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(54) **MATTRESS WITH REMOVABLE COVER**

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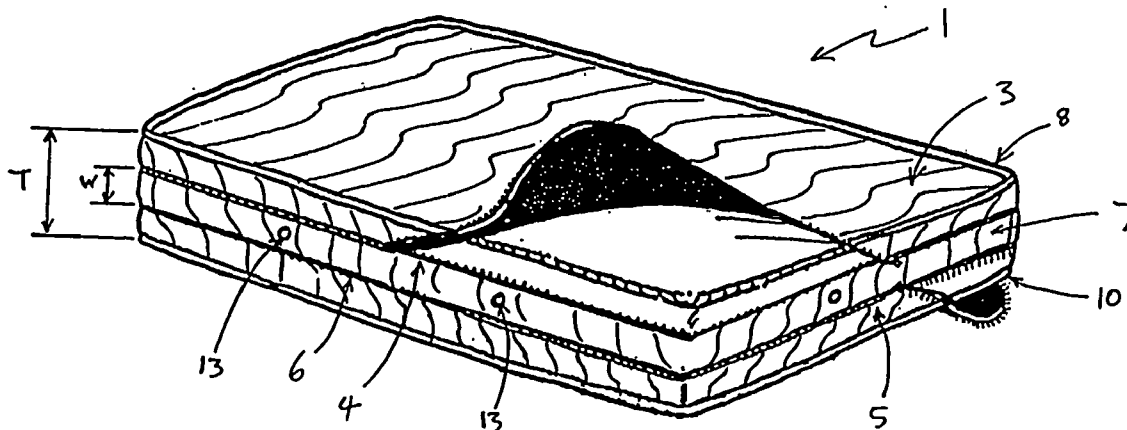
(57) **ABSTRACT**

A mattress with a cover (1), said mattress having a first sleeping surface (9) and a second sleeping surface and said cover comprising a first removable portion (3) for covering the first sleeping surface, a second removable portion (5) for covering the second sleeping surface and a third portion (7) positioned around the lateral periphery of the mattress for removably attaching said first and second removable portions of the mattress cover to the mattress.

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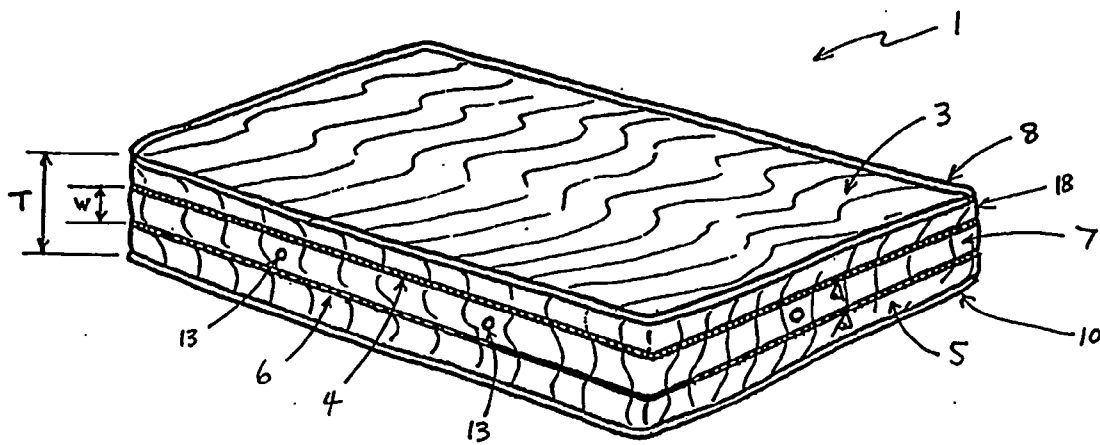


Figure 1

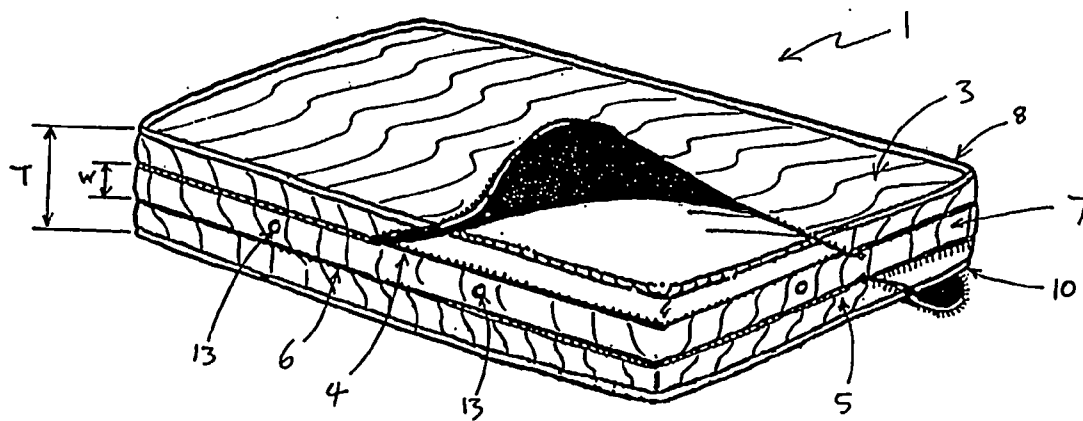


Figure 2

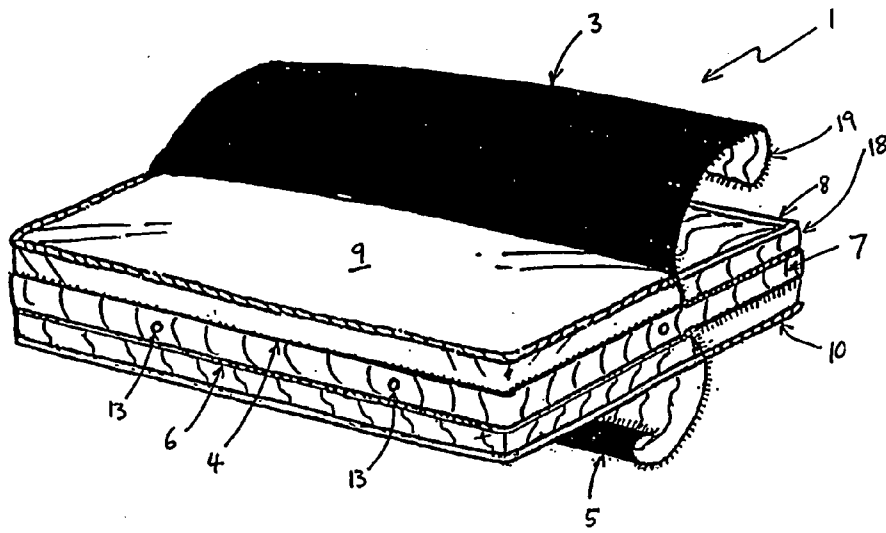


Figure 3

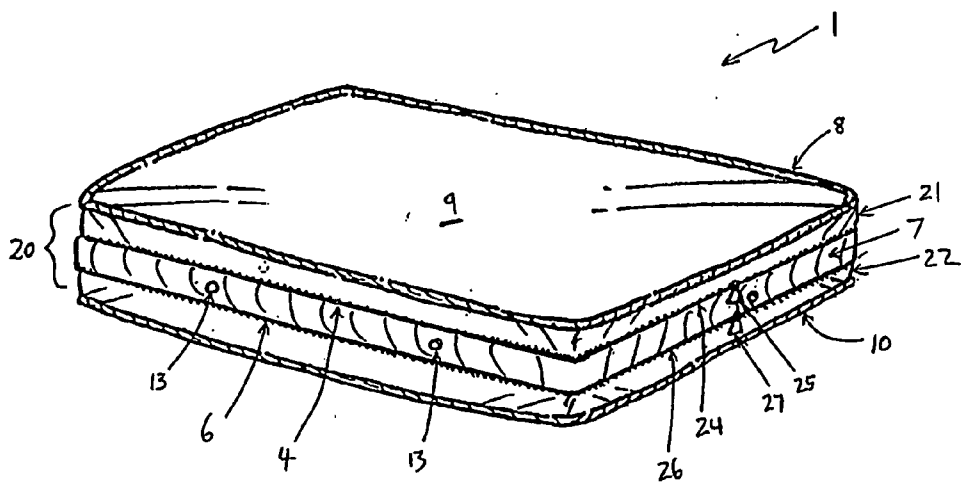


Figure 4

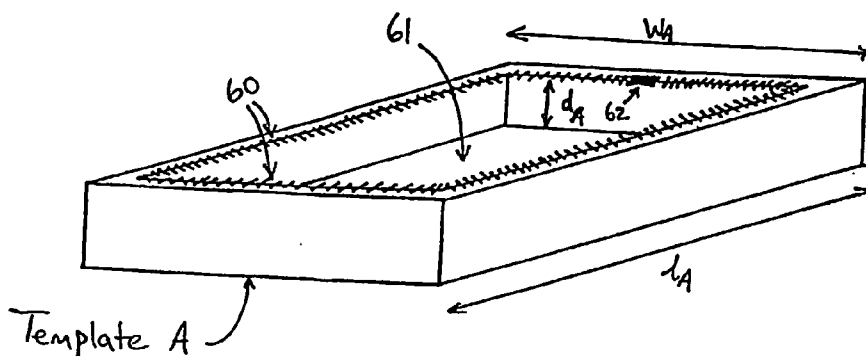


Figure 5a

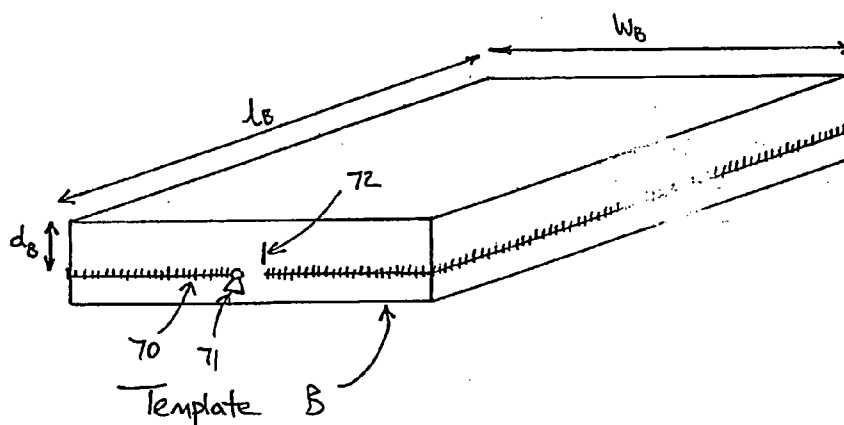


Figure 5b

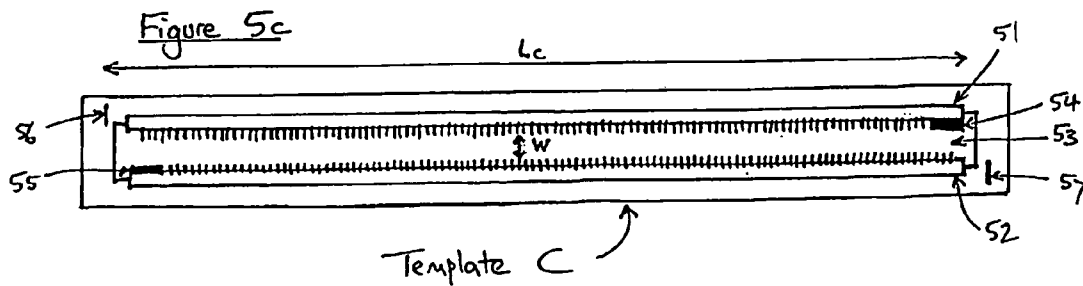


Figure 5c

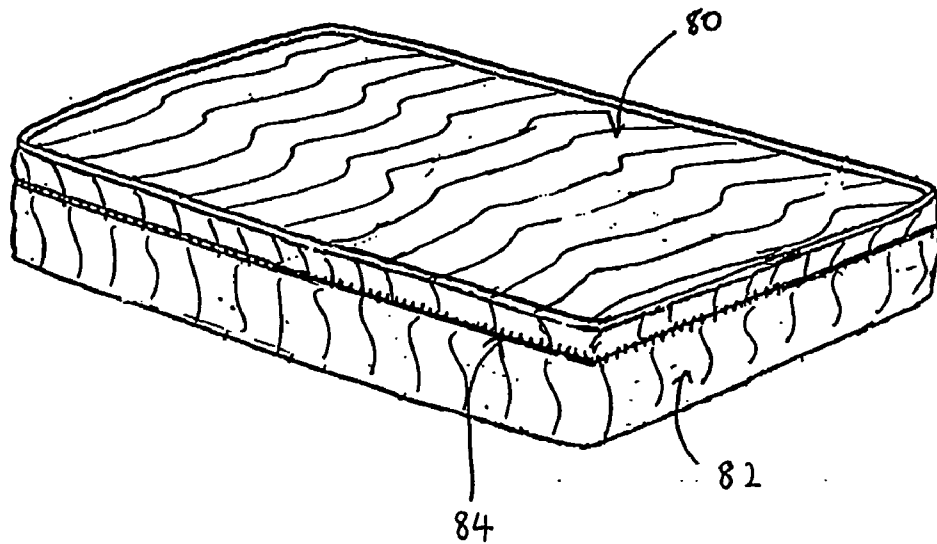
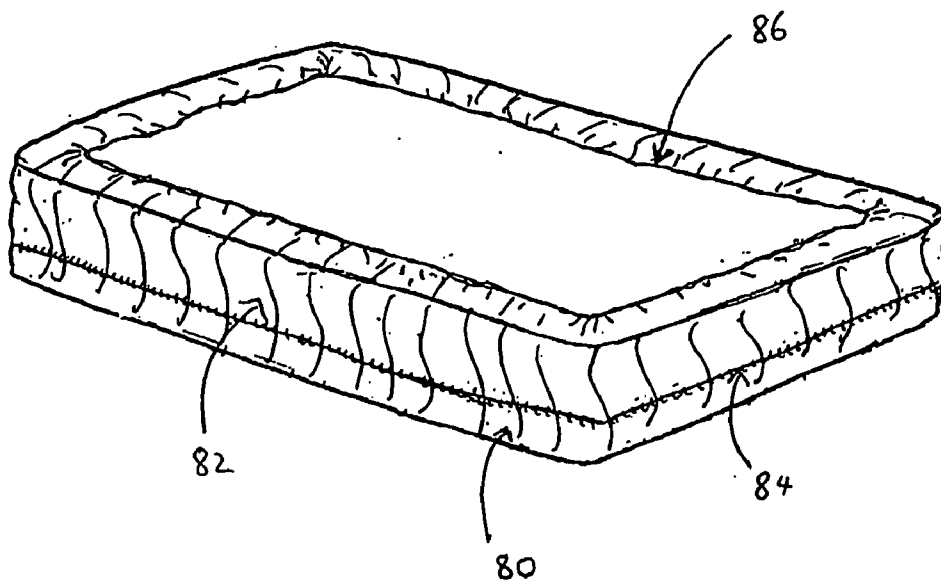


Figure 6



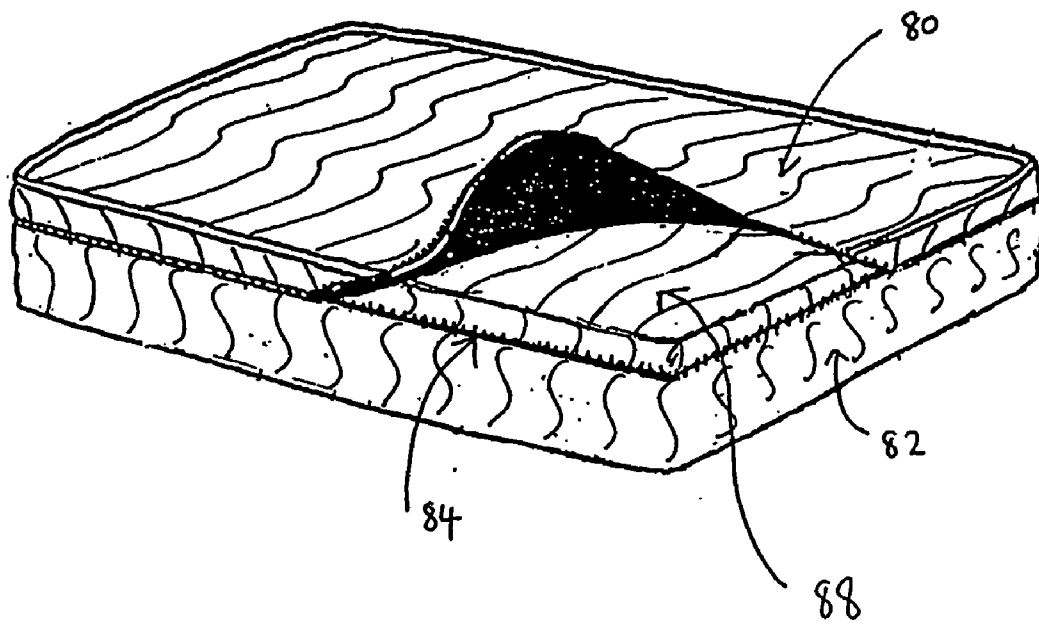


Figure 8

## MATTRESS WITH REMOVABLE COVER

### FIELD OF THE INVENTION

[0001] The present invention relates to mattresses, in particular a mattress with a cover.

### BACKGROUND OF THE INVENTION

[0002] In order to protect conventional mattresses from soiling, a plastic lining or protector is usually positioned over a sleeping surface of the mattress, beneath any bed linen. This configuration is both uncomfortable and inconvenient as the plastic protector tends to shift under the pressure of a person's body weight.

[0003] Such a configuration is of an even greater disadvantage in the care of infants, bed-ridden or elderly people, as upon soiling of the bed linen and mattress, the person/infant has to be lifted, the soiled linen removed and fresh linen replaced on the bed. Such a task is time consuming and laborious, and often proves to be highly inconvenient not only for the bed-ridden person/infant, but also for the carer such as, for example, a parent or nurse.

[0004] Additionally, where no plastic protector is used, dust and dust mites tend to filter through the mattress (usually made out of some breathable material such as cotton) directly onto the face of the sleeping person/infant. This is particularly problematic for elderly people, infants, and people with respiratory problems such as asthmatics.

[0005] Any discussion of documents, acts, materials, devices, articles or the like which has been included in the present specification is solely for the purpose of providing a context for the present invention. It is not to be taken as an admission that any or all of these matters form part of the prior art base or were common general knowledge in the field relevant to the present invention as it existed in Australia before the priority date of each claim of this application.

### SUMMARY OF THE INVENTION

[0006] In a first aspect, the present invention provides a mattress with a cover, said mattress having a first sleeping surface and a second sleeping surface and said cover comprising a first removable portion for covering the first sleeping surface, a second removable portion for covering the second sleeping surface and a third portion positioned around the lateral periphery of the mattress for removably attaching said first and second removable portions of the mattress cover to the mattress.

[0007] Preferably, the third portion is sewn onto the mattress. However, the third portion may be fixed to the mattress by means of studs, hooks, adhesive or by any other means capable of fixing the third portion to the mattress.

[0008] Preferably, the third portion comprises one half of a first closure member that is fixable to the complementary half of the first closure member attached to the first removable portion of the mattress cover and further comprises one half of a second closure member that is fixable to the complementary half of the second closure member attached to the second removable portion of the mattress cover. Most preferably, the first and second closure members are zips. Preferably, the third portion extends continuously around the periphery of the mattress.

[0009] Preferably also, the first removable portion and the second removable portion are interchangeable so that the first removable portion is attachable to the mattress for covering the second sleeping surface and the second removable portion is attachable to the mattress for covering the first sleeping surface.

[0010] Preferably, the third portion is of a width that is less than a thickness of the mattress. As such, the first closure member attached to the first removable portion is positioned at a distance from the edge of the first sleeping surface and the second closure member attached to the second removable portion is positioned at a distance from the edge of the second sleeping surface. When the mattress is weighted, such positioning of the closure members on the mattress reduces the force that is directly applied to the region at which the first removable portion and second removable portion of the cover are attached to the mattress. This therefore allows the mattress with cover to withstand higher loads.

[0011] Preferably, the third portion is manufactured from a permeable material. This allows the mattress to "breathe" (i.e., allows the expulsion of dust and dust mites which are not able to filter through the first and second sleeping surfaces of the mattress that are lined with an impermeable material). Most preferably, the third portion comprises at least one ventilation port. Such a ventilation port also aids in the expulsion of dust and dust mites laterally of the mattress.

[0012] It is expected that such a mattress with cover would be applicable for use with conventional adult-sized mattresses, infant-sized mattresses and any other mattress such as, for example, pet mattresses.

[0013] Preferably, said first and second sleeping surfaces of the mattress are made from an impermeable material. However, the first and second surfaces of the mattress may be lined with an impermeable material or alternatively, the first removable portion and the second removable portion of the cover may be lined with an impermeable material. It is to be appreciated that the arrangement wherein the first and second removable portions of the cover are lined with an impermeable material would be particularly advantageous from an aesthetic perspective, since the mattress itself need not be lined with an impermeable lining, but rather, may be covered in fabric such as, for example, cotton, which looks and feels more attractive in comparison to an impermeable plastic lining. In such embodiments the mattress may be functional and comfortable with or without the removable covers.

[0014] Preferably, the impermeable material is waterproof to prevent soilage of the underlying mattress. Most preferably, the impermeable material is waterproof and is impermeable to dust and dust mites.

[0015] In a second aspect, the present invention provides a mattress with a cover, said mattress having a first sleeping surface and a second sleeping surface and said cover comprising a first removable portion for covering the first sleeping surface and a second removable portion for covering a second sleeping surface.

[0016] Preferably, the mattress of the second aspect further comprises a first means of attaching said first removable portion in a position over the first sleeping surface and a second means of attaching said second removable portion in

a position over the second sleeping surface. Most preferably, said means of attachment are zip fasteners.

[0017] Preferably also, the first removable portion and the second removable portion are interchangeable so that the first removable portion is attachable to the mattress for covering the second sleeping surface and the second removable portion is attachable to the mattress for covering the first sleeping surface.

[0018] In a third aspect, the present invention provides a cover that is removably attachable to a mattress, said cover comprising a first portion that is removably attachable to the mattress for covering a first sleeping surface of the mattress, and a second portion that is removably attachable to the mattress for covering a second sleeping surface of the mattress.

[0019] Preferably, the means of attaching the first and second portions of the cover to the mattress is by first and second closure members each positioned around the lateral periphery of the mattress, wherein one half of the first closure member is attached to the mattress and is fixable to the complementary half of the first closure member attached to the first removable portion of the cover and wherein one half of the second closure member is attached to the mattress and is fixable to the complementary half of the second closure member attached to the second removable portion of the cover. Most preferably, the first and second closure members are zip fasteners.

[0020] Preferably the first portion of the cover is extendable beyond the edge of the first sleeping surface so as to partially cover a lateral periphery of the mattress and the second portion of the cover is extendable beyond the edge of the second sleeping surface of the mattress so as to partially cover the lateral periphery of the mattress.

[0021] In a fourth aspect, the present invention provides a removable cover for a mattress, wherein the removable cover comprises a first element of a closure member for removably attaching the cover to the mattress for covering a first sleeping surface by attachment to a complementary element of the closure member, and wherein the first element of the closure member of the removable cover is also operable for attachment to a complementary element of a closure member for attachment of the cover to the mattress for covering a second sleeping surface.

[0022] In a fifth aspect, the present invention provides a lateral (or third) portion of a cover capable of being affixed to a mattress in a position around the lateral periphery of the mattress, said lateral portion being adapted for removably attaching a first portion of the cover for covering a first sleeping surface to the mattress. Preferably, the lateral portion is also adapted for removably attaching a second removable portion of the cover for covering a second sleeping surface. Preferably, the lateral portion is adapted to be sewn onto the mattress. However, the lateral portion may be adapted to be fixed to the mattress by means of studs, hooks, adhesive or by any other means capable of fixing the third portion of the cover to the mattress.

[0023] In a sixth aspect, the present invention provides a removable cover for a mattress comprising a sleeping surface portion and a base portion, said sleeping surface portion comprising a first element of a closure member for removable attachment to a complementary element of the closure

member attached to the base portion, wherein the base portion further comprises a side portion for covering a part of the lateral periphery of said mattress. Preferably, the removable cover further comprises means for securing said cover to said mattress.

[0024] Preferably, the means for securing the removable cover to the mattress is elasticised means. However, means such as a drawstring, hooks, studs or any other means capable of removably securing the cover to the mattress may also be adopted. Preferably, the means for securing forms part of the base portion.

[0025] Advantageously, this arrangement allows the removable mattress cover according to invention to be secured to any conventional mattress.

[0026] Preferably, the base portion is lined with impermeable material. Preferably also, the impermeable material is waterproof to prevent soilage of the underlying mattress. Most preferably, the impermeable material is waterproof and is impermeable to dust and dust mites.

[0027] Preferably, the side portion covering the lateral periphery of the mattress is made of a breathable material which allows any dust mites and dust to be expelled laterally through the sides of the mattress.

[0028] In a seventh aspect, the present invention provides a method of manufacturing a removable mattress cover, said method comprising the steps of:

[0029] forming a lateral periphery of the removable mattress cover, the lateral periphery of the removable mattress cover comprising attachment means for removably attaching the mattress cover to a mattress;

[0030] attaching the lateral periphery to a mattress template using said attachment means, the mattress template corresponding to a mattress to which the removable cover is to be removably attached;

[0031] positioning a sleeping surface portion of the removable cover over the mattress template; and

[0032] securing said lateral periphery of the removable cover to the sleeping surface portion of the removable cover while both the lateral periphery and the sleeping surface portion are in position on the mattress template.

[0033] By using a mattress template in this manner, the present invention allows mattress covers to be accurately formed, which are interchangeable from one mattress to the next.

[0034] According to a eighth aspect, the present invention provides a method of forming a mattress for receiving removable covers, the method comprising the steps of:

[0035] forming mattress attachment means for attachment of removable covers to the mattress;

[0036] attaching said attachment means to a cover template, the cover template corresponding to a cover to be placed on the mattress;

[0037] positioning the mattress in the template; and

[0038] securing said mattress attachment means to the mattress while both the mattress and the mattress attachment means are in position on the template.



[0039] By using a cover template in this manner, the present invention allows the mattress attachment means to be consistently positioned on all mattresses so formed. Accordingly, an appropriate removable cover may be attached to all such mattresses, thus providing for interchangeable mattresses and covers.

[0040] It is envisioned that such a method may be used to manufacture a mattress having a removable cover over one sleeping surface only or a mattress having a removable cover over both sleeping surfaces.

[0041] According to an ninth aspect the present invention provides a first template for forming a mattress for receiving removable covers, the first template operable to receive a mattress and comprising cover attachment means arranged so as to correspond to a removable cover, such that placement of a mattress into the first template enables mattress attachment means to be accurately aligned on the mattress with reference to the cover attachment means of the first template.

[0042] The cover attachment means of the first template may comprise a male portion of a zip, arranged so as to extend around substantially an entire lateral periphery of a mattress when placed in the template. In such embodiments, the mattress attachment means would comprise a female portion of a zip, which may be zipped to the male portion of the template, and secured to the mattress while in position.

[0043] According to a tenth aspect the present invention provides a second template for forming a removable cover for a mattress, wherein the second template is arranged so as to receive the removable cover in substantially the same manner as a mattress to which the removable cover is to be attached, such that cover attachment means may be secured to the template, and a sleeping surface portion of the cover may be secured to the cover attachment means while both the cover attachment means and the sleeping surface portion of the removable cover are in place on the second template.

[0044] As such a template receives the removable cover in substantially the same manner as a mattress, formation of the cover while in position on the template ensures that the cover will sufficiently accurately fit a mattress to which the template corresponds.

[0045] According to a eleventh aspect the present invention provides a third template for positioning first and second mattress attachment means for a mattress having first and second removably coverable sleeping surfaces, the third template comprising first and second cover attachment means corresponding to attachment means of covers to be attached to the mattress, the first and second cover attachment means being positioned on the third template relative to each other in the same manner as cover attachment means when positioned on the mattress, such that mattress attachment means may be attached to the third template and secured in position relative to each other.

[0046] For example, where the first and second cover attachment means of the third template are female zip portions, male zip portions intended to serve as mattress attachment means may be zipped onto the template, and then secured to a mattress side border while in position on the template. Consequently, such female zip portions may be accurately positioned on the side border of a mattress relative to each other, in a manner which is repeatable for

each subsequent mattress side border. This facilitates interchangeability between such mattresses.

[0047] According to a twelfth aspect, the present invention provides a method of manufacturing a removable cover for a mattress, said method comprising the steps of:

[0048] forming a lateral periphery of the removable cover, the lateral periphery of the removable cover comprising attachment means for removably attaching a base portion of the removable cover to a sleeping surface portion of the removable cover;

[0049] attaching the lateral periphery to a mattress template using said attachment means;

[0050] positioning the sleeping surface portion of the removable cover over the mattress template; and

[0051] securing said lateral periphery of the removable cover to the sleeping surface portion of the removable cover while both the lateral periphery and the sleeping surface portion are in position on the mattress template.

[0052] According to a thirteenth aspect of the invention is provided a cover removably attachable to a mattress, said cover having a first portion and a second portion, wherein said first portion is adapted to cover a sleeping surface of said mattress and is removably attachable to said second portion, and wherein said second portion is affixable in a position around the lateral periphery of said mattress.

[0053] By using a mattress template in this manner, the present invention allows mattress covers to be accurately formed, which are interchangeable from one mattress to the next.

#### BRIEF DESCRIPTION OF THE FIGURES

[0054] Embodiments of the present invention will now be described in detail with reference to the following non-limiting accompanying figures, in which:

[0055] **FIG. 1** depicts a mattress with cover in accordance with a first embodiment of the present invention with the first and second closure members in a fully closed position so that the first and second sleeping surfaces of the mattress are covered;

[0056] **FIG. 2** depicts the mattress with cover of **FIG. 1** with the first and second closure members in a partially open position;

[0057] **FIG. 3** depicts the mattress with cover of **FIGS. 1 & 2** with the first and second closure members in a more fully open position than that depicted in **FIG. 2**;

[0058] **FIG. 4** depicts the mattress of **FIGS. 1 to 3** wherein the first and second removable portions of the cover have been removed;

[0059] **FIG. 5a** is a perspective view of a first template used to manufacture the mattress with cover of **FIGS. 1 to 4**;

[0060] **FIG. 5b** is a perspective view of a second template used to manufacture the mattress with cover of **FIGS. 1 to 4**; and

[0061] FIG. 5c is a perspective view of a third template used to manufacture the mattress with cover of FIGS. 1 to 4.

[0062] FIG. 6 depicts a mattress with removable cover in accordance with a second embodiment of the present invention wherein the cover has a base portion and sleeping surface portion.

[0063] FIG. 7 depicts the mattress with removable cover in accordance with FIG. 6 in a vertically-flipped orientation so as to depict the elasticised means of securing the removable cover to the mattress.

[0064] FIG. 8 depicts the mattress with removable cover in accordance with FIG. 6 in which the sleeping surface portion is in a partially open position so as to expose the underlying surface of the base portion.

#### DETAILED DESCRIPTION OF THE INVENTION

[0065] FIGS. 1 to 4 depict a mattress with cover 1 in accordance with a first preferred embodiment of the present invention which comprises a first removable portion 3, a second removable portion 5 and a third portion 7, wherein both of the first and second removable portions 3, 5 are attachable to the third portion 7. As is depicted in FIGS. 1 to 4, the third portion 7 surrounds the lateral periphery of the mattress and is sewn to the mattress. The first and second removable portions 3, 5 of the cover may be removed to expose a mattress having a first sleeping surface (9) and a second sleeping surface opposite the first sleeping surface 9 (not shown).

[0066] In the embodiment shown, both of the first and second removable portions 3, 5 of the cover are made out of cotton, which is breathable, absorbent and washable. However, materials such as linen and polyester fleece may also be used for the first and second portions 3, 5 of the removable cover. In the embodiment shown, the first sleeping surface 9 and second sleeping surface, are made from an impermeable material so as to protect the mattress from soiling and also, to prevent dust mites and dust from filtering through the mattress onto the face of a sleeping infant/person. In alternative embodiments, the first and second removable portions 3, 5 of the cover may be lined with an impermeable material. In the present embodiment, the impermeable material is plastic, however materials such as vinyl or cotton may alternatively be used.

[0067] The present invention allows the first removable portion 3 to be readily detached from the mattress by unzipping the zip 4 that attaches the first removable portion 3 of the cover to the mattress. Hence, should removable cover 3 be soiled, it can be quickly removed. Further, the whole mattress can then be turned over, and the second removable portion 5 of the cover is ready for immediate use. The second removable portion 5 may also be removed by unzipping zip 6. Such a configuration precludes the need for the use of a separate plastic protector over the mattress and beneath bed linen. Such a configuration also precludes the need for the use of bed linen as the first and second removable portions 3, 5 of the cover are made of a comfortable material, cotton, and may be readily and conveniently removed and washed as required.

[0068] In the embodiment shown in FIGS. 1 to 4, the third portion 7 is of a width w that is less than the thickness T of

the mattress. As such, zip 4 is positioned at a distance from the edge 8 of the first sleeping surface 9 and zip 6 is positioned at a distance from the edge 10 of the second sleeping surface. Such positioning of the zips 4, 6 on the mattress reduces the force that is directly applied to the zips when the mattress is loaded. As zips are often the point of failure during heavy loading, this arrangement may allow the mattress with cover 1 to withstand higher loads.

[0069] In the embodiment shown in FIGS. 1 to 4, the third portion 7 is made of a breathable material which allows any dust mites and dust to be expelled laterally through the sides of the mattress. As previously mentioned, the impermeable lining on the first and second sleeping surfaces of the mattress prevents the filter of dust and dust mites through the first and second sleeping surfaces. This therefore avoids dust mites and dust from being expelled directly onto the face of a sleeping person or infant. Further, the third portion 7 comprises a plurality of ventilation ports 13 so as to further aid in the filter of dust mites and dust laterally from the mattress in a direction away from the face of a sleeping person/infant. Such a system is hygienic and provides great benefit to, in particular, infants, elderly persons and/or persons with respiratory problems.

[0070] In the embodiment shown, the first removable portion 3 and the second removable portion 5 are interchangeable on mattress 1. That is, the first removable portion 3 may be attached to the third portion 7 by means of zip 4 so as to fit over the first sleeping surface 9, or may be attached to zip 6 so as to fit over the second sleeping surface 11 of the mattress 1. Similarly, the second removable portion 5 may be attached to the third portion 7 by means of a zip 6, so as to fit over the second sleeping surface 11 of the mattress 1, or may be attached to zip 4 so as to fit over the first sleeping surface 9. Such an arrangement, wherein the first and second removable portions 3, 5 are interchangeable between the first or second sleeping surfaces 9, 11 of the mattress 1, requires sliders 25, 27 of the first and second zips 4, 6 to travel in opposite directions around the periphery of the mattress 1 in relation to each other when being opened. This enables the slider 25 located on the first zip 4 and the slider 27 located on the second zip 6 to be locked to one another so as to prevent the sliders from being unzipped in the opposite directions thereby preventing the removal of the first and second removable portions 3, 5 of the mattress cover from the mattress 1. A small padlock may be used to lock the sliders together. Alternatively, one or both of the slides 25, 27 may be locked to the mattress to prevent removal of the removable portions 3, 5. Such an arrangement may be particularly advantageous when used in hotels, to assist in the prevention of theft of bed linen and the like.

[0071] It is also envisioned that the first and second removable mattress covers 3, 5 of the present invention may be manufactured to particular sizes or with the zips 4, 6 in a particular, unique, position, so as to fit specially manufactured mattresses having a complementary yet non-conventional size to a standard mattress. This system may be advantageous in preventing or at least minimising the incidence of theft of the removable covers from, for example, hotels due to their non-compatibility with standard mattresses.

[0072] In the present embodiment, the mattress with removable cover of the present invention is formed by carrying out the following steps.

[0073] 1) Construct Mattress Side Border **20**.

[0074] The mattress side border is the portion of the mattress which extends around the lateral periphery of the mattress, as indicated by **20** in FIG. 4. In the present embodiment, the mattress side border **20** must extend over the full thickness of the mattress, and must comprise two female zip portions **24** and **26**, each extending around the periphery of the mattress **1**. Zip portion **24** must be positioned a substantially constant distance from the edge **8** of the sleeping surface **9** of the mattress all the way around the mattress, and zip portion **26** must be positioned a substantially constant distance from the edge **10** of the other sleeping surface of the mattress, all the way around the mattress. Each of female zip portions **24**, **26**, have a female slider **25**, **27** for closing the zips when a male zip portion is in place. As will be appreciated, female zip portions **24**, **26** respectively form a part of zips **4**, **6**. In FIG. 4, the sliders **25**, **27** are shown at the starting position of each of zips **4**, **6**, which has been chosen to be at the centre of an end of the mattress for aesthetic purposes.

[0075] To enable interchangeability of a cover from one side of the mattress to the other, and from one mattress to the next, female zip portions **24**, **26** must be accurately positioned on the mattress side border **20**, in a manner which is repeatable from one mattress to the next. This is achieved by use of template C shown in FIG. 5c, as follows.

[0076] 1a) The two female zip portions are each sewn to respective fabric strips **21**, **22**, which are to form the outer portions of mattress side border **20**. At this stage, the female zips **24**, **26** and fabric strips **21**, **22** must simply be long enough to extend around the entire circumference of the mattress.

[0077] 1b) The two female zip portions **24**, **26**, with attached fabric strips **21**, **22**, are attached to the male zip portions of template C, and the zips so formed are then closed along the full length  $L_c$  of template C. Length  $L_c$  of template C (see FIG. 5c) corresponds to the length of the circumference of the lateral periphery of the mattress. Template C has first and second male zip portions **51**, **52** positioned substantially parallel to each other across an orifice **53** through template C. Starting points **54**, **55** of male zip portions **51**, **52** are at opposite ends of template C, and the zip portions are separated by a distance  $w$  corresponding to the width  $w$  of the third portion **7** (see FIGS. 1, 2). The starting points of the female zip portions **24**, **26** are thus at opposite ends of the template C when attached to the template.

[0078] 1c) A fabric strip, to act as third portion **7** of the mattress side border **20**, is placed between the two female zips **24**, **26** along the length of template C, and placed under slight tension. The fabric strip **7** is then stapled or pinned to the female zip portions **24**, **26**. As the female zip portions **24**, **26** are fixed in place by template C, they are correctly positioned relative to each other.

[0079] 1d) The proper length of the mattress side border is marked on one or more of the elements in place on template C, using the indicators **56**, **57** on template C. The indicators **56**, **57** have been positioned such that the mattress side border **20** will accurately fit around the lateral periphery of the mattress.

[0080] 1e) The combination of the strips **21**, **22**, female zip portions **24**, **26** and fabric strip **7**, is then removed from

template C by opening the zips. Female zip portions **24** and **26** are then sewn to the fabric strip **7** along the full length of the fabric strip **7**.

[0081] 1f) The combination is then pulled into a loop and sewn where marked such that the loop is of the same circumference as the mattress, completing the mattress side border **20**. It is to be noted that, due to the placement of the starting points **54**, **55** at opposing ends of template C, the travel of the female sliding portions along zip portions **24** and **26** is in opposed orientation, when viewed from the same perspective. For example, when, from a given perspective, opening of one of said zips involves clockwise movement of the respective female slider, opening of the other of said zips will involve anti-clockwise movement of the respective female slider. This arrangement facilitates the interchangeability of a cover between both sleeping surfaces of the same mattress, as the orientation of each zip will in fact be the same, when viewed from above the sleeping surface associated with each respective zip. In the embodiment shown in FIGS. 1 to 4, both zips **4** and **6** travel clockwise when opening, when viewed from the sleeping surface associated with each respective zip. Consequently, covers **3** and **5** are interchangeable on mattress **1**.

[0082] 2) Forming Mattress **1**, Without Covers

[0083] To form the mattress **1** such that the female zip portions **24**, **26** are appropriately positioned, template A is used, shown in FIG. 5a.

[0084] 2a) Mattress side border **20** is placed around the lateral periphery of a mattress inner, for example a steel spring mattress blank. The mattress blank has insulation positioned over the sleeping surfaces defined by the steel springs, and has foam substantially surrounding the springs and insulation. The mattress side border **20** will fit snugly around the lateral periphery of the mattress blank, as the fabric strip **7** was placed under slight tension during formation of mattress side border **20**.

[0085] 2b) The mattress blank and mattress side border **20** are then placed into template A. The length  $1_A$  and width  $W_A$  of template B are such that the mattress fits closely into recess **61**, and that male zip portion **60** of template A is positioned to connect to a female zip portion of the inserted mattress. The depth  $d_A$  of the recess **61** corresponds to the width of each of strips **21**, **22** of mattress side border **20**. The starting point **62** of male zip portion **60** is positioned at the centre of one end of template A. Female zip portion **26** is attached to the male zip portion **60** of template A and the zip thus formed is closed around the entire lateral periphery of the mattress blank. Female zip portion **24** is then held above the rim of template A by about the thickness of fabric strip **7**.

[0086] 2c) A sheet of impermeable fabric, to serve as sleeping surface **9**, is placed over the exposed sleeping surface of the mattress blank. The sheet of fabric **9** is then securely sewn to fabric strip **21** of the mattress side border **20**, all the way around the edge **8** of the sleeping surface **9**, while both the sheet of fabric **9** and mattress side border **20** are under slight tension against male zip portion **60**.

[0087] 2d) The mattress blank is removed from template A, turned over, and placed back into template A. The same template may be used for positioning both zips, due to the interchangeability of covers on the mattress.

[0088] 2e) Female zip portion **24** is attached to the male zip portion **60** of template A, and the zip thus formed is closed around the entire periphery of the mattress, positioning female zip portion **26** above the rim of template A by the thickness of fabric strip **7**.

[0089] 2f) A second sheet of impermeable fabric, to serve as the second sleeping surface of the mattress **1**, is placed over the mattress blank, and sewn to the fabric strip **22** of the mattress side border **20** all the way around the edge **10** of the second sleeping surface, while both the second sheet of impermeable fabric and the mattress side border **20** are held under slight tension against template A. This completes formation of the mattress **1** without covers, with the female zip portions **24**, **26** properly positioned on the mattress **1** due to use of template A. Mattress **1** can then be removed from template A by unzipping female zip portion **24** from the male zip portion **60** of template A.

[0090] 3) Forming a Removable Cover

[0091] Removable covers **3** and **5** shown in FIGS. **1** to **3** are substantially identical. Importantly, the covers **3**, **5** are interchangeable on mattress **1**, and may also be interchanged with covers on other such mattresses. To form such a cover, template B is used, as described below with reference to formation of cover **3** shown in FIGS. **1** to **3**. Although the method of the present embodiment will be described with reference to a mattress having two removable covers, one over each sleeping surface, it is envisioned that the method may be applied to form a mattress having a removable cover over only one sleeping surface.

[0092] 3a) A strip of fabric, to serve as lateral portion **18** of cover **3**, is sewn to a male zip portion **19** (see FIG. **3**). At this stage, the male zip portion and fabric **18** simply need to be long enough to pass around the entire lateral periphery of the mattress.

[0093] 3b) The male zip portion **19** is attached to female zip portion **70** of template B, and the zip thus formed is closed by sliding slider portion **71**, shown at a starting position of zip **70**, all the way around template B. The male zip portion **19** and fabric **18** are marked to the correct length using indicator **72**.

[0094] 3c) The male zip portion **19** is then removed from template B, and the fabric strip **18** and the male zip **19** are formed into a loop and sewn at the marking, such that the loop fits snugly around the mattress.

[0095] 3c) The sewn loop is then zipped to the template using female zip portion **70**. The distance  $d_B$  of template B corresponds to the width of fabric strip **18**.

[0096] 3d) A cover sleeping portion is then placed over template B, which has a length  $l_B$  and a width  $w_B$  substantially equal to the sleeping surfaces of the mattress **1**. The cover sleeping portion is then sewn to the fabric strip **18** all the way around the edge **8** of the sleeping surface. The cover **3** is then complete and can be unzipped from template B. The working surface of template B is covered with a layer of foam so as to protect the needle of a sewing machine that is used to sew the cover sleeping portion to the fabric strip **18**. Such a foam layer also protects the cover placed or formed over the working surface of template B from tearing.

[0097] As will be appreciated, the use of three templates in the previously described manner assists in achieving

accurate workmanship, and assists in repeated construction of interchangeable mattresses and mattress covers. Each of the three templates provides a rigid support structure which allows for accurate measurement, marking, alignment and mounting of a zip to a mattress cover or mattress. Such templates ensure that zips are consistently placed in the same position on each mattress and mattress cover formed by using the templates, resulting in removable covers that can be interchanged between different mattresses and between different sides of the same mattress. In the embodiment described, the male part of a zip is attached to each of the first and second removable portions of the cover while the female part of a zip is fixedly attached to the mattress. This ensures that the zip with a slidable closure member is not attached to the first or second removable portions of the cover, and therefore is not removed with either of the first or second removable portions. One advantage of this arrangement is that washing of a cover comprising a slidable closure member in a washing machine could potentially cause damage to both the slidable closure member and the washing machine.

[0098] FIGS. **6**, **7** and **8** depict a mattress with cover in accordance with a second preferred embodiment of the present invention which comprises a sleeping surface portion **80** and a base portion **82** having elasticised means **86** to secure the removable cover to the mattress. The sleeping surface portion **80** is readily detachable from the base portion **82** by unzipping the zip **84** positioned around the lateral periphery of the mattress. This arrangement advantageously allows the removable mattress cover according to the invention to be secured to any conventional mattress.

[0099] In the embodiment shown, the surface **88** of the base portion **82** that underlies the sleeping surface portion **80** is made out of cotton. However, it is envisaged that this surface **88** of the base portion **82** may be made of any material that is impermeable to dust mites and moisture. In this way, should the sleeping surface portion **80** be soiled, it can be readily detached from the base portion **82** and the base portion **82** may be wiped clean before another clean sleeping surface portion **80** is attached to the base portion **82**.

[0100] Throughout this specification the word “comprise”, or variations such as “comprises” or “comprising”, will be understood to imply the inclusion of a stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

[0101] It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention as broadly described. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

1. A mattress with a cover, said mattress having a first sleeping surface and a second sleeping surface and said cover comprising a first removable portion for covering the first sleeping surface, a second removable portion for covering the second sleeping surface and a third portion positioned around the lateral periphery of the mattress for removably attaching said first and second removable portions of the mattress cover to the mattress.

2. A mattress with a cover according to claim 1 wherein the third portion is sewn onto the mattress.

3. A mattress with a cover according to claim 1 wherein the third portion is fixed to the mattress by means of any one of studs, hooks, adhesive or by any other means capable of fixing the third portion to the mattress.

4. A mattress with a cover according to claim 1 wherein the third portion comprises one half of a first closure member that is fixable to the complementary half of the first closure member attached to the first removable portion of the mattress cover and further comprises one half of a second closure member that is fixable to the complementary half of the second closure member attached to the second removable portion of the mattress cover.

5. A mattress with a cover according to claim 4 wherein the first and second closure members are zips.

6. A mattress with cover according to claim 1 wherein the third portion extends continuously around the periphery of the mattress.

7. A mattress with cover according to claim 1 wherein the first removable portion and the second removable portion are interchangeable so that the first removable portion is attachable to the mattress for covering the second sleeping surface and the second removable portion is attachable to the mattress for covering the first sleeping surface.

8. A mattress with cover according to claim 1 wherein the third portion is of a width that is less than a thickness of the mattress such that the first closure member attached to the first removable portion is positioned at a distance from the edge of the first sleeping surface and the second closure member attached to the second removable portion is positioned at a distance from the edge of the second sleeping surface.

9. A mattress with cover according to claim 1 wherein the third portion is manufactured from a permeable material.

10. A mattress with cover according to claim 1 wherein the third portion comprises at least one ventilation port.

11. A mattress with cover according to claim 1 for use with a conventional adult-sized mattress.

12. A mattress with cover according to claim 1 for use with an infant-sized mattress.

13. A mattress with cover according to claim 1 wherein said first and second sleeping surfaces of the mattress are made from an impermeable material.

14. A mattress with cover according to claim 1 wherein the first and second surfaces of the mattress are lined with an impermeable material.

15. A mattress with cover according to claim 1 wherein the first removable portion and the second removable portion of the cover are lined with an impermeable material.

16. A mattress with cover according to claim 1 wherein the impermeable material is waterproof to prevent soilage of the underlying mattress.

17. A mattress with cover according to claim 1 wherein the impermeable material is waterproof and is impermeable to dust and dust mites.

18. A mattress with a cover, said mattress having a first sleeping surface and a second sleeping surface and said cover comprising a first removable portion for covering the first sleeping surface and a second removable portion for covering a second sleeping surface wherein the first removable portion and the second removable portion are interchangeable so that the first removable portion is attachable to the mattress for covering the second sleeping surface and

the second removable portion is attachable to the mattress for covering the first sleeping surface.

19. A cover that is removably attachable to a mattress, said cover comprising a first portion that is removably attachable to the mattress for covering a first sleeping surface of the mattress, and a second portion that is removably attachable to the mattress for covering a second sleeping surface of the mattress.

20. A cover according to claim 19 wherein means of attaching the first and second portions of the cover to the mattress is by first and second closure members each positioned around the lateral periphery of the mattress, wherein one half of the first closure member is attached to the mattress and is fixable to the complementary half of the first closure member attached to the first removable portion of the cover and wherein one half of the second closure member is attached to the mattress and is fixable to the complementary half of the second closure member attached to the second removable portion of the cover.

21. A cover according to claim 20 wherein the first and second closure members are zip fasteners.

22. A cover according to claim 19 wherein the first portion of the cover is extendable beyond the edge of the first sleeping surface so as to partially cover a lateral periphery of the mattress and the second portion of the cover is extendable beyond the edge of the second sleeping surface of the mattress so as to partially cover the lateral periphery of the mattress.

23. A removable cover for a mattress, wherein the removable cover comprises a first element of a closure member for removably attaching the cover to the mattress for covering a first sleeping surface by attachment to a complementary element of the closure member, and wherein the first element of the closure member of the removable cover is also operable for attachment to a complementary element of a closure member for attachment of the cover to the mattress for covering a second sleeping surface.

24. A lateral portion of a cover capable of being affixed to a mattress in a position around the lateral periphery of the mattress, said lateral portion being adapted for removably attaching a first portion of the cover for covering a first sleeping surface to the mattress.

25. A lateral portion of a cover according to claim 24 that is adapted for removably attaching a second removable portion of the cover for covering a second sleeping surface.

26. A lateral portion of a cover according to claim 24 or claim 25 wherein the lateral portion is adapted to be sewn onto the mattress.

27. A lateral portion of a cover according to claim 24 or claim 25 wherein the third portion is adapted to be fixed to the mattress by means of any one of studs, hooks, adhesive or by any other means capable of fixing the third portion of the cover to the mattress.

28. A removable cover for a mattress comprising a sleeping surface portion and a base portion, said sleeping surface portion comprising a first element of a closure member for removable attachment to a complementary element of the closure member attached to the base portion, wherein the base portion further comprises a side portion for covering a part of the lateral periphery of said mattress and further comprises means for securing said cover to said mattress.

29. A removable cover for a mattress according to claim 28 wherein the means for securing the removable cover to the mattress is elasticised means.

**30.** A removable cover for a mattress according to claim 28 wherein the means for securing the removable cover to the mattress is by any one of a drawstring, hooks, studs or any other means capable of removably securing the cover to the mattress.

**31.** A removable cover according to claim 28 wherein the means for securing forms part of the base portion.

**32.** A removable cover according to claim 28 wherein the removable mattress cover is able to be secured to any conventional mattress.

**33.** A removable mattress cover according to claim 28 wherein the base portion is lined with impermeable material.

**34.** A removable mattress cover according to claim 33 wherein the impermeable material is waterproof to prevent soilage of the underlying mattress.

**35.** A removable mattress cover according to claim 33 wherein the impermeable material is waterproof and is impermeable to dust and dust mites.

**36.** A removable mattress cover according to claim 28 wherein the side portion covering a part of the lateral periphery of the mattress is made of a breathable material which allows any dust mites and dust to be expelled laterally through the sides of the mattress.

**37.** A method of manufacturing a removable mattress cover, said method comprising the steps of:

forming a lateral periphery of the removable mattress cover, the lateral periphery of the removable mattress cover comprising attachment means for removably attaching the mattress cover to a mattress;

attaching the lateral periphery to a mattress template using said attachment means, the mattress template corresponding to a mattress to which the removable cover is to be removably attached;

positioning a sleeping surface portion of the removable cover over the mattress template; and

securing said lateral periphery of the removable cover to the sleeping surface portion of the removable cover while both the lateral periphery and the sleeping surface portion are in position on the mattress template.

**38.** A method of forming a mattress for receiving removable covers, the method comprising the steps of:

forming mattress attachment means for attachment of removable covers to the mattress;

attaching said attachment means to a cover template, the cover template corresponding to a cover to be placed on the mattress;

positioning the mattress in the template; and

securing said mattress attachment means to the mattress while both the mattress and the mattress attachment means are in position on the template.

**39.** A template for forming a mattress for receiving removable covers, the template operable to receive a mattress and comprising cover attachment means arranged so as to correspond to a removable cover, such that placement of a mattress into the template enables mattress attachment means to be accurately aligned on the mattress with reference to the cover attachment means of the template.

**40.** A template according to claim 39 wherein the cover attachment means of the template comprises a male portion of a zip, arranged so as to extend around substantially an entire lateral periphery of a mattress when placed in the template.

**41.** A template for forming a removable cover for a mattress, wherein the template is arranged so as to receive a removable cover such that cover attachment means may be secured to the template, and a sleeping surface portion of the cover may be secured to the cover attachment means while both the cover attachment means and the sleeping surface portion of the removable cover are in place on the template, such that formation of the cover while in position on the template ensures that the cover will sufficiently accurately fit a mattress to which the template corresponds.

**42.** A template for positioning first and second mattress attachment means for a mattress having first and second removably coverable sleeping surfaces, the template comprising first and second cover attachment means corresponding to attachment means of covers to be attached to the mattress, the first and second cover attachment means being positioned on the template relative to each other in the same manner as cover attachment means when positioned on the mattress, such that mattress attachment means may be attached to the template and secured in position relative to each other.

**43.** A method of manufacturing a removable cover for a mattress, said method comprising the steps of:

forming a lateral periphery of the removable cover, the lateral periphery of the removable cover comprising attachment means for removably attaching a base portion of the removable cover to a sleeping surface portion of the removable cover;

attaching the lateral periphery to a mattress template using said attachment means;

positioning the sleeping surface portion of the removable cover over the mattress template; and

securing said lateral periphery of the removable cover to the sleeping surface portion of the removable cover while both the lateral periphery and the sleeping surface portion are in position on the mattress template.

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