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(54) **Garment**

(57) A garment (1) comprising a waistband portion (2), an anterior portion (4), and two strap portions (6), wherein the anterior portion extends from the waistband portion and tapers to an apex (10). A short connecting portion (12) connects the apex to a junction region (14) from which the two strap portions extend to the waistband portion, wherein the garment is formed and arranged such that, in use, the anterior portion extends over a wearer's vulva or scrotum and the junction region is located in the wearer's perineal region such that the strap

portions extend to either side of the wearer's anus.

The garment may be adapted to the shape of the male or female anatomy, In either case, the garment may reduce the incidence of perineal abscesses by reducing mechanical friction. In the case of a garment for females, cross-infection between the anus and vulva or urethra is reduced as there is not a continuous body of fabric extending between the anus and the vulva. Furthermore, the garment is comfortable to wear and In some embodiments avoids "visible panty line".

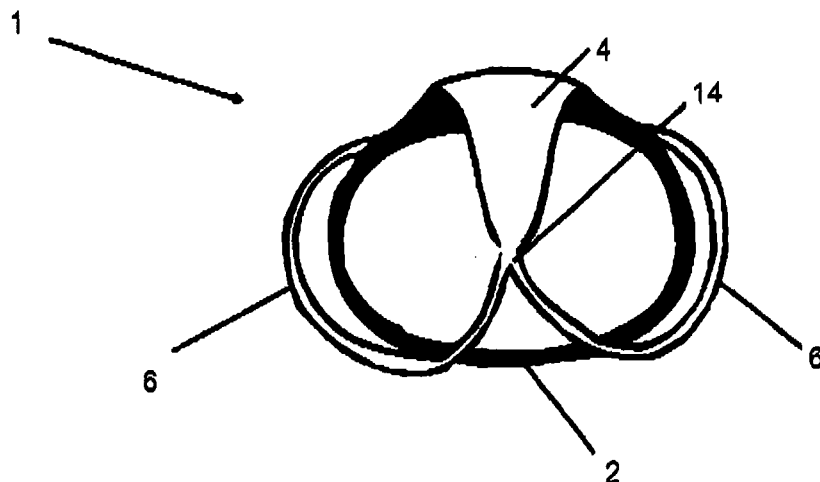


Fig .4

Description

Garment

[0001] We, Professor-Emeritus Calbert Inglis Phillips MB ChB MD PhD DPH DO FRCS Eng & Ed FRCOphth FBOA(Hon), of 5 Braid Mount Crest, Edinburgh, EH10 6JN, Scotland, UK and Professor Charles Victor Clark MB ChB MD DSc ChM C Biol FI Biol FAIBiol FRCS Ed FRCOphth FRACO FRACS FRMS FAAO, of 20 St. Catherine's Place, Edinburgh, EH9 1 NU, Scotland, UK, do hereby declare that the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, are as described in and by the following statement.

Field of the Invention

[0002] The invention relates to a garment, such as an item of underwear, swimwear or fashion wear.

Background to the Invention

[0003] The anatomy of the female uro-genital area predisposes to infection due to the proximity of the anus and vagina. Both orifices are characterised by a flora of bacteria and viruses and possibly also fungi and parasites. The anatomical area separating the vagina and anus is the perineum, a short tract which is particularly susceptible to infections leading, in some cases, to abscess formation requiring surgery. Many currently fashionable forms of female underwear, e.g. thongs, provide a direct physical line of contact between the vagina and anus, thereby promoting the potential for cross-infection and abscess formation. Indeed, the development of abscesses in the female is highest in the second to fourth decades, which is probably the time of maximum usage of a thong as an item of female underwear.

[0004] There are two primary anatomical routes of Infection which are addressed by the present invention. Firstly, in females, infections can be transmitted directly between the anus and vagina-urethra by the direct abrasive contact from existing underwear, especially the thong. The current fashion for tight underwear promotes the risk of infection by this route, particularly in the 15-35 age group, the period of highest cross-infection. Secondly, in both males and females, the risk of loss of a hair follicle is exacerbated by direct abrasive contact of current underwear which may also produce dermatitis in a moist, wet, sweaty environment. It should be noted that perineal abscess is a surgical emergency, requiring an operation for debridement of the abscess followed by daily painful "packing" for up to two months. Measures to minimise these risks are important, including the avoidance of mechanical irritation and infection and dermatitis.

[0005] Accordingly, there is an unmet need for means to reduce the risk of infection by either route (in the case of females) or by the second route (in the case of males).

[0006] Furthermore, the invention also takes into account the role of fashion in society. From time immemorial, clothing has been selected with a balance between appearance and comfort, with appearance often providing the major stimulus. For example, although thongs may be uncomfortable for the wearer, they are often selected as the only available alternative to avoid the appearance of "visible panty line" (VPL), which is a significant feature of fashion design. Thus, the invention aims to provide means to reduce the risk of infection in females and males, while providing a garment which is suitable for the fashion conscious and which may be considered more comfortable to wear than a thong.

15 Summary of the invention

[0007] According to the present invention there is provided a garment comprising a waistband portion, an anterior portion, and two strap portions, wherein the anterior portion extends from the waistband portion to a junction region from which the two strap portions extend to the waistband portion, wherein the garment is formed and arranged such that, In use, the anterior portion extends over a wearer's vulva (in the case of a garment adapted for females) or male genitalia (in the case of a garment adapted for males) and the junction region is located in the wearer's perineal region such that the strap portions extend to either side of the wearer's anus.

[0008] Preferably, the wearer's anus is left uncovered. Thus, there is not a continuous body of fabric extending from the wearer's anus to the wearer's vulva or male genitalia as appropriate. This reduces the likelihood of the formation of perineal abscesses in females and males and, in the case of females, reduces the risk of cross-infection between the anus and vulva or urethra, or vice versa.

[0009] Thus, the garment may be adapted to be worn by females, in which case the anterior portion extends over the wearer's vulva and the junction region is located between the wearer's anus and vulva. Alternatively, the garment may be adapted to be worn by males, in which case the anterior portion extends over the wearer's scrotum and penis, and the junction region is located between the wearer's anus and scrotum.

[0010] The anterior portion typically tapers from the waistband portion towards the junction region. The anterior portion may comprise a generally wedge shaped front panel which tapers to an apex. A short connecting portion may extend between the apex of the front panel and the junction region.

[0011] The strap portions typically extend laterally and anteriorly from the junction region, and are typically arranged to extend under a wearer's buttocks to join the waistband portion anteriorly of a wearer's coronal plane. However, the strap portions may alternatively extend across a wearer's buttocks and join the waistband portion in the region of, or posteriorly to, a wearer's coronal plane.

[0012] The angle between the strap portions, where

they extend from the junction region, to either side of the wearer's anus, is typically between 30° and 90°.

[0013] The strap portions are typically fixedly joined to the waistband portion. However, the strap portions may be adjustably joined to the waistband portion, for example, they may terminate in loops which are slidable along the waistband portion. The length of the strap portions may be adjustable to fit a wearer.

[0014] The strap portions may be different regions of the same strap. In this case, the junction region may comprise a strap retaining formation, for example, an aperture (such as a loop) through which the strap may be adjustably retained. Thus, a strap may extend from the waistband portion on one side of the garment (for example, the left side) through the said aperture to the other side of the garment (for example, the right side). The strap may be adjustably joined to the waistband portion at either or both ends. For example, the strap may be adjustably tied to the waistband portion at either or both ends. This enables the length of the strap portions, between the waistband portion and the junction region, to be varied.

[0015] The waistband portion and anterior portion are preferably formed from a continuous piece of fabric. The strap portions and the anterior portion may also be formed from a continuous piece of fabric, without seams, to increase comfort. Accordingly, the entire garment may be made from a single piece of fabric.

[0016] The specified formation and arrangement of the garment in use refers to the configuration adopted by the garment in normal use either under other garments or, in the case of swimwear, in public use, rather than a configuration which the garment might temporarily adopt while being put on, taken off, or partially on to enable the wearer to urinate.

Description of the Drawings

[0017] An example embodiment of the present invention will now be illustrated with reference to the following Figures in which:

Figure 1 is a front elevation of a panty according to the present invention;

Figure 2 is a rear elevation of the panty;

Figure 3 is a side elevation of the panty;

Figure 4 is a plan section of the panty from below;

Figure 5 is a front elevation of the panty, while worn;

Figure 6 is a rear elevation of the panty, while worn;

Figure 7 is a side elevation of the panty, while worn; and

Figure 8 is a plan section from below of the panty, while worn.

Detailed Description of an Example Embodiment

[0018] Figures 1 to 8 illustrate a panty according to the invention which is designed for use as an item of female underwear, swimwear or fashion wear. The panty, shown generally as 1, comprises a waistband 2 (functioning as the waistband portion), a front panel 4 (functioning as the anterior portion), and two straps 6 (functioning as the strap portions). The front panel is generally wedge shaped, having a relatively broad upper edge 8, where it intersects the waistband, and a relatively narrow apex region 10. A short, elongate connecting portion 12, extends from the apex region to a junction region 14. Each strap extends from the junction region to a respective junction 16 with the waistband. The straps, the front panel, the connecting portion and the waistband together define left and right leg holes 18.

[0019] The panty is designed so that the apex of the front panel, where the front panel joins with the straps, is located between the wearer's vulva and anus. The front panel should cover the vulva both while the wearer is sitting and standing. As with other items of underwear, the panty is typically provided in a range of sizes, suitable for wearers of different dimensions.

[0020] When worn, a continuous body of fabric extends from the waistband over the front of a wearer's pubic region, urinary meatus and vulva, to the perineum. However, the anus is left exposed, and so there is not a continuous body of fabric extending between the anus and vulva. This significantly reduces the risk of infections being transmitted from a wearer's anus to the vagina, or vice versa. This is in contrast to conventional panties and thongs, which can receive and retain bacteria from the anus or the vagina, and transmit these bacteria therebetween due to the forwards and backwards movement of fabric which extends continuously between the anus and the vulva. Furthermore, there is a reduction in the risk of mechanical irritations and abrasions which could otherwise lead to infective dermatitis and perineal abscess formation around the anus.

[0021] As can be seen from Figures 5 through 8, the straps typically extend under a wearer's buttocks, and round the hips, to join the waistband near the front. This arrangement holds the panty firmly in place, so that the apex of the front panel remains between the wearer's vulva and anus 20. The straps are typically resilient (for example, slightly elasticated), to enable them to hold the panty in place.

[0022] The garment is made from materials commonly used for panties and thongs, such as cotton, silk, lace or synthetic fibres, and may be elasticated.

[0023] Although it is preferable for the panty to be provided in a wide range of sizes and shapes, to fit wearers of different dimensions, a certain amount of adjustability can be provided, by the inclusion of length adjusting

members in the straps, for example, length adjusting members such as those which are commonly used in a bra straps, to enable the length of the straps to be varied. Similarly, the waistband may be of variable length. Although the straps are typically fixedly attached to the waistband, they may alternatively be adjustably attached. For example, the straps may terminate with studs which can be used to locate the straps at different locations along the waistband, depending on the preference of the wearer. The straps may terminate in a loop, which extends around the waistband, enabling the straps to be slid along the waistband. The apex of the front panel may include a loop and a single strap may extend from one side of the waistband to the other, through the loop. The strap may, for example, be fixed to the waistband on one side and detachably tied to the waistband on the other side to enable the location of the apex of the front panel to be adjusted to fit a particular wearer.

[0024] Although sunbathing should not be encouraged, due to the significant risks of skin cancer associated with this activity, it is also noted that as the straps of the panty are typically relatively long and thin, they might be moved backwards and forwards during sunbathing, to reduce the appearance of tanning lines.

[0025] The panty is designed to prevent diseases which can develop by virtue of the transmission of micro-organisms between the anus and the vagina and/or urethra, or vice versa, as well as the prevention of perineal abscesses caused by mechanical irritation and abrasion.

[0026] Furthermore, the panty may avoid "visible panty line", particularly in embodiments where the straps extend under the buttocks. As there is not a part which extends between the cleft of the buttocks, it may be considered more comfortable to wear than a conventional thong.

[0027] In an alternative embodiment, a garment may be provided which is adapted to the male anatomy, in which the anterior portion extends over the wearer's penis and scrotum and the junction region is located between the anus and the scrotum. This arrangement reduces the risk of infective dermatitis and perineal abscess formation around the anus.

[0028] Further modifications and variations may be made within the scope of the invention herein disclosed.

Key to Figures

[0029]

- 1 - Panty
- 2 - Waistband
- 4 - Front panel
- 6 - Straps
- 8 - Upper edge of front panel
- 10 - Apex of front panel
- 12 - Short connecting portion
- 14 - Junction region
- 16 - Junction between straps and waistband

- 18-Left and right leg holes
- 20 - Wearer's anus

5 Claims

1. A garment comprising a waistband portion, an anterior portion, and two strap portions, wherein the anterior portion extends from the waistband portion to a junction region from which the two strap portions extend to the waistband portion, wherein the garment is formed and arranged such that, in use, the anterior portion extends over a wearer's vulva or male genitalia and the junction region is located in the wearer's perineal region such that the strap portions extend to either side of the wearer's anus.
2. A garment according to Claim 1, wherein the strap portions extend laterally and anteriorly from the junction region, and are arranged to extend under a wearer's buttocks to join the waistband portion anteriorly of a wearer's coronal plane.
3. A garment according to Claim 1 or Claim 2, wherein the angle between the strap portions, where they extend from the junction region, is between 30° and 90°.
4. A garment according to any one preceding Claim, wherein the length of the strap portions is adjustable.
5. A garment according to any one preceding Claim, wherein the strap portions are regions of the same strap and wherein the junction region comprises a strap retaining formation through which the strap is adjustably retained.
6. A garment according to Claim 5, wherein the strap extends from the waistband portion on one side of the garment through the said aperture to the other side of the garment and wherein the strap is adjustably joined to the waistband portion at either or both ends.
7. A garment according to any one preceding Claim, wherein the waistband portion and anterior portion are formed from a continuous piece of fabric.
8. A garment according to Claim 7, wherein the strap portions are also formed from the same continuous piece of fabric.
9. A garment according to any one preceding Claim, adapted to be worn by females, wherein the anterior portion extends over the wearer's vulva and the junction region is located between the wearer's anus and vulva.

10. A garment according to any one of Claims 1 to 8, adapted to be worn by males, wherein the anterior portion extends over the wearer's penis and scrotum and the junction region is located between the wearer's anus and scrotum. 5
11. Use of a garment according to any one preceding Claim to prevent, treat, or reduce the spread of infection between anus and vulva. 10
12. A use according to Claim 10, to minimise the risk of perineal abscess formation. 15

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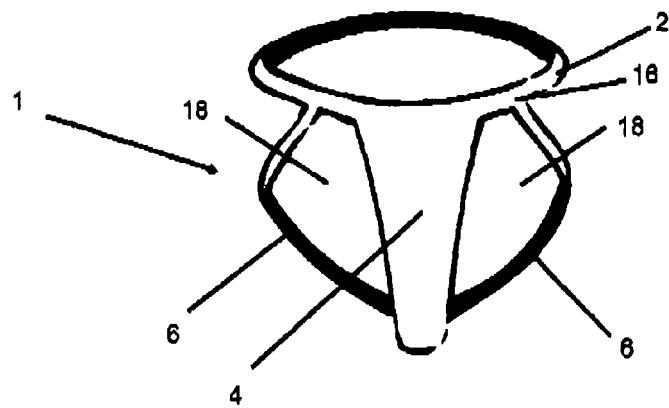


Fig .1

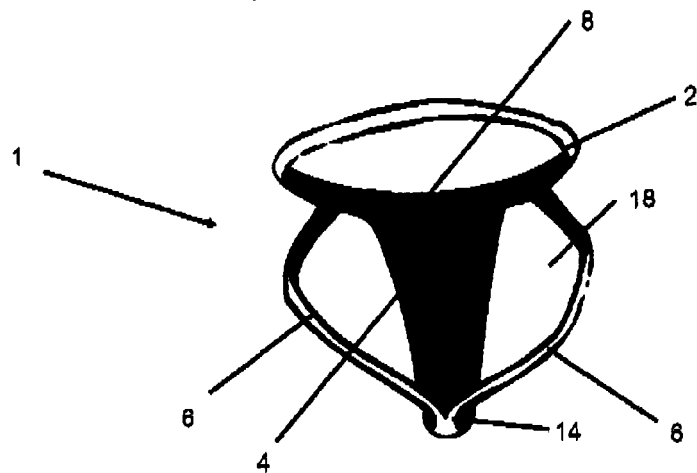


Fig .2

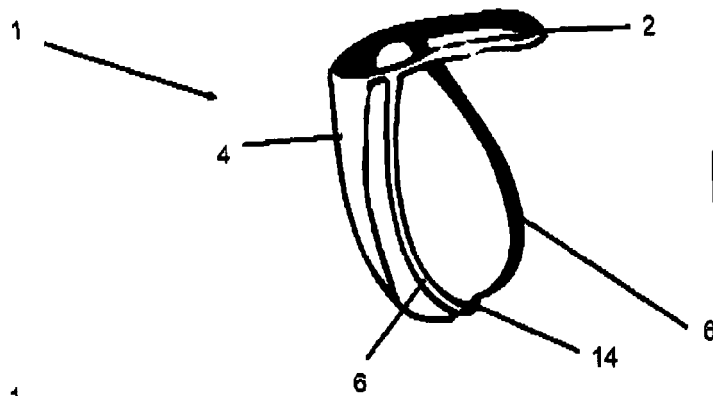


Fig .3

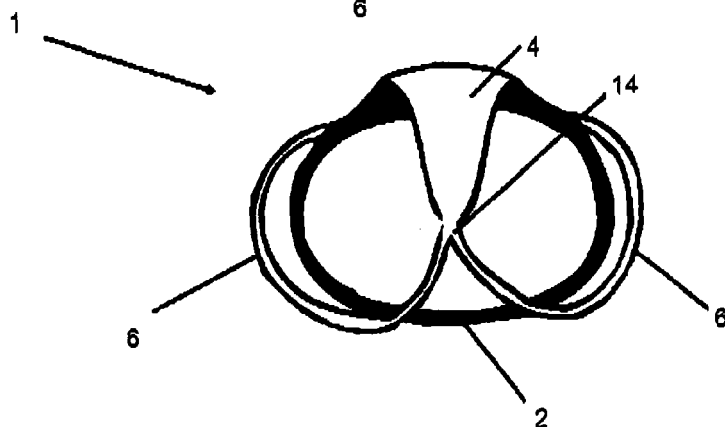


Fig .4

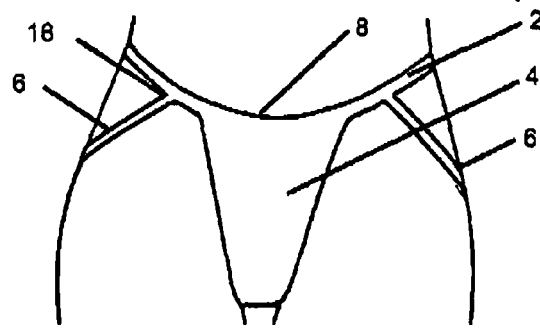


Fig .5

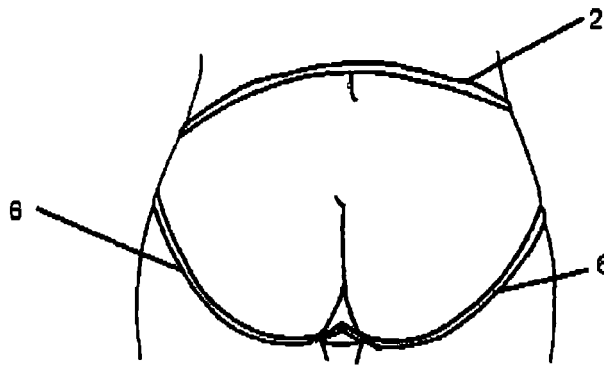


Fig .6

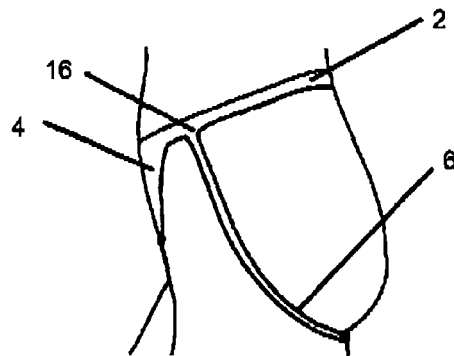


Fig .7

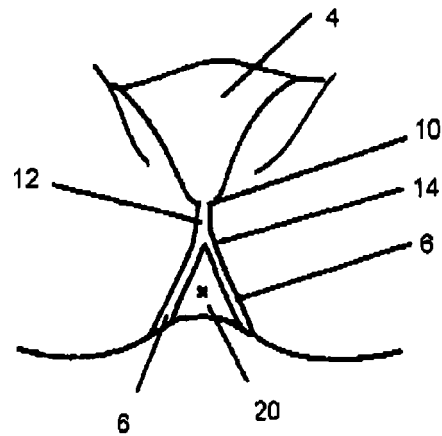


Fig .8



EUROPEAN SEARCH REPORT

Application Number
EP 09 01 4102

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 29 January 2010	Examiner Fonseca Fernandez, H
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 09 01 4102

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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