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(54) **Strapless backless bra**

(57) A backless strapless bra has a pair of silicone gel cups, each with a convex outer surface and a concave inner face with a nipple cavity (16) and an annular adhesive layer extending from the cavity to the periphery (10). The cavity and some of the concave inner surface has

tiny grooves (22) in the cavity and the annular area has criss-crossed channels (24) which allow air circulation and perspiration drainage.

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Description

scribed with reference to the accompanying drawings, in which:

FIELD OF THE INVENTION

[0001] This invention concerns strapless backless bras which adhere to the wearer's breasts.

Figure 1 is a diagram of a mould in which the cups are moulded.

Figure 2 is a perspective of the cup.

Figure 3 is a section through a cup.

Figure 4 is a plan of the cup shown in Figures 2, 3 and 4.

Figure 5 is a close up plan of a central fragment of the cup of Figures 1 and 2.

Figure 6 is a diagram of a magnetic cup connector.

BACKGROUND OF THE INVENTION

[0002] Women who wish to wear backless dresses or strapless dresses cannot wear a conventional bra. Self adhesive bras are known which have silicone gel cups made with a small inner radius of curvature and a larger outer radius of curvature, the periphery being of tapering thickness. The inner concave face is coated with a pressure activated adhesive which is tolerated by the skin. The cups adhere to the skin when pressed to the wearer's breasts. They are intended to be worn repeatedly without losing adhesion.

[0003] EP1386548 describes bras which incorporate cups as described above. These can be peeled from the breast to adjust their position and the cups are joined by a single connection which prevents undue movement of the breasts.

[0004] Covering the skin with water impervious cups leads to discomfort in that the skin perspires naturally and activities such as dancing tend to increase perspiration. The skin may react by the appearance of sweat rash or other skin disorders. The perspiration cannot escape and detracts from the experience of wearing the bra even though the improvement in appearance is desirable. The smooth concavity of the cup tends to compress the nipple and this too adds to the discomfort.

DETAILED DESCRIPTION WITH RESPECT TO THE DRAWINGS

[0008] Referring now to Figure 1 of the drawings, a two part steel mould 2 with a cavity 4 receives silicone gel from an injector 6 which delivers a precise volume. A cup 8 is baked in an oven to solidify the gel. The mould produces the cup 8 shown in Figures 2-4. The cup weighs about 72g and has a periphery 10 which corresponds to the area of the breast.

[0009] The cup has a convex outer surface 12 and a concave inner surface 14 with a central cavity 16 for the nipple and areolar area. The cavity is capsule shaped.

[0010] The periphery is of tapered section as seen in Figure 6 so that the cup meets the skin of the chest at a shallow angle and gives a natural appearance. Polyethylene tab 18 and nylon connector 20 are fixed with adhesive to the edge of the concave face and heat cured.

[0011] The inner concave surface of the cup and the cavity 16 is covered with small scale undulating grooves 22 resembling capillaries. In addition the surface is criss-crossed with straight channels 24 which divide the surface with rhombs 26. The rhombs are about 4 x 4mm. The grooves drain into the channels 20 and the channels meet the periphery 10.

[0012] Hypoallergenic adhesive 28 is deposited onto the rhombs which are raised relative to the channels and grooves. The adhesive is commercially available and is described in the literature. The entire surface except the cavity can be coated but this tends to reduce the effectiveness of the grooves and channels. As soon as the adhesive is applied, the cup becomes capable of adhering to human skin and is covered with a release paper 30.

[0013] Referring now to Figures 6 and 7, tabs 16 capture the loops 32 of the magnets 34 which permit adjustable overlap. The overlap allows the breasts to separate. More overlap accentuates cleavage.

[0014] The cups may be connected together in the manner shown and worn as a bra, the effect being to suppress breast movement while enhancing breast size.

SUMMARY OF THE INVENTION

[0005] A backless strapless bra of the type comprising a pair of skin compatible gel cups (8) each having a convex outer face (12) and a concave inner face (14) for contact with the left breast and right breast, the inner concave face (14) bearing skin compatible adhesive which is activated by pressure, characterised in that the concave inner face (14) has multiple raised portions (26) distributed over at least part of the face which defines multiple channels (16, 24) between the portions for the release of perspiration and admission of air.

[0006] The raised portions may be ridges arranged in an unpatterned disposition or a patterned disposition of regular shapes for example hexagons or rhombs. The shape of the raised portions is not important. It is important that the space between the raised portions is continuous so as to create multiple air inlets and outlets. These form passages when the concave surface lies in contact with the skin.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] One embodiment of the invention is now de-

[0015] If a more conventional bra appearance is required, the convex face of the cups is covered with shaped fabric. The edge of the fabric is folded over the edge of the periphery and secured by stitching with optional piping.

[0016] We have found the advantages of the above embodiment to be:

1. Increased comfort.
2. Improved tolerance by the skin.
3. The wearer has no awareness of the cups when worn.

[0017] The illustrations, photographs and drawings, if any, form part of the disclosure of this specification as does the description, illustrations, photographs and drawings of any associated provisional or parent specification or of any priority document, if any, all of which are imported hereinto as part of the record hereof.

[0018] Finally it is to be understood that various alterations, modifications and/or additions may be incorporated into the various constructions and arrangements or parts without departing from the spirit and ambit of the invention.

Claims

1. A backless strapless bra of the type comprising a pair of skin compatible gel cups (8) each having a convex outer face (12) and a concave inner face (14) for contact with the left breast and right breast, the inner concave face (14) bearing skin compatible adhesive which is activated by pressure, **characterised in that** the concave inner face (14) has multiple raised positions (26) distributed over at least part of the face which defines multiple channels (16, 24) between the portions for the release of perspiration and admission of air.
2. A backless strapless bra as claimed in Claim 1, **characterised in that** the centre area of the inner concave face (14) has a cavity (16) for accommodating the nipple and areolar region of the breast.
3. A backless strapless bra as claimed in Claim 2, **characterised in that** the annular area (A) between the cavity (16) and the periphery (10) of the cup has adhesive applied to the raised portions (26).
4. A backless strapless bra as claimed in Claim 1, **characterised in that** at least some of the channels (22, 24) communicate with the periphery (10) of the cup.
5. A backless strapless bra as claimed in Claim 1 or 2, wherein the channels (22, 24) have intersections.
6. A backless strapless bra as claimed in any one of Claims 2-5, **characterised in that** the cavity (16) is devoid of adhesive.
7. A backless strapless bra as claimed in any one of the preceding claims, **characterised in that** a flexible tab (18) is secured by adhesive to the periphery (10) of the cup for mounting a connector which joins the cups.
8. A backless strapless bra as claimed in any one of the preceding claims, **characterised in that** the adhesive on each cup is covered with a temporary release paper (30).
9. A backless strapless bra as claimed in Claim 7 or 8, **characterised in that** the connector is a pair of magnets (34) which overlap by an adjustable distance in order to vary the separation between the cups.
10. A backless strapless bra as claimed in any one of Claims 1-9, **characterised in that** the outer face of the cup is at least partly covered with fabric and the fabric is secured to the edge of the cup by stitching.

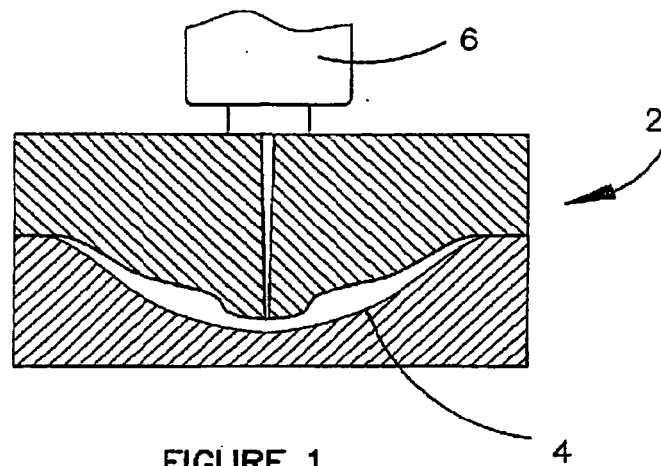


FIGURE 1

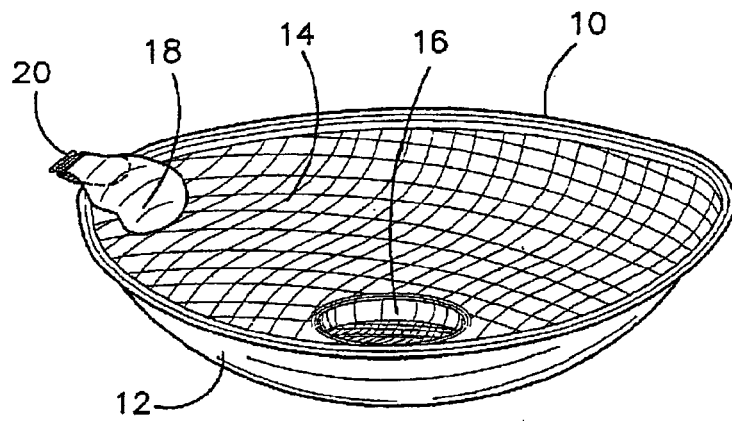


FIGURE 2

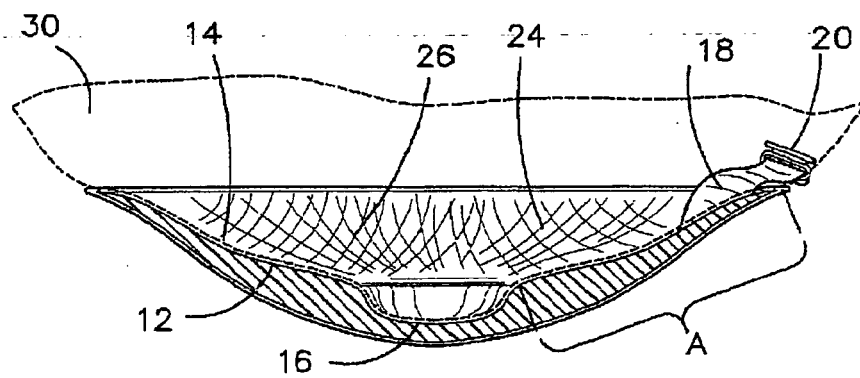


FIGURE 3

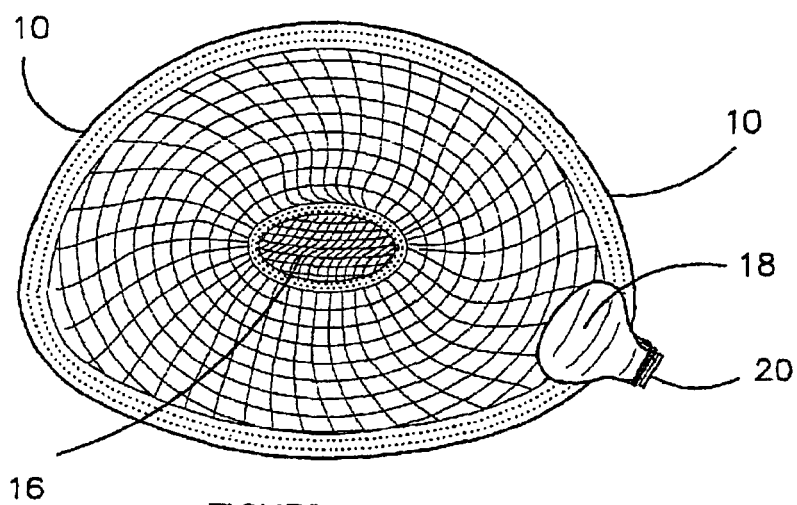


FIGURE 4

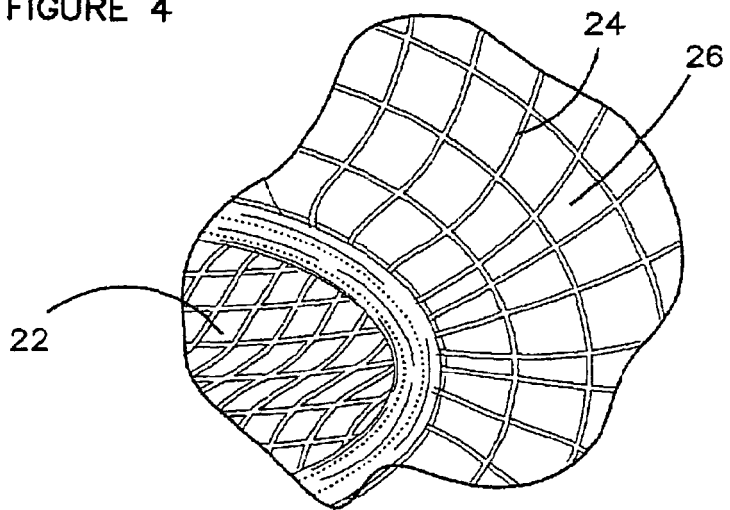


FIGURE 5

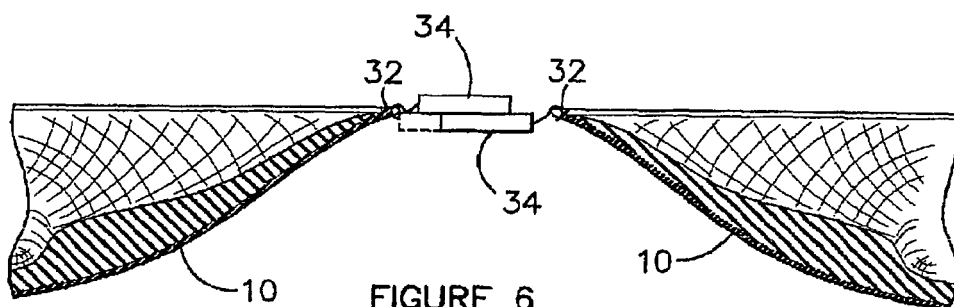


FIGURE 6



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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A	US 6 371 831 B1 (DODGE HOLLY A) 16 April 2002 (2002-04-16) * claim 1 *	1,2,6,8,10	
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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 22 November 2005	Examiner D'Souza, J
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 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 25 3903

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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22-11-2005

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