

(12) STANDARD PATENT
(19) AUSTRALIAN PATENT OFFICE

(11) Application No. **AU 2013285663 B2**

(54) Title
Breast wrap

(51) International Patent Classification(s)
A41C 3/02 (2006.01) **A41C 3/06** (2006.01)
A41C 3/04 (2006.01) **A41C 3/12** (2006.01)

(21) Application No: **2013285663** (22) Date of Filing: **2013.01.18**

(87) WIPO No: **WO14/007653**

(30) Priority Data

(31) Number	(32) Date	(33) Country
602329	2012.09.07	NZ
597683	2012.01.18	NZ

(43) Publication Date: **2014.01.09**

(44) Accepted Journal Date: **2017.03.16**

(71) Applicant(s)
Mumdrop Holdings Limited

(72) Inventor(s)
Lucas, Jennifer;De Vere, Philippa

(74) Agent / Attorney
Jennifer Lucas IP, PO Box 16, Nobby Beach, QLD, 4218, AU

(56) Related Art
US 5427563 A
US 2009/0131900 A1
US 5429593 A
US 7775851 B2



(43) International Publication Date
9 January 2014 (09.01.2014)

- (51) International Patent Classification: Not classified
- (21) International Application Number:
PCT/NZ2013/000003
- (22) International Filing Date:
18 January 2013 (18.01.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
597683 18 January 2012 (18.01.2012) NZ
602329 7 September 2012 (07.09.2012) NZ
- (72) Inventor; and
- (71) Applicant : LUCAS, Jennifer [NZ/NZ]; 1/50 Michaels Avenue, Ellerslie, Auckland, 1051 (NZ).
- (72) Inventor: DE VERE, Philippa; C/- 1/50 Michaels Avenue, Ellerslie, Auckland, 1051 (NZ).
- (74) Agent: LUCAS, Jonathan, D. M; C/-James & Wells Intellectual Property, Level 9, 56 Cawley Street, Ellerslie, Auckland, 1051 (NZ).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

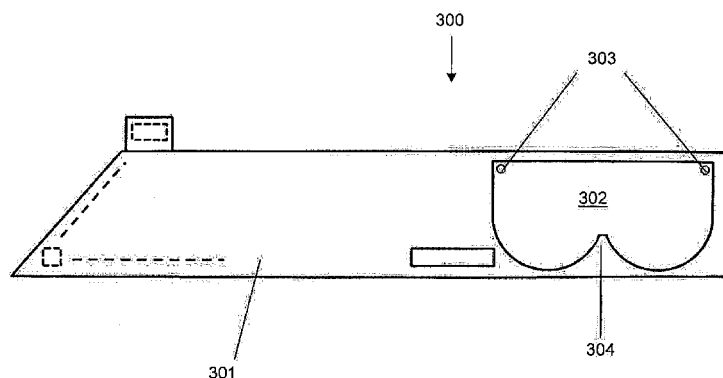
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: BREAST WRAP

Figure 3



(57) Abstract: The invention relates to a breast wrap for absorbing fluid secreted from a wearer's breasts. In one embodiment the breast wrap comprises a panel of material, means for fastening the panel in a continuous band, one or more absorbent regions on a first side of the panel, and first and second adjustment means independently operable to adjust the tightness of the band along first and second adjustment regions proximate the top and bottom of the band respectively. In use, the wrap is configured to wrap around a wearer's chest and substantially cover the wearer's breasts with the one or more absorbent regions covering the wearer's nipples and the first and second adjustment regions positioned above and below the wearer's breasts respectively. In another embodiment, the breast wrap comprises one or more absorbent panels removably attached to a first side of the first panel and, in use, the one or more absorbent panels cover the wearer's nipples.



WO 2014/007653 A2

BREAST WRAP

Field of Invention

5 The invention relates to a breast wrap for absorbing fluid secreted from a wearer's breasts.

Background to the Invention

10 The milk ejection reflex or let-down reflex occurs in breastfeeding mothers to trigger lactation of milk from the breast. A suckling baby typically initiates the reflex but there are other causes, such as the sound of a baby crying or a warm sensation on the breast or chest. The latter may cause some women to lactate during and after a shower.

Undesirable lactation can be annoying, inconvenient, messy and sometimes embarrassing. In the case of lactation that continues after a shower, it can be difficult for the
15 woman to dry herself, get dressed and perform other personal grooming acts until the lactation has stopped, which may take some time. The motion of bending over during drying and dressing may also cause or exacerbate lactation.

The usual way women deal with this situation is to wrap a towel around themselves. However, if one hand is needed to keep the towel in place, drying and dressing is difficult.
20 Tucking the towel into itself keeps two hands free but the towel can easily come loose or undone, thus removing pressure from the breast that is desirable to slow down the milk ejection reflex. In addition, a towel does not provide any support underneath the breasts, which can be uncomfortable, particularly when the breasts are engorged or tender. Towel wraps are also known which use Velcro™ to hold them in place but they also possess the aforementioned
25 disadvantages.

US 7,775,851 discloses a fabric breast support designed to be worn by pregnant women or breastfeeding mothers in the shower to support and soothe the breasts, as well as shield them from contact with potentially painful or irritating water sprays or chemical toiletries. The breast support in this document has some degree of absorbency but is not intended to be used
30 as a towel. It is attached around the body by connecting two pads of Velcro™ to one another. This arrangement provides little flexibility to accommodate women of different shapes and sizes, and results in pressure being applied around the middle of the garment, which is usually positioned across the nipples and may therefore be sore for the wearer.

Lactating women may also find discharge in bed a problem because of the volume of
35 moisture that can be produced and the uncomfortable feeling caused by damp bedclothes or

sheets. Many women use reusable or disposable breast pads inside a bra or tight top to absorb the leakage but the pads can easily slip out of place and lose their efficacy.

It is an object of the invention to provide an improved breast wrap that addresses one or more of the foregoing disadvantages or to at least provide the public with a useful choice.

Summary of the Invention

Preferred aspects of the invention are set forth in the appended claims. Particular embodiments are described below in non-limiting terms.

According to a first embodiment of the invention, there is provided a breast wrap comprising:

a panel of material;

means for fastening the panel in a continuous band;

one or more absorbent regions on a first side of the panel; and

first and second adjustment means independently operable to adjust the tightness of the band along first and second adjustment regions proximate the top and bottom of the band respectively,

wherein, in use, the wrap is configured to wrap around a wearer's chest and substantially cover the wearer's breasts with the one or more absorbent regions covering the wearer's nipples and the first and second adjustment regions positioned above and below the wearer's breasts respectively.

Preferably, the wrap comprises an elastic region along the bottom of the panel. The term "elastic" will be understood to describe any material tending to resume or return to its original shape after deformation, examples of which are the cords, tapes and fabrics that exhibit elastic behaviour commonly used in clothing.

Preferably, the first and/or second adjustment means comprises the means for fastening the panel.

More preferably, the means for fastening the panel comprises at least one set of co-operating fastening members. Each set of co-operating fastening members may comprise at least one first fastening member proximate a first end of the panel and at least one second fastening member proximate the second end of the panel, the first and second fastening members able to fasten together in different configurations, thereby allowing the tightness of the band to be adjusted along the first and second adjustment regions.

In one embodiment, the sets of co-operating fastening members comprise co-operating hook-and-loop fastener portions.

Preferably, at least one fastening member of each set of co-operating fastening members is elongate such that the sets of co-operating fastening members can be fastened together in a plurality of positions corresponding to different degrees of tightness of the band.

Preferably, the panel comprises a first end having a sloped edge, the bottom of the panel extending further than the top of the panel.

Preferably, the panel comprises a second end having a taper along the bottom of the panel.

In preferred embodiments of the invention, the wrap comprises fastening members attached to the panel in any or all of the following positions:

1. Proximate the corner of the panel where the sloped edge of the first end meets the bottom of the panel;
2. Proximate the corner of the panel where the sloped edge of the first end meets the top of the panel;
3. Proximate the corner of the panel where the taper along the bottom of the panel begins; and
4. Proximate the top of the panel, proximate the second end of the panel.

The wrap may comprise an elastic region along the sloped edge of the first end of the panel.

Preferably, the panel includes one or more darts extending upwards from the bottom of the first panel. The darts may help to breast wrap fit comfortably around the wearer's body.

In some embodiments of the invention, the panel of material comprises an absorbent layer and a visually appealing layer, the absorbent layer positioned to face inwards towards the wearer in use.

In a second embodiment, the invention relates to the use of a breast wrap according to the first embodiment of the invention for wrapping around a wearer's breasts.

Preferably, the use of the breast wrap comprises absorbing fluid secreted from the wearer's breasts.

Preferably, the use of the breast wrap comprises wrapping around a wearer's breasts after a bath, shower or the like.

A third embodiment of the invention relates to a method of manufacturing a breast wrap comprising:

providing a panel of material having one or more absorbent regions on a first side;

attaching one or more means for fastening to the panel such that the panel is able to be fastened in a continuous band;

providing the panel with first and second adjustment means independently operable to adjust the tightness of the band along first and second adjustment regions proximate the top and bottom of the band respectively,

wherein the first and second adjustment means are provided such that, when the wrap is wrapped around a wearer's chest to substantially cover the wearer's breasts, the one or more absorbent regions cover the wearer's nipples and the first and second adjustment regions are positioned above and below the wearer's breasts respectively.

Preferably, the method comprises providing an elastic region along the bottom of the panel.

Preferably, the method comprises forming a sloped edge in a first end of the panel such that the bottom of the panel extends further than the top of the panel.

In preferred embodiments of the invention, the step of attaching one or more means for fastening to the panel comprises attaching fastening members to the panel in any or all of the following positions:

1. Proximate the corner of the panel where the sloped edge of the first end meets the bottom of the panel;
2. Proximate the corner of the panel where the sloped edge of the first end meets the top of the panel;
3. Proximate the bottom edge of the first panel at one or more locations along the edge; and
4. Proximate the top of the panel, proximate or near the second end of the panel.

More preferably, the method comprises forming an elastic region along the sloped edge of the first end of the panel.

In some embodiments of the invention, the method comprises forming the panel of material from an absorbent layer and a visually appealing layer, the absorbent layer positioned to face inwards towards the wearer in use.

In a fourth embodiment of the invention, there is provided a pattern for a panel of material suitable for forming part of a breast wrap in accordance with the first embodiment of the invention together with instructions for forming the breast wrap using the method of the third embodiment of the invention.

According to a fifth embodiment of the invention, there is provided a breast wrap comprising:

- a first panel of material;
- means for fastening the first panel in a continuous band; and
- one or more absorbent panels removably attached to a first side of the first panel,

wherein, in use, the wrap is configured to wrap around a wearer's chest and substantially cover the wearer's breasts with the one or more absorbent panels covering the wearer's nipples.

Preferably, the absorbent panel comprises at least one layer of absorbent material. More preferably, the absorbent material(s) may be any one or more of: cotton, chamois or bamboo terry cloth, velour or towelling material, or an absorbent microfibre. The absorbent layer(s) acts to absorb moisture secreted by the wearer's nipples.

In some embodiments, the absorbent panel comprises two or more layers of absorbent material. For example, the absorbent panel may comprise a layer of bamboo towelling and a layer of absorbent microfibre.

Preferably, the absorbent panel comprises a layer of moisture wicking material. It will be understood that moisture wicking material is material that is able to transmit moisture, for example by capillary action. For example, the moisture wicking material may be microfleece, polar fleece, suedecloth or microchamois. In some embodiments, the absorbent panel is configured such that, in use, the layer of moisture wicking material is positioned closer to the wearer's skin than the layer of absorbent material. The moisture wicking layer may help to transmit moisture away from the skin and increase comfort.

In some embodiments, the absorbent panel comprises a layer of waterproof or water resistant material, for example, polyurethane laminated polyester (PUL). The absorbent panel may be configured such that, in use, the layer of waterproof material is the absorbent panel layer positioned further from the wearer's skin than the layer of absorbent material. The waterproof layer may help to reduce moisture leaking away from the breast wrap.

Preferably, the absorbent panel is removably attached to a first end of the first panel of material. The first end of the first panel of material may, in use, be configured to be placed across the wearer's chest with a second end of the first panel of material configured to overlap and fasten to the first end to form the continuous band.

In preferred embodiments, the breast wrap comprises one or more absorbent panel fastening members for removably attaching the absorbent panel to the first panel of material. For example, the breast wrap may comprise two or four sets of absorbent panel fastening members for attaching portions of the absorbent panel proximate to corners of the absorbent panel to the first panel of material.

Preferably, the breast wrap comprises a breast wrap according to the first embodiment of the invention.

In a sixth embodiment, the invention relates to the use of a breast wrap according to the first embodiment of the invention for wrapping around a wearer's breasts.

Preferably, the use of the breast wrap comprises absorbing fluid secreted from the wearer's breasts.

Preferably, the use of the breast wrap comprises wrapping around a wearer's breasts when the wearer is in bed.

Preferably, the use of the breast wrap comprises wrapping around a wearer's breasts after a bath, shower or the like.

According to a seventh embodiment of the invention there is provided a method of manufacturing a breast wrap comprising:

providing a first panel of material;

attaching one or more means for fastening to the first panel such that the panel is able to be fastened in a continuous band;

attaching, in a removable manner, one or more absorbent panels to a first side of the first panel of material in a position such that, when the wrap is wrapped around a wearer's chest to substantially cover the wearer's breasts, the one or more absorbent panels cover the wearer's nipples.

Preferably, the method comprises forming the absorbent panel by attaching together one or more layers of absorbent material with one or more of the following:

1. A layer of moisture wicking material; and
2. A layer of waterproof or water resistant material.

Preferably, the method comprises mounting one or more absorbent panel fastening members to the absorbent panel and/or the first panel of material. More preferably, the method comprises mounting co-operating portions of a plurality of sets of absorbent panel fastening members to the absorbent panel and the first panel of material respectively.

Preferably, the method further comprises a method of manufacturing a breast wrap according to the third embodiment of the invention.

In a further embodiment of the invention, there is provided a pattern for a first panel of material and at least one absorbent panel suitable for forming part of a breast wrap in accordance with the first embodiment of the invention together with instructions for forming the breast wrap using the method of the third embodiment of the invention.

According to an eighth embodiment of the invention, there is provided an absorbent panel for a breast wrap, the absorbent panel comprising:

at least one layer of absorbent material; and

means for fastening the absorbent panel to the breast wrap.

Preferably, the absorbent panel further comprises a layer of moisture wicking material attached to the layer(s) of absorbent material. The absorbent panel may be configured such

that, when attached to the breast wrap, the layer of moisture wicking material is further from the breast wrap than the layer of absorbent material.

In further preferred embodiments, the absorbent panel comprises a layer of waterproof or water resistant material attached to the layer(s) of absorbent material. The absorbent panel may be configured such that, when attached to the breast wrap, the layer of waterproof material is closer to the breast wrap than the layer of absorbent material.

Preferably, the absorbent panel includes a first layer of moisture wicking material, two layers of absorbent material and a layer of waterproof or water resistant material.

Preferably, the means for fastening comprises one or more fastening members. The fastening members may be parts of sets of fastening members, the co-operating parts of the sets being fastened to the breast wrap and configured to receive the parts of the sets on the absorbent panel. More preferably, the fastening members are positioned in each corner of the absorbent panel.

Further aspects of the invention, which should be considered in all its novel aspects, will become apparent to those skilled in the art upon reading of the following description which provides at least one example of a practical application of the invention.

Brief Description of the Drawings

One or more embodiments of the invention will be described below by way of example only, and without intending to be limiting, with reference to the following drawings, in which:

Figure 1 is a plan view illustration of a breast wrap according to an embodiment of the invention;

Figure 2 is a plan view illustration of a breast wrap according to another embodiment of the invention;

Figure 3 is a plan view illustration of a breast wrap according to a further embodiment of the invention; and

Figures 4-8 are illustrations of a breast wrap being wrapped and fastened by a wearer according to one embodiment of the invention.

Detailed Description of Preferred Embodiments of the Invention

Figure 1 is a plan view illustration of a breast wrap 100 according to an embodiment of the invention. Breast wrap 100 is shown in its unwrapped state. In use, breast wrap 100 is wrapped

around a wearer's body and fastened into a band. The breast wrap is able to be wrapped around a wearer's chests to cover the wearer's breasts and thereby absorb fluids being secreted from the breasts and in particular the nipples. As will be described, the breast wrap has a number of features that particularly suit it to this purpose.

Breast wrap 100 comprises a panel of material 101. The panel of material may be any size or shape suitable for being able to be wrapped around a wearer's breasts. However, in the preferred embodiment shown in Figure 1, the panel of material 101 is elongate in shape with a sloped edge 102 at a first end 103, the slope being such that the bottom of the panel extends further than the top of the panel, and a bottom edge 104 at a second end 105 of the panel. This shape allows the breast wrap to sit comfortably around a wearer's breasts without excess material and permits adjustment of the wrap to fit different shapes and sizes of wearers, as will be described further below.

Features such as darts or pleats may be incorporated into the panel to improve the fit of the breast wrap around the wearer, improving comfort and style. If included, darts may be located along bottom edge 104 of the panel 101. In one possible embodiment, panel 101 includes three darts, at least two of them substantially corresponding to the approximate position of the breasts when the wrap is being worn.

Panel 101 may comprise a single piece of material or it may be comprised of a plurality of pieces of material joined together. Using a single piece of material avoids the need to join more than one piece together, which would add an extra step to the manufacture process.

Breast wrap 101 further comprises means for fastening the panel in a continuous band. Preferably, the panel is wrapped around so that first end 103 is placed on top of second end 105, but this is not limiting to the invention and the second end may be placed on top of the first end with suitable adaptation to the means for fastening. Fastening the panel in a band around a wearer's chest allows the breast wrap to remain in place around the chest without the need for it to be held in place. As a result, the wearer's hands are free to perform other tasks.

The means for fastening may comprise sets of co-operating fastening members, one of each set being positioned proximate first end 103 of panel 101 and the other of each set being positioned proximate or near the second end 105 of the panel. In a preferred embodiment, the co-operating fastening members are hook-and-loop fasteners such as Velcro™ sewn on to panel 101. Hook-and-loop fasteners are easy to use and can be easily washed. In addition, they allow for flexibility in the position in which the fasteners can be fixed, which allows for adjustment of the breast wrap. In other embodiments, other types of fasteners are provided such as domes, poppers, buttons, hooks and eyes and the like.

Advantageously, breast wraps according to the invention are provided with means for adjusting the tightness of the band around the wearer. This allows the breast wrap to be used comfortably by wearers having different sized chests and breasts. A given wearer might find their breasts and body change size following a pregnancy and over the course of breast feeding a child so it is convenient to have a single breast wrap that can cater to their changing body. In preferred embodiments, the breast wrap comprises first and second adjustment means which operate independently to adjust the tightness of the band at two different points or adjustment regions. The adjustment regions may be proximate the top and bottom of the band so that the band can be tightened above and below the wearer's breasts. These two regions of adjustment allow the breast wrap to fit most wearers very comfortably and cater for wearers having different relative sizes of body above and below the breasts. Ensuring the wrap is tightened below the breasts means that the wrap can provide support for the breasts when in use, which further increases the comfort of wearing the wrap.

In some embodiments of the invention, the adjustment means comprise the means for fastening the panel into a band. This makes it simple to use the breast wrap since there is no need to separately fasten and tighten the band.

For example, breast wrap 100 shown in Figure 1 comprises two sets of co-operating fastening members 106 and 107, each comprising a first fastening member 106a and 107a proximate the first end 103 of panel 101 and a second fastening member 106b and 107b near the second end 105. Fastening members 106a and 107a are positioned on the reverse side of panel 101, i.e. is the side of the panel facing inwards when the wrap is worn, as depicted in Figure 1 by dotted lines, and fastening members 106b and 107b are positioned on the outwards facing side of panel 101. In use, first end 103 is placed over second end 105 and the respective co-operating fastening members are fastened together to form the panel into a band around a wearer.

In the embodiment of Figure 1, fastening member 106a is positioned proximate the corner of the panel where the sloped edge 102 of the first end 103 meets the top of the panel, fastening member 106b is positioned proximate the top of the panel, proximate the second end 105 of the panel, fastening member 107a is positioned proximate the corner of the panel where the sloped edge 102 of the first end 103 meets the bottom of the panel and fastening member 107b is positioned proximate the corner of the panel where the taper along the bottom of the panel begins. However, these positions may differ in other embodiments.

As well as enabling the band to be fastened, fastening members 106 and 107 allow adjustment of the tightness of breast wrap 100 when wrapped in a band around the top of the band and bottom of the band respectively. The adjustment is possible because the fastening

members may be fastened together in a plurality of positions corresponding to different degrees of tightness of the band. In some embodiments, one or both the fastening members of each set of co-operating fastening members is elongate along the length of the band so that the fastening members may overlap by varying degrees. For example, fastening members 106b and 107b in Figure 1 are both elongate. In other embodiments, one or both fastening member of each set may comprise a plurality of individual fastening members. For example, a row of spaced domes may be used in place of elongate fastening members 106b and 107b of Figure 1.

Some hook-and-loop fasteners, as well as other types of fasteners may be uncomfortable if directly contacting the skin. For example, the "hook" member of Velcro™ can irritate or scratch the skin. As a result the fastening members are attached in a way to reduce the chances of discomfort. In the embodiment shown in Figure 1, the "hook" members of the hook-and-loop fasteners are members 106b and 107b that face away from the body when breast wrap 100 is worn.

Although the adjustment means may comprise the fastening means as has been described in the exemplary embodiment above, in other embodiments they may be provided by separate components. In one embodiment, the fastening means comprises a single set of hook-and-loop fasteners while the adjustment means is provided by one or more draw strings threaded along the top and bottom of the panel of material. Other combinations of fastening means and adjustment means are provided in other embodiments.

In use, the wearer may have taken a bath or shower and started lactating. Having got out of the bath or shower, the wearer wraps the breast wrap around their chest to substantially cover their breasts and fastens it in place. When in place, the breast wrap absorbs any fluid secreted from the wearer's breasts, enabling them to continue with other tasks such as drying themselves, dressing or grooming.

Breast wrap 100 is particularly designed for being wrapped with the centre of panel 101 around the wearer's back and the ends fastened across the front of the body over the breasts because this is a convenient way for the wearer to wrap and fasten the wrap. But breast wrap 100 could be worn in another manner and breast wraps according to other embodiments of the invention may be designed to fasten in other manners.

Fastening breast wrap 100 involves folding first end 103 over the top of second end 105 and joining fastening members 106a and 106b, and 107a and 107b together, respectively. Each set of co-operating fastening members is fastened in a manner to ensure optimal comfort, for example the fastening members are positioned to provide the desired tightness and support to the breasts.

In the intended wear position, the first and second adjustment regions of the breast wrap are positioned above and below the wearer's breasts respectively. Adjustment of the breast wrap around the bottom may be found to be particularly important to the fit and comfort of the wrap. The sloped edge 102 of the first end 103 of panel 101 causes the bottom of the first end to extend further than the top. This has been found to be particularly useful for ensuring a good fit and allowing the bottom of the wrap to be fastened more tightly than the top.

After use, the breast wrap can be easily hung up and allowed to dry, just like a towel. It can also be washed like conventional laundry. Breast wraps according to some embodiments of the invention may comprise a hook or other means for conveniently hanging the wrap.

In preferred embodiments of the invention, the breast wrap comprises one or more elastic regions. It will be understood that the term "elastic" is used here in the context of describing any material that has a tendency to resume or return to its original shape after deformation. Examples of such materials are the cords, tapes and fabrics that exhibit elastic behaviour commonly used in clothing. However, the invention envisages that any suitable elastic or elasticated material can be used.

In the embodiment shown in Figure 1, breast wrap 100 comprises an elastic region 108 along the bottom of panel 101 and an elastic region 109 along sloped edge 102 of the first end 103 of the panel. Other embodiments may have elastic regions in other locations.

Elastic region 108 extends from proximate the extended corner at the first end 103 of the panel to a point approximately one third the distance along the bottom edge of the panel. When the breast wrap 101 is wrapped around a wearer in the intended manner, elastic region 108 is positioned below the wearer's breasts. Elastic region 108 therefore causes the bottom edge of wrap 100 to tighten against the skin of the wearer, which provides a number of advantages. Firstly, it ensures a tight fit of the breast wrap and reduces bagginess. Secondly, holding the wrap against the wearer's skin ensures the wrap can effectively dry the wearer's skin, particularly under the breasts which can be difficult to dry. Thirdly, elastic region 108 provides additional support to the breasts, which many wearers will find increases the comfort of the wrap. Fourthly, elastic region 108 allows the breast wrap 100 to further cater comfortably to wearers of different sizes.

Elastic region 109 extends along the length of the sloped edge 102 of the first end 103 of breast wrap 100 shown in Figure 1. The presence of elastic region 109 may be desirable to reduce the tendency the breast wrap may have of "gaping" at first end 103 when wrapped around a wearer. Such gaping may be undesirable for being untidy and drafty. Elastic region 109 also allows the breast wrap to cater for wearers of differing breast sizes as the elastic allows sloped edge 102 to conform to the wearer's breast shape. Elastic region 109 additionally

provides further breast support because, when fastening members 107a and 107b are joined, elastic region 109 tends to draw the bottom edge of breast wrap 100 upwards.

Other embodiments of the invention include alternative or additional elastic regions. For example, an elastic region may be provided along the top of the breast wrap, which may further increase the adjustability and comfort of the breast wrap.

It will be understood that elastic regions such as those described above may have a tightening effect and therefore provide the breast wrap with the ability to adjust itself to wearers of differing sizes. In some embodiments, the adjustment means may comprise one or more elastic regions such as those described above alone or in combination with other tightness adjusters, such as the fastening members discussed above.

Panel 101 may be made from any suitable material that is able to absorb fluid. Examples of materials that are particularly absorbent are cotton or bamboo terry cloth, velour and towelling material, although any kind of fabric or linen material may be used.

The side of the panel 101 that faces inwards towards the wearer's body in use comprises one or more absorbent regions. At the least, the absorbent region(s) on the panel is/are positioned to cover the wearer's nipples when the wrap is worn and thus absorb fluid secreted therefrom. In the embodiment of Figure 1, the entire inwards facing side of panel 101 comprises an absorbent material, thus allowing the breast wrap to absorb fluids secreted from the wearer's breasts and to dry water from the wearer's body after a bath, shower or the like.

Panel 101 may comprise one or more layers of material. In one embodiment, panel 101 comprises a first layer of absorbent material, the first layer being on the inner side of the wrap when worn, and a second layer of visually appealing material, the second layer being on the outer side of the wrap when worn. This allows great flexibility in the look of the wrap because the material that can be seen when the wrap is worn is not only limited to the patterns and textures of available absorbent materials. An individual may be able to select their own choice of material for the outer layer or personalise the outer layer in any way, for example by the addition of logos, printed images and the like.

In some embodiments, additional absorbency may be provided in the regions of the wrap that cover a wearer's nipples when in use. This may be desirable for heavily lactating wearers. Additional absorbency in these regions may be achieved by the use of especially absorbent material or extra layers of material. In one embodiment, the breast wrap comprises pockets into which absorbent pads can be inserted to increase the absorbency of the wrap in the regions that cover the wearer's nipples.

In other embodiments, the breast wrap comprises an absorbent panel that may be attached to the side of the wrap that faces the wearer during use. The absorbent panel may

attach to the wrap such that, when the wrap is worn, the absorbent panel is positioned to cover the wearer's nipples and thereby increase the absorbency where it is most needed. In some embodiments, the absorbent panel is attached to the wrap in a removable manner so that it can be washed separately or put aside if not required. The absorbent panel may be removably attached to the breast wrap by means of one or more fastening members such as hook-and-loop fasteners, domes, poppers, buttons, hooks and eyes and the like.

Figure 3 is a plan view illustration of a breast wrap 300 according to one embodiment of the invention. Breast wrap 300 comprises a panel of material 301, which may be similar to the panel 101 described in relation to the embodiment shown in Figure 1. Breast wrap 300 additionally comprises an absorbent panel of material(s) 302 which is able to be fastened to panel 301 by means of co-operating portions of fastener sets 303. The absorbent panel 302 is of sufficient size to cover one or more of the wearer's nipples and attaches to the panel 301 at a position suitable to cover said nipples when in use, for example, absorbent panel 302 is substantially similar in width to panel 101 and, when attached thereto, extends from proximate one end of panel 101 across a distance sufficient to cover a woman's chest.

In the embodiment shown in Figure 3, absorbent panel 302 is shaped along the lower edge to form a central recess 304 in the lower edge of absorbent panel 302. Recess 304 improves comfort to accommodate wearer's of a range of sizes given the differing amounts of stretching of the elastic region along a bottom edge of the panel (such as elastic region 108 of Figure 1) for users of different sizes. When the elastic region is stretched tightly and fastened under the wearer's breasts, recess 304 allows the sides of the absorbent panel on either side of the recess to move together, preventing bunching together, as would occur if the absorbent panel had a flat bottom edge with no recess, which would create discomfort for the wearer.

Absorbent panel 302 may be made from any suitably absorbent material such as cotton, chamois or bamboo terry cloth, velour or towelling material, or an absorbent microfibre. Multiple layers of material, including layers of more than one material, may be used to increase absorbency compared to using just a single layer.

The absorbent panel 302 may optionally comprise layers of one or more other materials to enhance the comfort or practicality of the breast wrap. For example, a layer of moisture wicking material may be attached to the absorbent material layer(s) on the side of panel 302 that is closest to the wearer's skin, in use. The moisture wicking layer readily transmits moisture through it to the absorbent layer(s) thereby keeping the closest layer to the wearer dry and reducing the discomfort that may be felt by being in contact with damp material. Exemplary moisture wicking materials include microfleece, polar fleece, suedecloth and microchamois. Some hydrophobic materials may also be moisture wicking materials.

The absorbent panel 302 may further comprise a waterproof layer positioned on the side of the panel furthest from the wearer when in use, i.e. behind the layer(s) of absorbent material. This layer helps to trap absorbed moisture within the layer(s) of absorbent material, thus helping to prevent moisture leaking out, for example, onto bedsheets when the wrap is worn in bed. Any waterproof fabric may be used such as polyurethane laminated polyester (PUL), which has the advantage of having a soft side that can face outwards and be comfortable to touch, other laminated materials or nylon.

In one particular embodiment, the absorbent panel comprises four layers of material as follows in order of closest to the wearer to furthest from the wearer when in use: a moisture wicking layer formed from microfleece; a first absorbent layer formed from an absorbent microfibre; a second absorbent layer formed from bamboo towelling; and a waterproof layer formed from PUL. The ordering of the first and second absorbent layers in this embodiment may be desirable because microfibre absorbs moisture more quickly than bamboo towelling so serves to quickly take wetness away from the wearer's body and the bamboo layer subsequently absorbs this moisture more slowly.

It will be apparent that the layers of material used in the absorbent panel may be attached together in any suitable manner, for example by sewing them together. In one preferred embodiment the layers are sewn together and bound using bias binding or any other suitable binding technique.

Figure 2 is a plan view illustration of a breast wrap 200 according to another embodiment of the invention. Breast wrap 200 is similar in many respects to breast wrap 100 of Figure 1. Only those features of breast wrap 200 that differ from breast wrap 100 will now be described.

Breast wrap 200 comprises a flap of material 210 extending out from the top edge of panel 201 proximate first end 203. Fastening member 206a is attached to the reverse side of flap 210, as depicted by the dotted line in Figure 2. Fastening member 206b at the second end 205 of panel 201 (with which fastening member 206a fastens to secure the panel into a band) is also attached to the reverse side of the panel. To secure the panel into a band, flap 210 is folded over the top edge of the second end 205 of panel 201 whereupon fastening members 206a and 206b can be fastened together.

When breast wrap 100 shown in Figure 1 is wrapped around a wearer, because fastening member 106b is elongate, some part of fastening member 106b may be visible from the front unless fastening member 106a is attached to fastening member 106b in the tightest possible configuration. The visibility of some part of fastening member 106b may be

undesirable. Breast wrap 200 as shown in Figure 2 avoids this scenario because fastening member 206b is attached to the reverse side of the breast wrap.

In other embodiments of the invention, one or more other flaps may be provided in a similar manner to flap 210 to render the fasteners invisible, as desired.

Figures 4 to 8 are illustrations of a breast wrap 400 being wrapped and fastened by a wearer 401 according to one embodiment of the invention. Breast wrap 400 is similar to the breast wrap 200 described in relation to Figure 2 as it has a flap 410 similar to flap 210 of Figure 2.

Firstly, as shown in Figure 4, the wrap is held behind the back with flap 410 at the top and fastening members 406a, 406b and 407a facing inwards towards the wearer. Reference numerals in relation to Figures 4-8 refer to similar features as described in relation to Figure 2, but with the prefix "4" instead of "2".

Next, as shown in Figure 5, one end of the wrap is folded across the wearer's chest to cover the nipples and in particular, if an extra absorbent layer is present, so that the absorbent layer covers the nipples. In the embodiment shown, the end opposite to the end with the flap 410 on it is folded across the chest. A loop 440 may be attached to this end, which may be used to hang up the wrap when not in use.

In the next step, as shown in Figure 6, the other end of the wrap is folded across the wearer's chest on top of the end already folded across the chest.

Next, as shown in Figure 7, the flap 410 is folded towards the wearer's body over the inner layer of the wrap and the fastening member 406a on the flap is fastened to fastening member 406b on the inside of the inner layer.

Finally, as shown in Figure 8, the bottom corner of the wrap is pulled across the chest and the fastening members 407a and 407b are fastened together so as to hold the wrap in place and optionally to support the wearer's breasts, as has previously been described.

Numerous advantages of the invention and its embodiments have been described above. Other advantages over prior breast wraps may also be evident to the skilled addressee. Examples of further advantages are that the comfort of breast wraps according to the invention mean they may be kept on for extended period of time, for example for sitting around the house or sleeping. The invention has the advantage over some prior art absorbent garments in that there are no straps for wearing over the shoulders. Straps can dig in to the wearer uncomfortably and also increase the complexity of putting the garment on.

Breast wraps according to the invention may have absorbent material forming both the wrap itself and comprising the removable absorbent layer that can be fastened to the wrap to provide further absorbency. This gives the user the advantage of being able to remove the extra

absorbency layer for washing once it is moisture-laden, for example after use at night, then still use the wrap again, for example following a shower, to absorb lower levels of milk without the extra absorbency layer.

Further removable absorbency layers may also be provided to provide extra absorbency while the first absorbent layer is unavailable, for example being washed.

Unless the context clearly requires otherwise, throughout the description and the claims, the words "comprise", "comprising", and the like, are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense, that is to say, in the sense of "including, but not limited to".

The entire disclosures of all applications, patents and publications cited above and below, if any, are herein incorporated by reference.

Reference to any prior art in this specification is not, and should not be taken as, an acknowledgement or any form of suggestion that that prior art forms part of the common general knowledge in the field of endeavour in any country in the world.

The invention may also be said broadly to consist in the parts, elements and features referred to or indicated in the specification of the application, individually or collectively, in any or all combinations of two or more of said parts, elements or features.

Where in the foregoing description reference has been made to integers or components having known equivalents thereof, those integers are herein incorporated as if individually set forth.

It should be noted that various changes and modifications to the presently preferred embodiments described herein will be apparent to those skilled in the art. In particular, construction of the breast wrap of the present invention may incorporate any number of known sewing techniques such as the use of bindings, facings, darts, pleats or linings for example.

Such changes and modifications may be made without departing from the spirit and scope of the invention and without diminishing its attendant advantages. It is therefore intended that such changes and modifications be included within the present invention.

Claims

1. A lactation breast wrap for absorbing milk secreted from nipples of breasts of a wearer, the lactation breast wrap comprising:
 - a panel of material having a top, a bottom and first and second ends provided between the top and the bottom of the panel;
 - an elastic region along the first end of the panel, the elastic region acting in use to draw the bottom of the panel towards the top of the panel;
 - means for fastening the panel in a continuous band;
 - one or more absorbent regions on a first side of the panel, the one or more milk absorbing regions for absorbing milk secreted from the wearer's nipples; and
 - first and second adjustment means independently operable to adjust the tightness of the band along first and second adjustment regions proximate the top and bottom of the band respectively,
- wherein, in use, the wrap is configured to wrap around a wearer's chest and substantially cover the wearer's breasts with the one or more absorbent regions covering the wearer's nipples and the first and second adjustment regions positioned above and below the wearer's breasts respectively.
2. A lactation breast wrap as claimed in claim 1, wherein the wrap comprises an elastic region along the bottom of the panel.
3. A lactation breast wrap as claimed in claim 1 or 2, wherein the first and/or second adjustment means comprises the means for fastening the panel.
4. A lactation breast wrap as claimed in any one of the preceding claims, wherein the means for fastening the panel comprises at least one set of co-operating fastening members.
5. A lactation breast wrap as claimed in claim 3 or 4, wherein each set of co-operating fastening members comprises at least one first fastening member proximate a first end of the panel and at least one second fastening member proximate the second end of the panel, the first and second fastening members able to fasten together in different configurations, thereby allowing the tightness of the band to be adjusted along the first and second adjustment regions.

- 5 6. A lactation breast wrap as claimed in any one of the preceding claims, wherein at least one fastening member of each set of co-operating fastening members is elongate such that the sets of co-operating fastening members can be fastened together in a plurality of positions corresponding to different degrees of tightness of the band.
- 0 7. A lactation breast wrap as claimed in any one of the preceding claims, wherein the first end of the panel is sloped, the bottom of the panel being longer than the top of the panel.
- 5 8. A lactation breast wrap as claimed in any one of the preceding claims, wherein the wrap is free of straps for wearing over shoulders of the wearer in use.
- 0 9. A lactation breast wrap as claimed in any one of the preceding claims, wherein the wrap comprises one or more absorbent panels attached to a first side of the first panel, wherein, in use, the wrap is configured to wrap around the wearer's chest and substantially cover the wearer's breasts with the one or more absorbent panels covering the wearer's nipples.
- 0 10. A lactation breast wrap as claimed in claim 9, wherein the wrap comprises one or more absorbent panel fastening members configured to removably attach the one or more absorbent panels to the wrap.
- 25 11. A lactation breast wrap as claimed in claim 9 or claim 10, wherein the one or more absorbent panels comprise at least one layer of absorbent material and at least one layer of waterproof or water resistant material, the at least one layer of waterproof or water resistant material being positioned further from the wearer's chest than the at least one layer of absorbent material when in use.
- 30 12. A lactation breast wrap as claimed in claim 11, wherein the at least one layer of absorbent material comprises at least one material selected from the group consisting of: cotton, chamois or bamboo terry cloth, velour or towelling material, and an absorbent microfibre.
- 35 13. A lactation breast wrap as claimed in claim 11 or 12, wherein the absorbent panel comprises a layer of moisture wicking material positioned closer to the wearer's chest than the at least one layer of absorbent material in use.

14. A method of manufacturing a lactation breast wrap for absorbing milk secreted from nipples of breasts of a wearer, the method comprising:

providing a panel of material having:

a top;

a bottom;

first and second ends provided between the top and the bottom; and

one or more absorbent regions on a first side, the one or more milk absorbing regions for absorbing milk secreted from the wearer's nipples;

attaching one or more means for fastening to the panel such that the panel is able to be fastened in a continuous band;

providing the panel with first and second adjustment means independently operable to adjust the tightness of the band along first and second adjustment regions proximate the top and bottom of the band respectively; and

providing the panel with an elastic region along the first end of the panel, the elastic region acting in use to draw the bottom of the panel towards the top of the panel, wherein the first and second adjustment means are provided such that, when the wrap is wrapped around a wearer's chest to substantially cover the wearer's breasts, the one or more absorbent regions cover the wearer's nipples and the first and second adjustment regions are positioned above and below the wearer's breasts respectively.

15. A method as claimed in claim 14, wherein the method comprises providing an elastic region along the bottom of the panel.

16. A method as claimed in claim 14 or 15, wherein the method comprises forming a sloped edge in the first end of the panel such that the bottom of the panel is longer than the top of the panel.

17. A pattern for a panel of material suitable for forming part of a lactation breast wrap as claimed in any one of claims 1-13 together with instructions for forming the lactation breast wrap using a method as claimed in any one of claims 14-16.

18. The use of a lactation breast wrap according to any one of claims 1-13 for wrapping around a wearer's breasts.

Figure 1

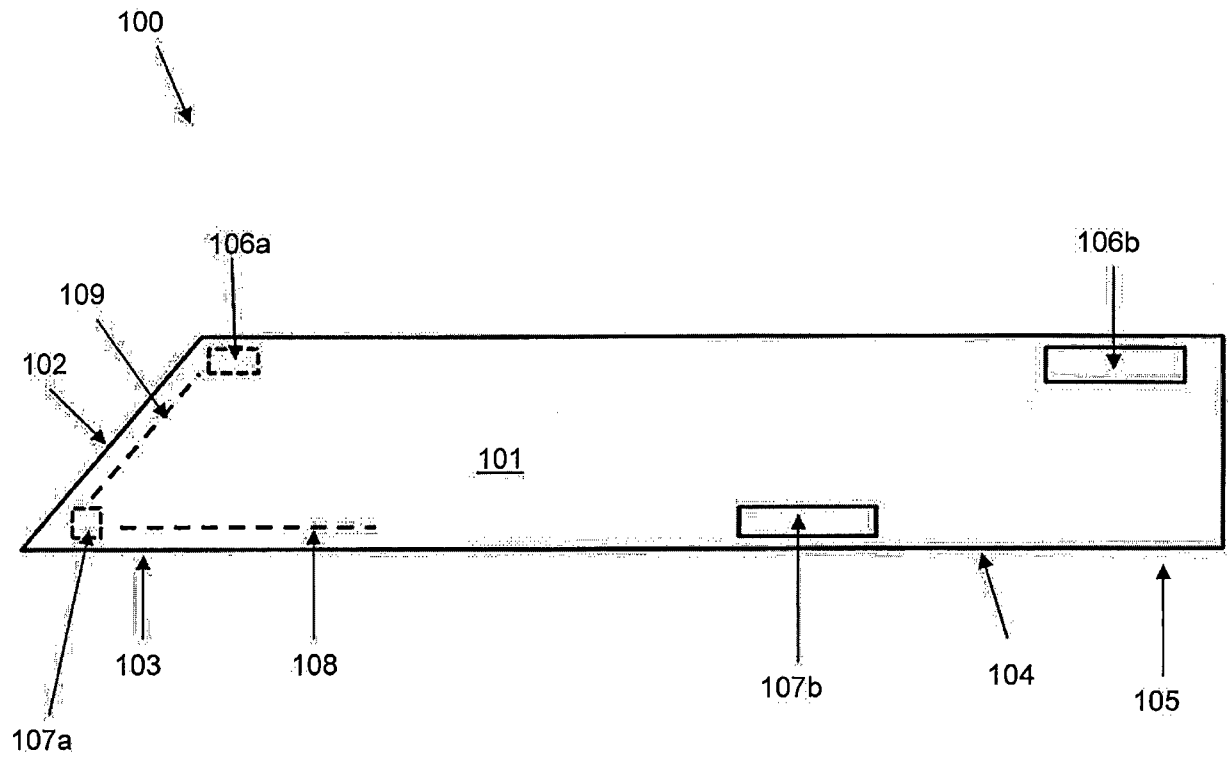


Figure 2

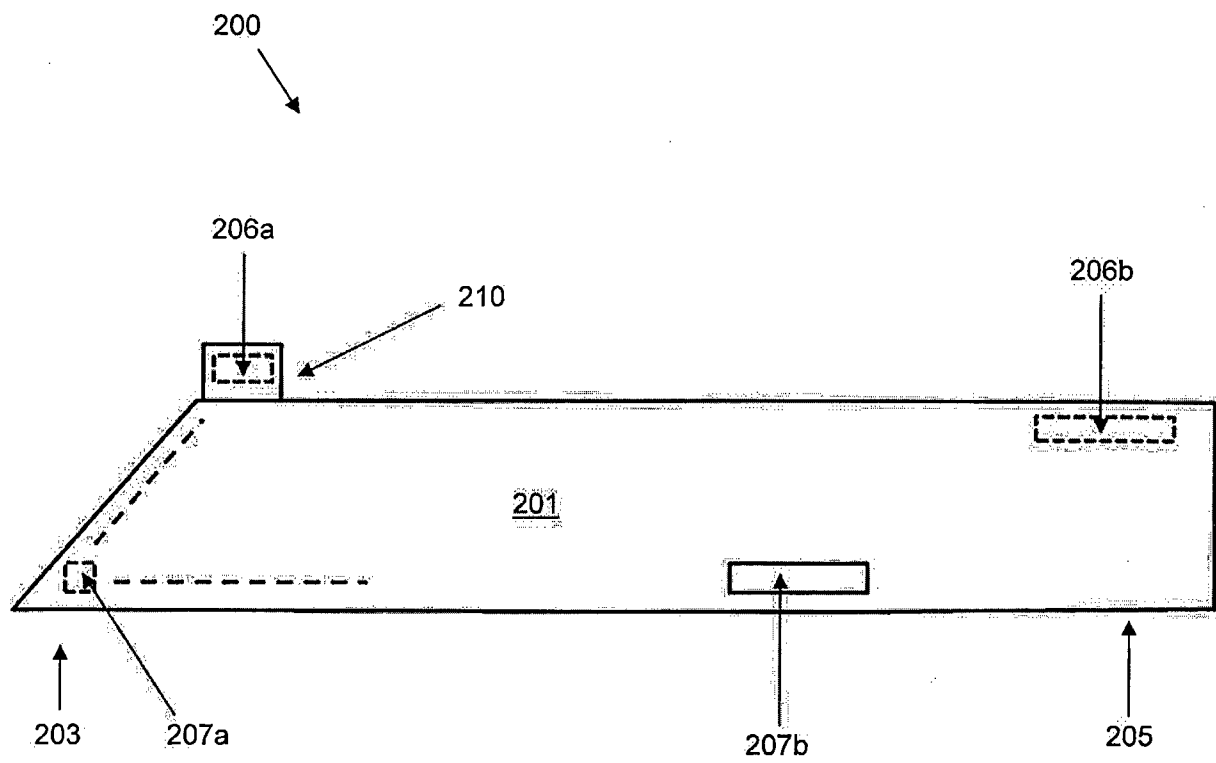


Figure 3

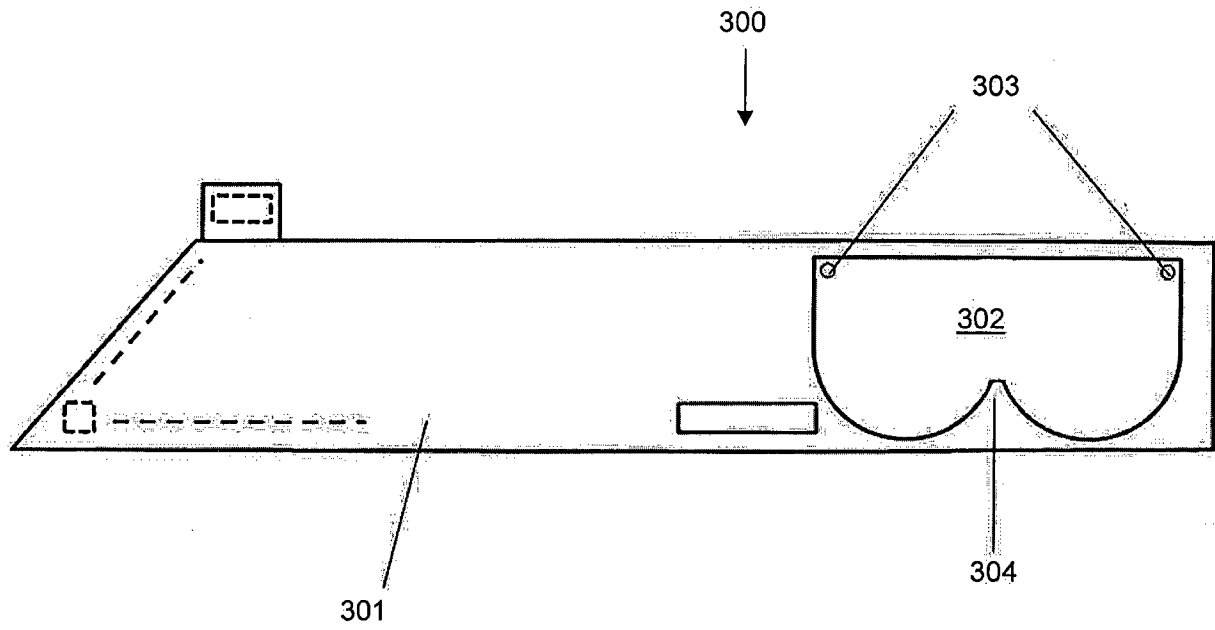


Figure 4

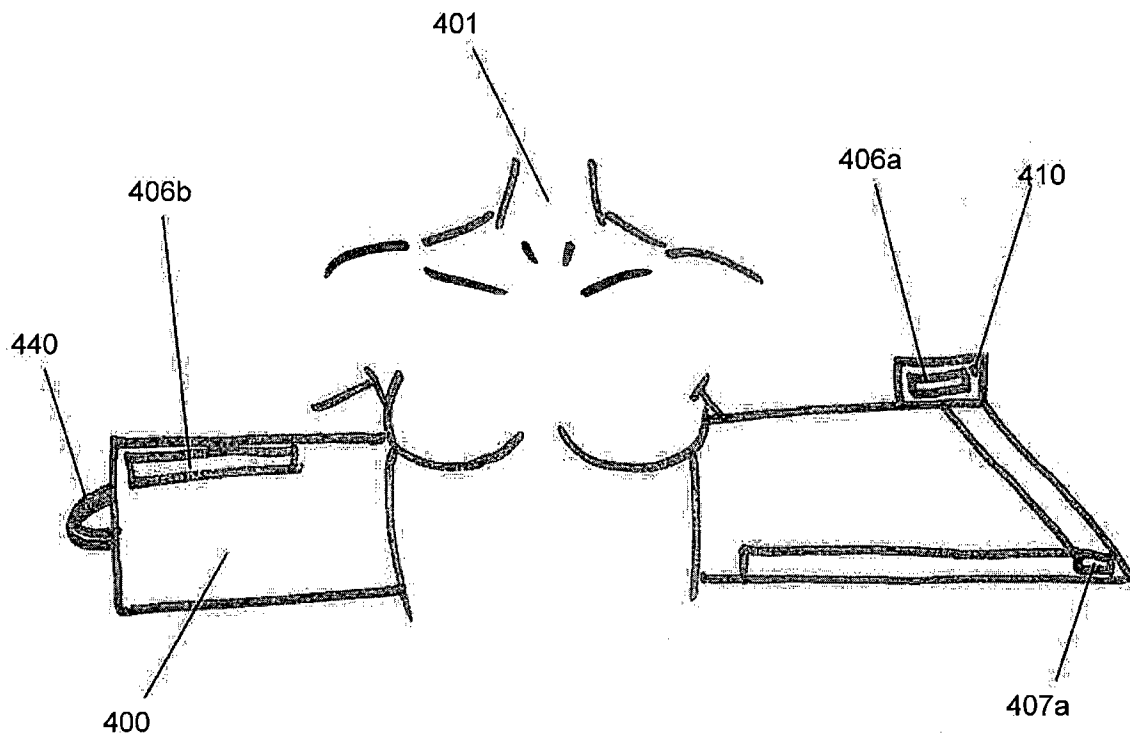


Figure 5

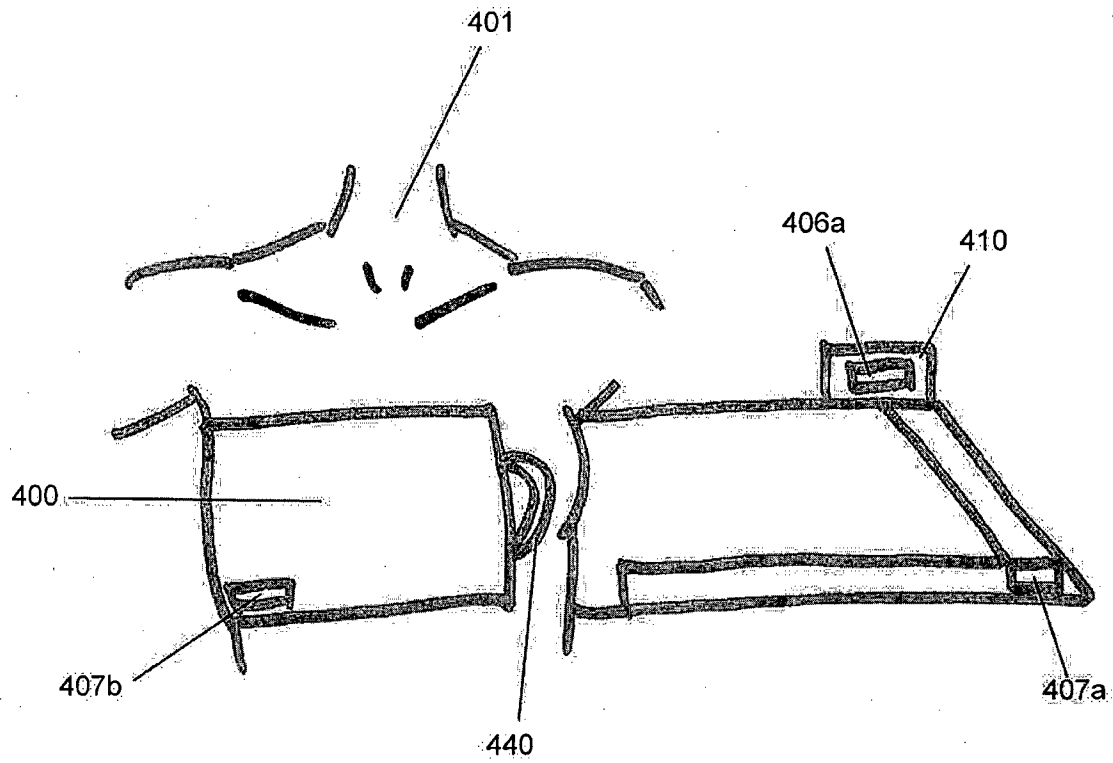


Figure 6

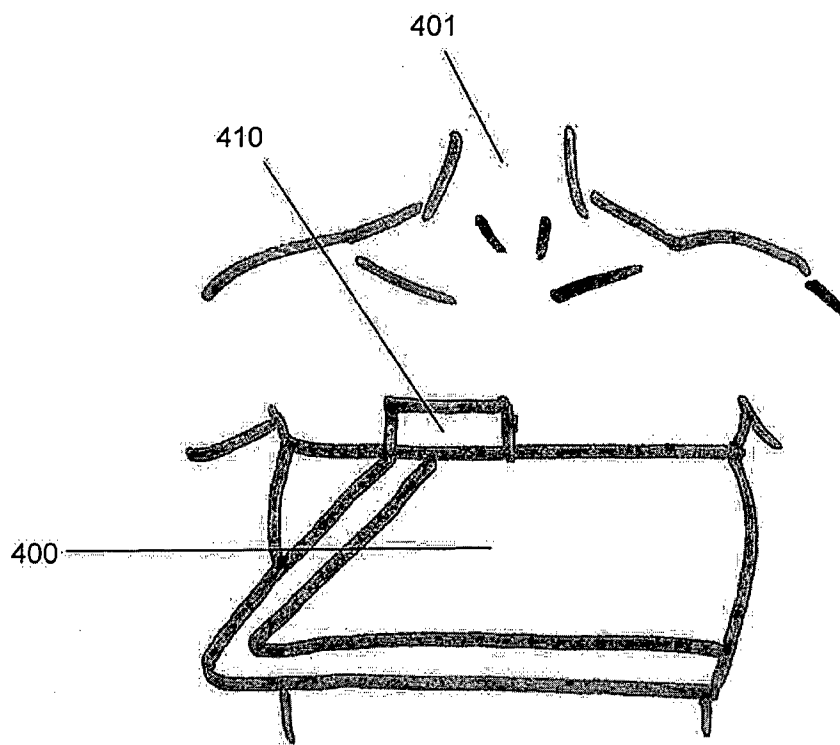


Figure 7

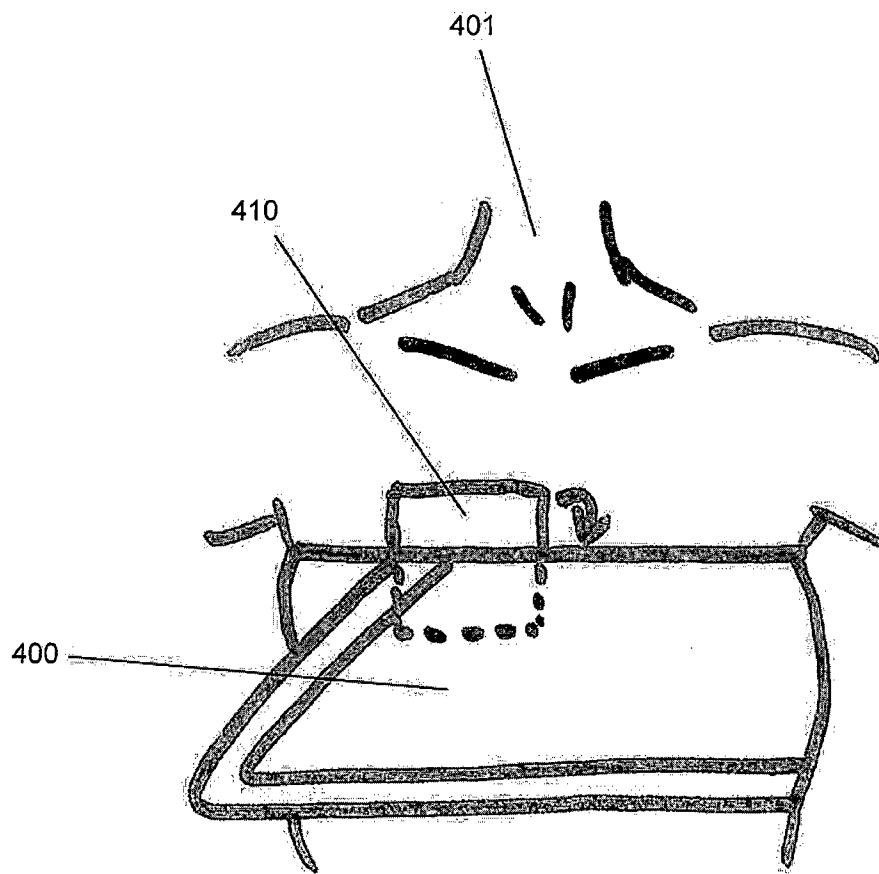


Figure 8

