bottom panel of the sheet. In such a case, movement by an active infant on the mattress and sheet may serve to dislodge the flap, making it insufficiently available for the infant to grab and displace.

[0010] Moreover, the Cushing sheet, the Culver sheet, when used with a fastener, as well as the Reen sheet, all disadvantageously preclude the mattress and sheet from being inverted when the top panel is soiled. This is because the fastener mechanism is on the bottom panel and is uncomfortable and irritating for the infant and may also present a safety hazard, as in the case where a button is present which could be detached and swallowed by the infant.

[0011] Crib mattress sheets such as those disclosed in the prior art with fasteners are cumbersome and time-consuming to change. They also complicate the manufacturing process for the sheet. Just as significantly, because crib sheets must be laundered frequently, fastening mechanisms may damage other items in the laundry and may become damaged during the laundering process. Finally, the laundry process may also cause wear on the fastener mechanism or cause it to be displaced or destroyed.

[0012] There is, therefore, need for a crib sheet which advantageously may be secured to a crib mattress such that an active infant is unlikely to remove it, but which can be secured without fastening devices. There is also a need for a mattress which can be easily and quickly changed when soiled and which, advantageously may be inverted with the mattress in order that the bottom of crib sheet may be comfortably and safely used when the top is soiled.

[0013] 3. Objects of the Invention

[0014] It is an object of the invention to provide a crib mattress sheet which may be quickly and easily secured to a crib mattress without the necessity of fasteners, but which, when in place, precludes an active infant from removing it from the mattress. It is also an object of the invention to provide a crib mattress sheet which may be inverted so that the bottom panel of the sheet may be safely and comfortably used when the top panel of the sheet has been soiled.

BRIEF SUMMARY OF THE INVENTION

[0015] These and other objects are accomplished by a crib sheet comprising a top and bottom panel, two side panels and an end panel sewn together to form an enclosure for a mattress. The top panel comprises a central portion and a flap portion. The central portion of the top panel comprises a rectangular fabric piece the width of which is the width of the mattress and the length of which is the length of the mattress plus the thickness of the mattress to be covered. The flap portion is also a rectangular fabric piece whose long dimension is perpendicular to the long dimension of the central portion. The width of the flap portion is the width of the mattress plus twice the thickness of the mattress to be covered and the width of the flap portion is approximately one third of the length of the mattress to be covered. The top panel, includ-
ing the central portion and the flap portion, forms an integral T-shaped fabric piece, such that the flap portion extends laterally from the edges of the central portion and each side, a distance approximately the thickness of the mattress.

The crib sheet is secured to the mattress by placing the mattress into the enclosure and then tucking the flap portion into the space between the bottom panel and the bottom surface of the mattress. The lateral extensions of the flap are tucked into the area between each lateral side panel and the side of the mattress. In this way, the crib sheet is secured to the mattress and very difficult for even the most active infant to dislodge.

The elimination of fasteners allows for quick and easy replacement of the crib sheet. Moreover, the absence of any fasteners on the top and bottom panels permits the mattress and crib sheet to be inverted so that, should one side be soiled, the opposite side may be used until an opportune time arises for replacement.

In a preferred embodiment of the invention, a mattress pad, comprising a soft and liquid absorbing material is sewn to the faces of the top and bottom panels adjacent the mattress. This improvement not only makes the crib sheet more comfortable for an infant resting thereon, but also provides some protection against the possibility of soiling and staining the mattress should the infant soil the crib sheet. The mattress pad also serves to wick moisture away from the mattress and the infant when the infant soils the sheet.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is described in detail with reference to the following drawings in which like reference numerals refer to like elements:

FIG. 1 is a perspective top view of a preferred embodiment of the invention;

FIG. 2 is a perspective bottom view of a preferred embodiment of the invention placed on a crib mattress.

FIG. 3 is a top view of the top panel of a preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

With reference to FIG. 1, a preferred embodiment of the invention comprises a top panel (1), a bottom panel (2), two lateral side panels (3) and an end panel (4). The panels are constructed of suitable fabric and sewn together to form an enclosure for a crib mattress.

As is best depicted in FIG. 3, the top panel comprises a central portion which is rectangular in shape and having a width “b” and length “a” and a flap portion which is also rectangular in shape and has a width “d” and length “c”. As may be appreciated the length of the flap portion is perpendicular to the length of the central portion. Both portions together form an integral T-shaped fabric panel. Length “a” is approximately the length of the mattress to be covered plus the thickness of the mattress to be covered. Length “b” is approximately the width of the mattress to be covered. Length “d” is a sufficient length such that when the flap is tucked into the underside of the mattress, between the mattress and the bottom panel (2) and the lateral edges of the flaps are tucked between the lateral edges of the mattress and the lateral panels (3), it would be difficult for an infant to reach under the mattress without also being located on a top portion of the mattress overlaying a portion of the tucked-in flap. It is sufficient for this purpose that length “d” be approximately 33% to 50% the length of the mattress.

A standard size crib mattress is 52 inches long by 28 inches wide and 6 inches deep. Thus, length “a” for such a mattress is 58 inches long. Similarly, length “b” is 28 inches, length “c” is 40 inches and length “d” is between 17 and 26 inches.

As best depicted in FIG. 2, when the sheet is placed on the mattress, the flap portion of the top panel is folded over the end of the mattress and then tucked into the underside of the mattress. The center of the flap portion (6) is tucked into the area between the bottom panel of the sheet and the bottom of the mattress and the lateral edges (7) of the flap portion are tucked into the space between the lateral panels and the side of the mattress.

A mattress may be quickly and easily covered by a sheet according to the invention by simply placing the mattress into the opening of the sheet (9). Once the mattress is fully in the enclosure, the flap portion of the top panel is folded over the exposed end of the mattress at the opening (9) and the remaining fabric of the flap portion is tucked between the mattress and the bottom panel and the lateral edges. Removal of the sheet may also be quickly accomplished by simply pulling the flap portion out and removing the mattress through the opening (9).

When a toddler or infant is in a crib with a mattress covered with a sheet according to the invention, the infant is unable to reach the edge of the flap portion of the top panel, for example the tucked lateral edges (8), except when the infant is located on a part of the mattress which overleys the tucked-in flap. In this circumstance, the infant’s own weight precludes the infant from dislodging the flap. Similarly, when the sheet and mattress are inverted, in order to reach the exposed lateral edges of the flap, the infant must be located on a part of the bottom panel which is directly over the tucked-in flap portion of the top panel. Again, in this instance the infant is unable to dislodge the tucked-in flap portion because the infant’s own weight precludes the infant from doing so.

In another preferred embodiment of the invention, a mattress pad, comprising soft and preferably liquid absorbing material, is sewn to the face of both the top and bottom panel adjacent to the location where the mattress would be when inserted into the sheet. As shown in FIG. 3, the mattress pad (5) is sewn onto the face of the central portion of the top panel and to the face of the top panel adjacent the mattress. It extends the width of the top panel and from a location adjacent the seam of the top panel and the end panel to a location which is approximately a distance equal to the width of the mattress from the end of the central portion. For the bottom panel the mattress pad is sewn to the face of the bottom panel adjacent the mattress and extends approximately the length and width of the panel.

A sheet according to this preferred embodiment of the invention not only provides a sheet which may be quickly and easily installed and removed, which is safe for even an active infant, and which requires no fasteners, it also provides protection against soiling of the mattress and provides a more comfortable sleep surface for an infant.

In a second preferred embodiment of the invention, the side panels (3) and the end panel (4) are constructed of an elastic material such as nylon spandex or the like. It will be appreciated that the side panels and end panel can be constructed in a unitary fashion with a rectangular piece of elastic fabric the length of which is the sum of two times the length...
of the crib mattress plus its width. The width of the rectangular fabric comprising the side and end panels would be slightly less than the thickness of the mattress. For a six inch mattress a width of 5% inches is sufficient. It may be appreciated that when the sheet comprises elastic side and end panels the efficiency with which the flap is retained is further increased such that an active infant or toddler is prevented from dislodging it.

[0032] The invention has been described in regard to its preferred embodiment. It will be apparent to those skilled in the art that the same may be varied in many ways without departing from the spirit and scope of the invention. All such modifications are intended to be included within the scope of the following claims.

1 claim:

1. A crib mattress sheet, for a substantially rectangular crib mattress, said sheet comprising:
   a top panel, said top panel comprising a generally rectangular central portion and a flap portion, wherein said flap portion is a single piece of material that extends laterally beyond the sides of said central portion;
   a generally rectangular bottom panel;
   first and second lateral panels;
   and an end panel;

wherein said bottom panel, said first and second lateral panels, said end panel and said central portion of said top panel are configured to define a mattress receiving enclosure having an open end and a closed end and wherein said flap portion of said top panel extends from said open end of said enclosure.

2. A crib mattress sheet according to claim 1 wherein said bottom panel further comprises a mattress pad connected to the face of said bottom panel adjacent said mattress and wherein said top panel further comprises a mattress pad connected to the face of said top panel adjacent said mattress.

3. A crib mattress sheet according to claim 1 wherein said flap portion extends from said opening at least a distance equal to at least one-third the length of said central portion of said top panel.

4. A crib mattress sheet according to claim 1 wherein said first and second lateral panels and said end panel comprise elastic fabric.

5. A crib mattress sheet, for a substantially rectangular crib mattress having a length $l$, a width $w$ and a thickness $t$, said sheet comprising:
   a top panel, said top panel comprising a generally rectangular central portion and a generally rectangular flap portion wherein the length of said flap portion is generally perpendicular to the length of said central portion and wherein the length of said flap portion is at least $w$ plus 1.8 times $t$, and wherein the length of said central portion is at least $l$ plus $t$;
   a generally rectangular bottom panel;
   first and second lateral panels;
   and an end panel;

wherein said bottom panel, said first and second lateral panels, said end panel and said central portion of said top panel are configured to define a mattress receiving enclosure having an open end and a closed end and wherein said flap portion of said top panel extends from said open end of said enclosure and is in the form of a single piece of material that extends laterally beyond the sides of said central portion.

6. A crib mattress sheet according to claim 5 wherein said bottom panel further comprises a mattress pad connected to the face of said bottom panel adjacent said mattress and wherein said top panel further comprises a mattress pad connected to the face of said top panel adjacent said mattress.

7. A crib mattress sheet according to claim 5 wherein the width of said flap portion of said top panel is at least one-third the length of said central portion of said top panel.

8. A crib mattress sheet according to claim 5 wherein said first and second lateral panels and said end panel comprise elastic fabric.

9. A crib mattress sheet according to claim 5 wherein said top panel and said flap portion are in the form a single piece of material.

10. A crib mattress sheet, for a substantially rectangular crib mattress, said sheet comprising:
   a top panel, said top panel comprising a generally rectangular central portion and a flap portion, wherein said flap portion extends laterally beyond the sides of said central portion;
   a generally rectangular bottom panel;
   first and second lateral panels;
   and an end panel;

wherein said bottom panel, said first and second lateral panels, said end panel and said central portion of said top panel are configured to define an enclosure for receiving a mattress, the enclosure having an open end and a closed end and wherein said flap portion of said top panel extends from said open end of said enclosure, said flap panel being dimensioned and configured to tuck into an area between the bottom panel and the mattress and into a space between said lateral panels and the mattress to secure said sheet to the mattress without fasteners.

11. A crib mattress sheet according to claim 1 wherein said bottom panel further comprises a mattress pad connected to the face of said bottom panel adjacent said mattress and wherein said top panel further comprises a mattress pad connected to the face of said top panel adjacent said mattress.

12. A crib mattress sheet according to claim 1 wherein said flap portion extends from said opening at least a distance equal to at least one-third the length of said central portion of said top panel.

13. A crib mattress sheet according to claim 1 wherein said first and second lateral panels and said end panel comprise elastic fabric.