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(54) **GARMENT HAVING LESS-STRETCHABLE
SUPPORT**

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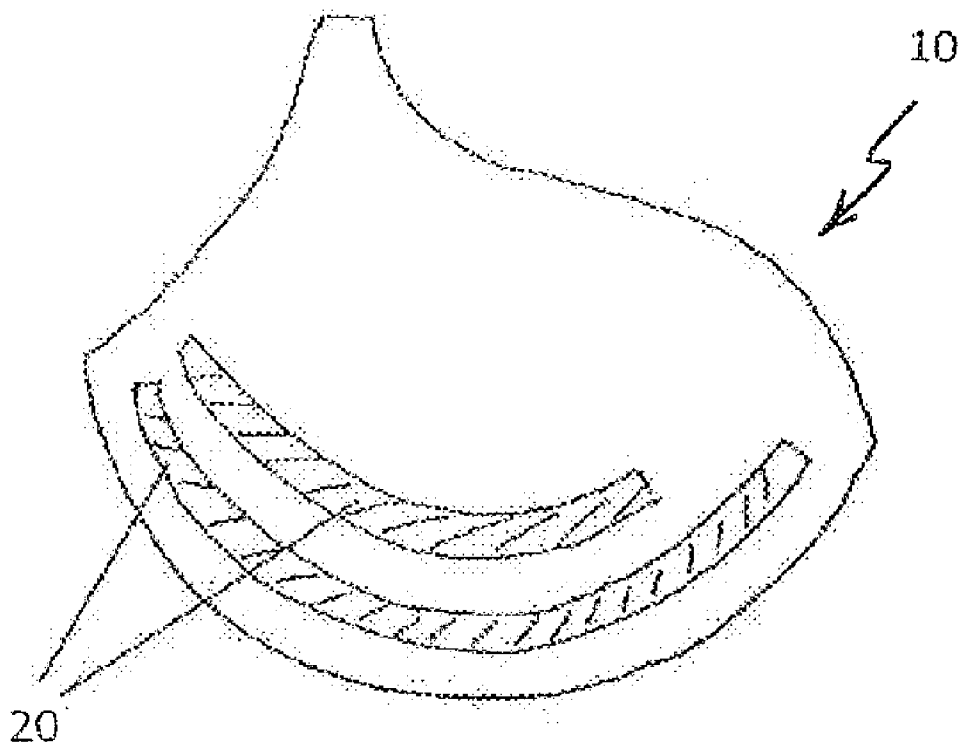
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(57) **ABSTRACT**

A garment comprising a less-stretchable component formed at various locations on and as a portion of the garment; wherein the less-stretchable component has less elasticity than that of part of the garment.



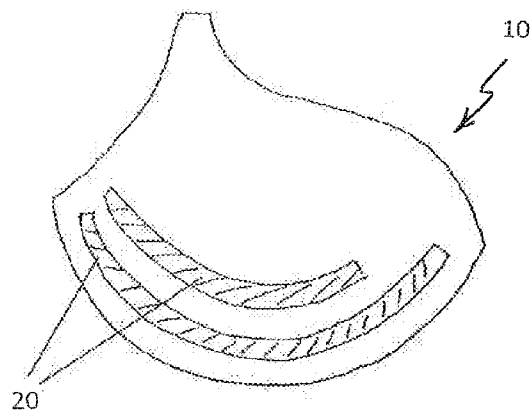


Figure 1

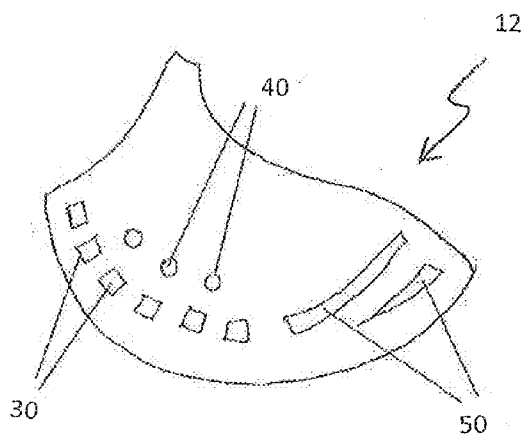


Figure 2

GARMENT HAVING LESS-STRETCHABLE SUPPORT

BACKGROUND OF THE INVENTION

[0001] The present invention relates generally to a garment formed to provide increased comfort, support, and/or flexibility to the user. In particular, the present invention relates to a personal garment, such as brassiere, panty and corset that provides a stretchable fit to accommodate differently shaped and/or sized body portion(s) of a user while at the same time providing sufficient support to a desired part of the body and maintaining the desired shape.

OBJECTS OF THE INVENTION

[0002] It is an object of the present invention to provide a garment formed according to a standard shape and/or size system, yet capable of providing a support to desired shapes and/or sizes occurring within the same shape and/or size group. In particular, an object of the present invention is to provide a brassiere that can provide a support to maintain the desired shape of the breasts of the user when the brassiere is in use.

DISCLOSURE OF THE INVENTION

[0003] The present invention relates generally to a garment that is capable of providing additional support, and/or flexibility to the user. For example, the garment can comprise a less-stretchable component formed at various locations on and as a portion of the garment. In the case of a brassiere, the less-stretchable component can only allow the brassiere to expand or to change form to a pre-determined shape when being stretched, refraining the brassiere from deforming, thus providing desired support to the breasts and maintaining desired shape of the breasts. For example, the less-stretchable component can refrain the brassiere from substantially conforming to the wearer's changing body shape and/or size, such as when the wearer bends her body during various physical activities. Once the stretching force is released, the less-stretchable component can contract to the initial shape and/or size. The less-stretchable component can be formed from any of less-elastic materials, such as, but not limited to, polymer resin. The less-stretchable component can be formed on a fabric by screen printing or by applying a film of glue. The pattern of the less-stretchable component is pre-designed.

[0004] There is disclosed herein a brassiere cup comprising a shaped section having a predetermined shape for a user's breast and serving as a breast shaping function; and a less-stretchable component joined to or formed on the shaped section. The less-stretchable component has less elasticity than that of the shaped section and the less-stretchable component restricts expansion of part of the brassiere cup to allow the shaped section to maintain the desired shape to serve its breast shaping function.

[0005] Preferably, the less-stretchable component is non-stretchable.

[0006] It is preferred that the less-stretchable component is screen printed on a fabric from which the shaped section is made.

[0007] Alternatively or additionally, the less-stretchable component may be a film of glue applied on a fabric from which the shaped section is made.

[0008] The less-stretchable component may be located on an inner layer and/or an outer layer of the brassiere cup.

[0009] Preferably, the shaped section has a predetermined stretchability.

[0010] Optionally, the shaped section is padded or molded.

[0011] The less-stretchable component can stretch differently from its adjoining material. For example, the less-stretchable component can stretch in different directions and/or to different magnitudes from the adjoining materials do.

[0012] According to one embodiment, the less-stretchable component may be less stretchable than the adjoining materials. The garment so formed can provide an increased support and/or comfort to the user when the user's body portion changes in shape and/or size, such as during physical exercises. Additionally or alternatively, the garment is capable of accommodating different users having differently shaped and/or sized body portions and providing support and/or comfortable fit to the different users.

[0013] There is further disclosed herein a brassiere comprising brassiere cups; a brassiere wing for supporting the brassiere cups on a user; and at least one less-stretchable component located on the brassiere cups and/or the brassiere wing. The less-stretchable component has less elasticity than that of the brassiere cups and the brassiere wing and the less-stretchable component restricts expansion of part of the brassiere cups and brassiere wing to allow the brassiere cups to maintain the desired shape.

[0014] The brassiere cups and the brassiere wing are adapted to fit closely around and support a user's body portion (i.e., a woman's breasts). The less-stretchable component may be formed as a portion of the brassiere cups and/or the brassiere wing and provide support thereto, so that the brassiere is stretchable to accommodate different breast shapes and/or sizes of the user(s) while at the same time maintaining the shape of the breasts. The less-stretchable component can be formed in any of various shapes and/or sizes to provide different stretchabilities.

[0015] The less-stretchable component may be stretched as needed to allow a brassiere to fit fuller shapes and/or larger sizes of a body portion providing a flexible and/or comfortable support to the user(s). The stretched less-stretchable component may also have the capability to contract, to allow the brassiere to return to its initial shape and/or size.

[0016] The less-stretchable component may have a different stretchability (e.g., different indices of elasticity, different directions of flexibility or other different flexibility characteristics, etc.) from that of the adjoining material on the garment to provide a variable flexibility and/or support to the user(s). The less-stretchable component maintains its shape and size while the rest of the garment can be stretched. In such a case, the rest of the garment expands to accommodate variations between the shape and/or size of the wearer and those of a "standard shape and/or size" user while the less-stretchable component maintains its predetermined shape and provides support to the user.

[0017] Depending on the type of garment, one or more less-stretchable materials may be used to form the less-stretchable component and provide the desired support. It will be appreciated that the less-stretchable component can be formed with various other materials, which are also within the scope of the present invention.

[0018] The less-stretchable component may be joined to or formed on various parts (e.g., brassiere cups, brassiere wing, etc.) of the garment by various conventional methods, such as sewing, fastening, adhering, screen-printing and the like.

[0019] One of the methods is to apply screen-printing technique to screen print the less-stretchable component made of polymer resin on a fabric. First, an artwork of pattern of the less-stretchable component to provide predetermined support is to be designed. Second, a screen printing screen is to be created in accordance with the artwork. Polymer resin is to be used as the media to print out the predesigned screen pattern on the fabric. The fabric with the predesigned pattern screen-printed is to be cut and processed to make the end product (such as brassiere cups).

[0020] Another method is to apply a film of glue as the less-stretchable component applied on a fabric. First, a film of glue is to be pre-laid on a piece of releasing paper. Second, an artwork of pattern of the less-stretchable component to provide predetermined support is to be designed. Third, the releasing paper with the designed pattern is to be cut and put on a fabric. Fourth, the releasing paper is to be heat pressed on the fabric and the glue will be transferred onto the fabric. The fabric with the predesigned pattern screen-printed is to be cut and processed to make the end product (such as brassiere cups).

[0021] It will be appreciated that various other methods such as sewing, fastening and adhering can be used to join the less-stretchable component with the garment, which are also within the scope of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] Preferred forms of the present invention will now be described by way of example with reference to the accompanying drawings, wherein:

[0023] FIG. 1 is a perspective illustration of a brassiere having the less-stretchable component of the present invention; and

[0024] FIG. 2 is a perspective illustration of a brassiere having the less-stretchable component in another pattern and form.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0025] It can be seen that the less-stretchable component can be formed with various materials and on various garments.

[0026] In this illustration, the less-stretchable component is formed with polymer resin on a brassiere.

[0027] In FIG. 1 of the accompanying drawings there is depicted a brassiere 10 having less-stretchable components 20 formed from a less-elastic material, such as, but not limited to, polymer resin. Less-stretchable components 20 are in the form of a stripe lying near the bottom of the brassiere. The less-stretchable component can be formed on a fabric by screen printing.

[0028] A conventional screen-printing technique is applied to screen print the less-stretchable component 20 made of polymer resin on a fabric. First, an artwork of pattern of the less-stretchable component 20 to provide predetermined support is designed. Second, a screen printing screen is created in accordance with the artwork with polymer resin being used as the media to print out the predesigned screen pattern on the fabric. The fabric with the predesigned pattern screen-printed is then cut and processed to make the end product, such as a brassiere 10 as shown in FIG. 1.

[0029] Another option is to use a film of glue as the less-stretchable components and to apply it on the brassiere 10.

[0030] In FIG. 2 shows another embodiment of brassiere 12 having less-stretchable components in the form of squares 30 and dots 40, as well as stripes 50.

[0031] The less-stretchable components 20 can be in any forms or patterns desired, and can be on any location of the brassiere.

[0032] In addition, the less-stretchable components 20 of any forms or patterns can be applied on any garments, not limited to brassieres.

[0033] Accordingly, it is intended that the present invention not be limited to the described embodiments, but that it has the full scope suggested by the above-language, as well as equivalents thereof.

1. A garment comprising a less-stretchable component formed at various locations on and as a portion of the garment; wherein the less-stretchable component has less elasticity than that of part of the garment.

2. The garment of claim 1, wherein the less-stretchable component is non-stretchable.

3. The garment of claim 1, wherein the less-stretchable component is screen printed on a fabric from which the garment is made.

4. The garment of claim 1, wherein the less-stretchable component is a film of glue applied on a fabric from which the garment is made.

5. A brassiere cup comprising:

a shaped section having a predetermined shape for a user's breast; and

a less-stretchable component joined to or formed on the shaped section;

wherein the less-stretchable component has less elasticity than that of the shaped section.

6. The brassiere cup of claim 5, wherein the less-stretchable component is non-stretchable.

7. The brassiere cup of claim 5, wherein the less-stretchable component is screen printed on a fabric from which the shaped section is made.

8. The brassiere cup of claim 5, wherein the less-stretchable component is screen printed on an inner layer of the brassiere cup.

9. The brassiere cup of claim 5, wherein the less-stretchable component is screen printed on an outer layer of the brassiere cup.

10. The brassiere cup of claim 5, wherein the less-stretchable component is a film of glue applied on a fabric from which the shaped section is made.

11. The brassiere cup of claim 5, wherein the less-stretchable component is a film of glue applied on an inner layer of the brassiere cup.

12. The brassiere cup of claim 5, wherein the less-stretchable component is a film of glue applied on an outer layer of the brassiere cup.

13. The brassiere cup of claim 5, wherein the shaped section has a predetermined stretchability.

14. The brassiere cup of claim 5, wherein the shaped section is padded or molded.

15. A brassiere comprising:

two brassiere cups;

a brassiere wing for supporting the brassiere cups on a user; and

at least one less-stretchable component located on the brassiere cups and/or the brassiere wing.

16. The brassiere of claim **15**, wherein the less-stretchable component has less elasticity than that of the brassiere cups and/or the brassiere wing.

17. A method of manufacturing a brassiere part with a less-stretchable component formed on the brassiere part, comprising the steps of:

- (a) designing an artwork of pattern of the less-stretchable component to provide predetermined support;
- (b) creating a screen-printing screen in accordance with the artwork;
- (c) providing polymer resin as a media to print out the predesigned screen-printing pattern on a fabric; and
- (d) cutting the fabric with the predesigned screen-printed pattern to form the brassiere part.

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