



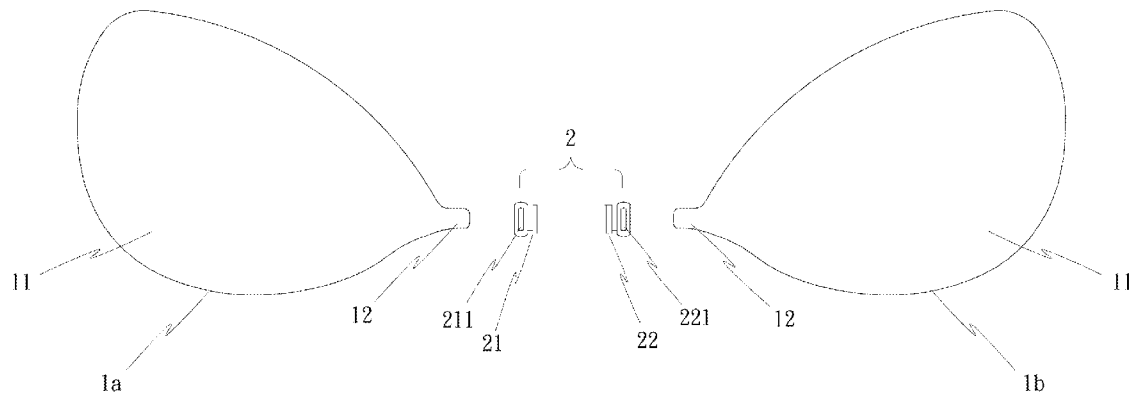
US 20120231700A1

(19) **United States**(12) **Patent Application Publication**
Chou(10) **Pub. No.: US 2012/0231700 A1**(43) **Pub. Date: Sep. 13, 2012**(54) **SILICONE GEL BRA**(52) **U.S. Cl. 450/39**(75) Inventor: **Hsien-Wei Chou, Taipei (TW)**(57) **ABSTRACT**(73) Assignee: **YOHONDA ENTERPRISE CO., LTD., New Taipei City (TW)**(21) Appl. No.: **13/413,485**(22) Filed: **Mar. 6, 2012**(30) **Foreign Application Priority Data**

Mar. 9, 2011 (TW) 100204150

Publication Classification(51) **Int. Cl.**
A41C 3/00 (2006.01)

A silicone gel bra includes two silicone gel bra cups and a connector. The silicone gel bra cups are formed with a volume of silicone gel shaped in a mold. Each silicone gel bra cup has an inside surface. A portion of the inside surface or the entire inside surface is coated with a reusable adhesive layer. The silicone gel bra cups each have an extension portion. The extension portion is inserted through a loop of the connector, and then reversely folded to be adhered to the relative bra cup to constitute the silicone gel bra. The silicone gel bra cups have a plurality of air apertures to provide a ventilation function for the breast. The silicone gel material of the silicone gel bra cups can be mixed with a forming agent to form a silicone gel form material with air bubbles to constitute the silicone gel bra cups.



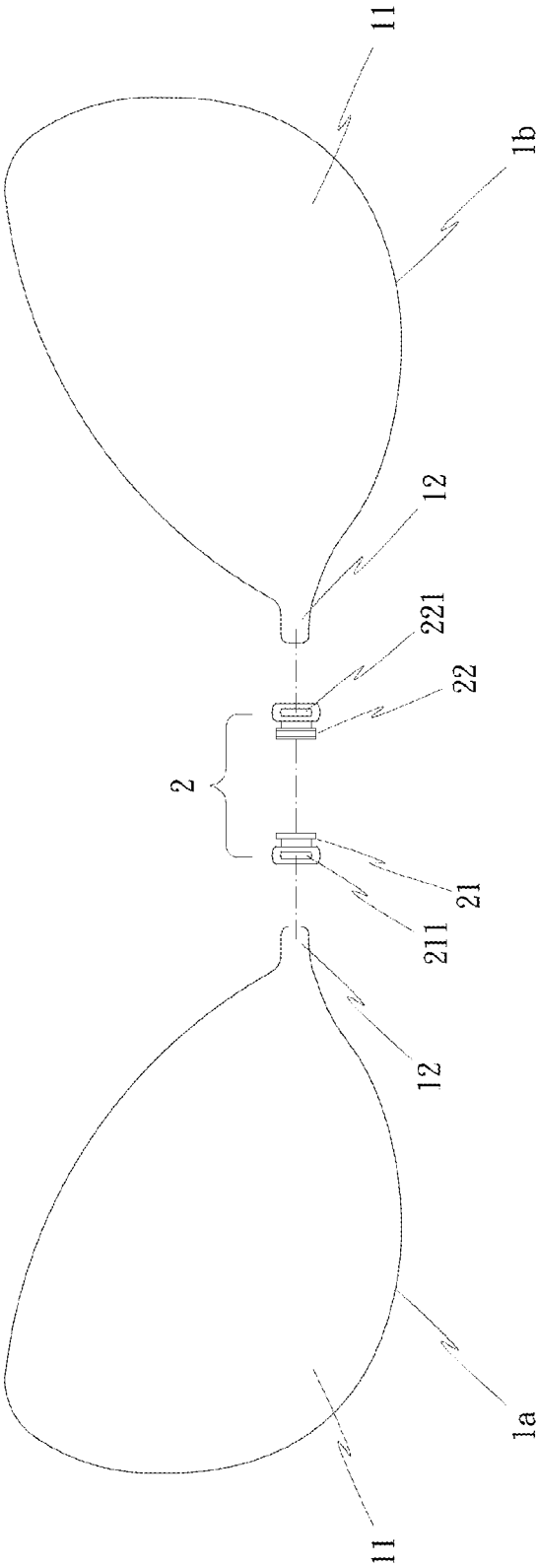


FIG. 1

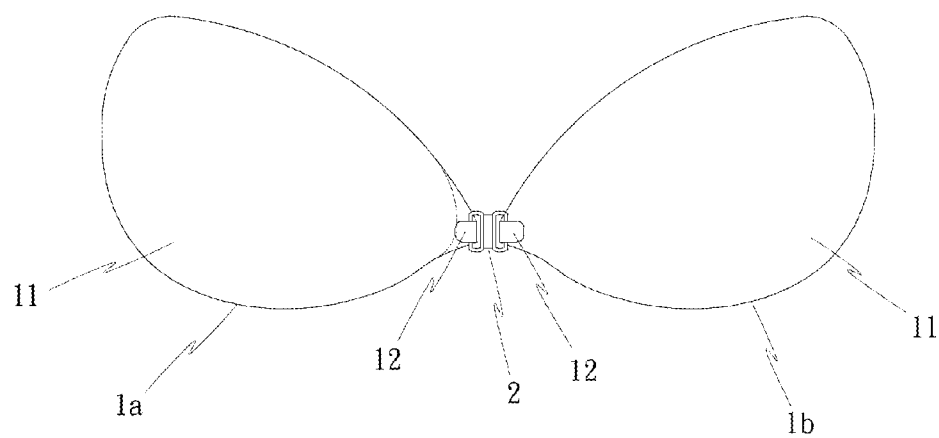


FIG. 2

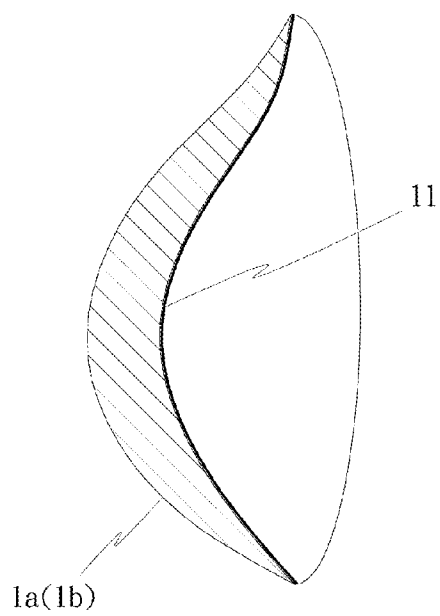


FIG. 3

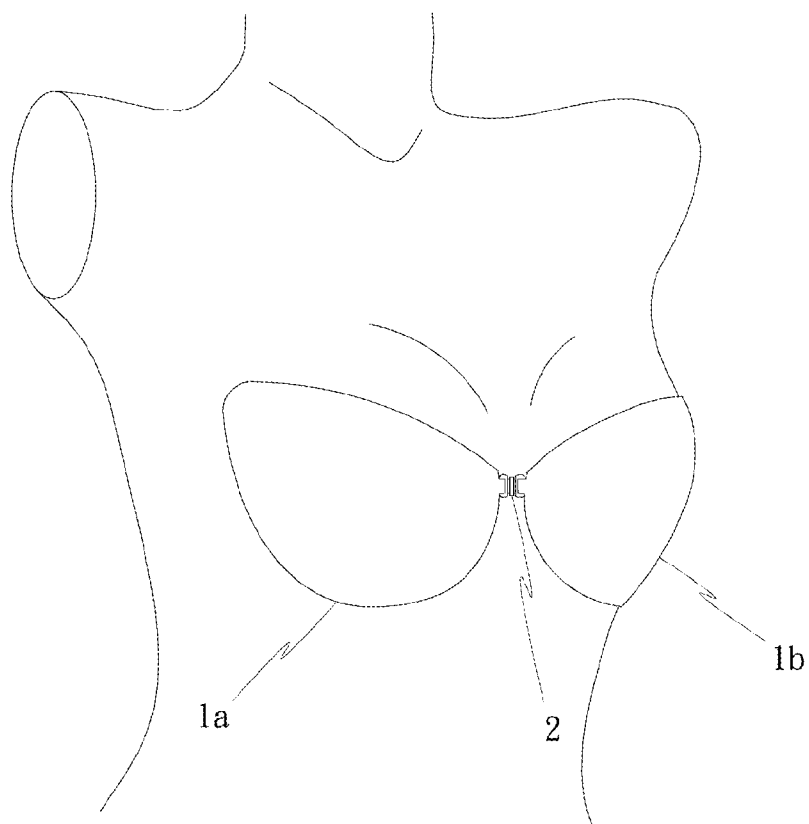


FIG. 4

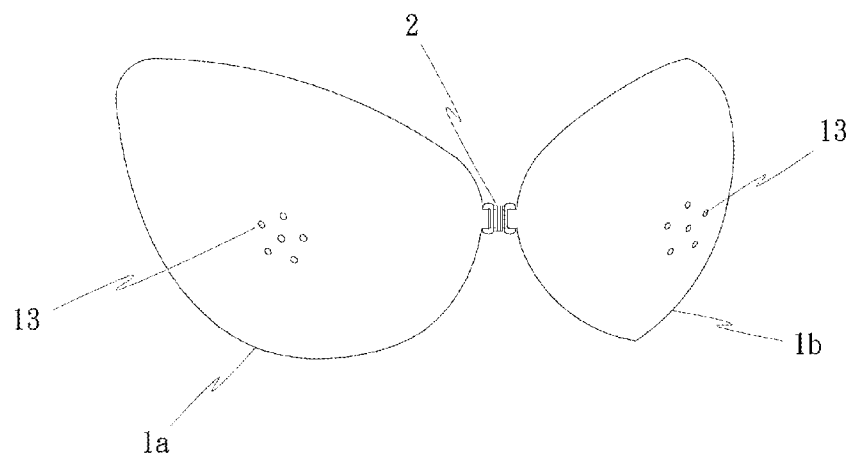


FIG. 5

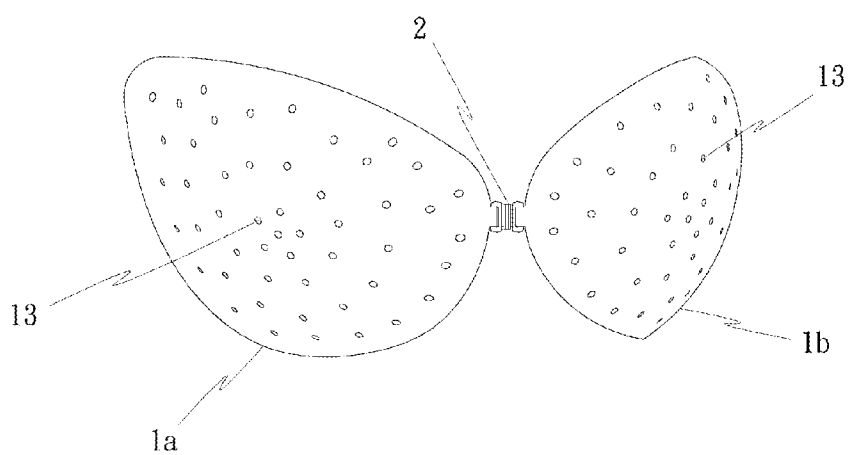


FIG. 6

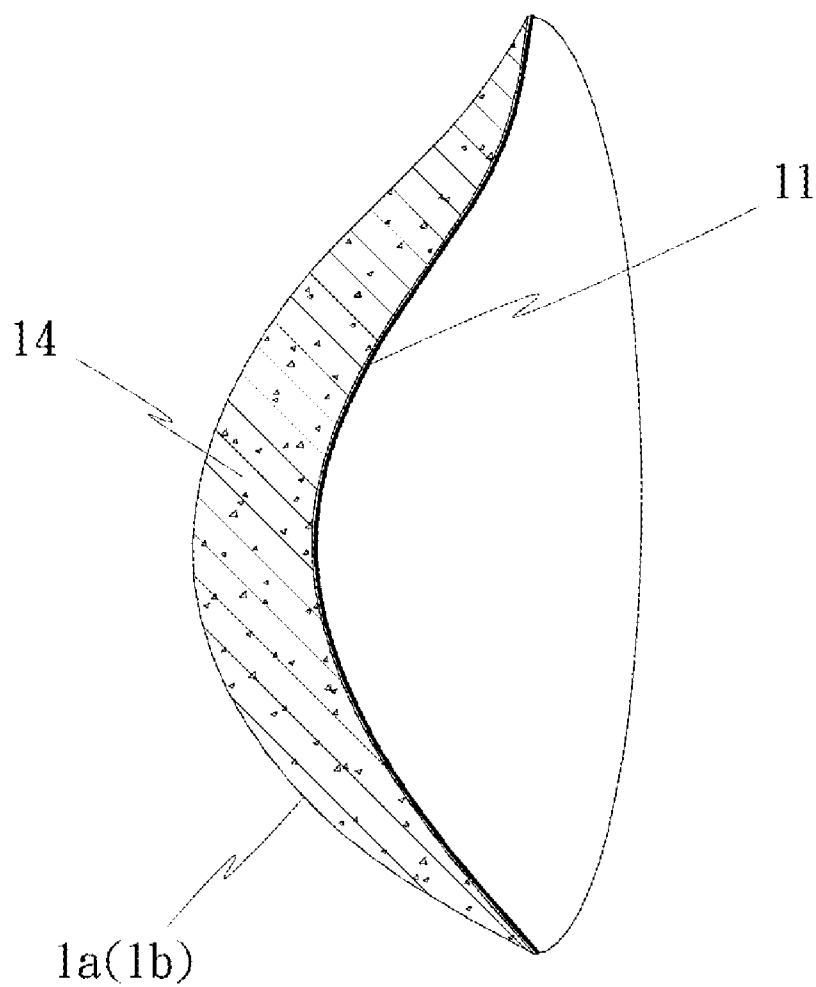


FIG. 7

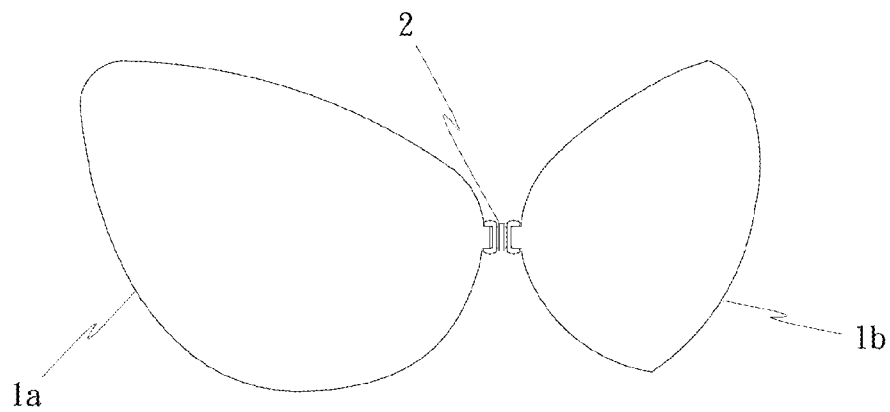


FIG. 8

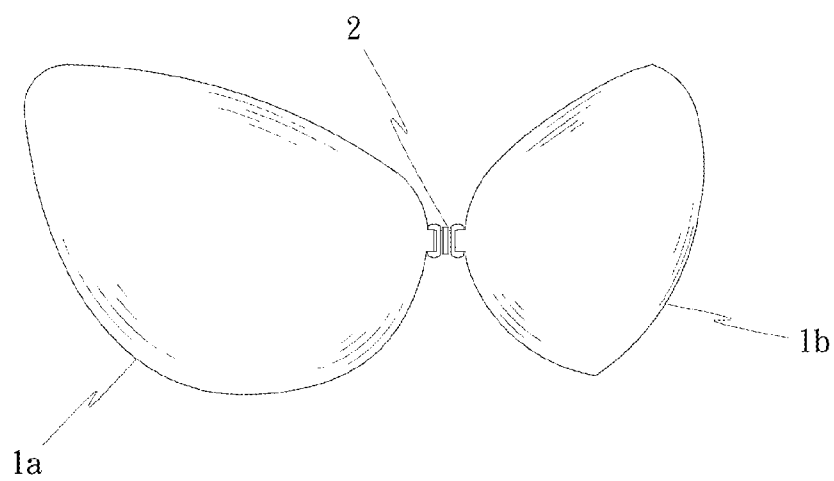


FIG. 9

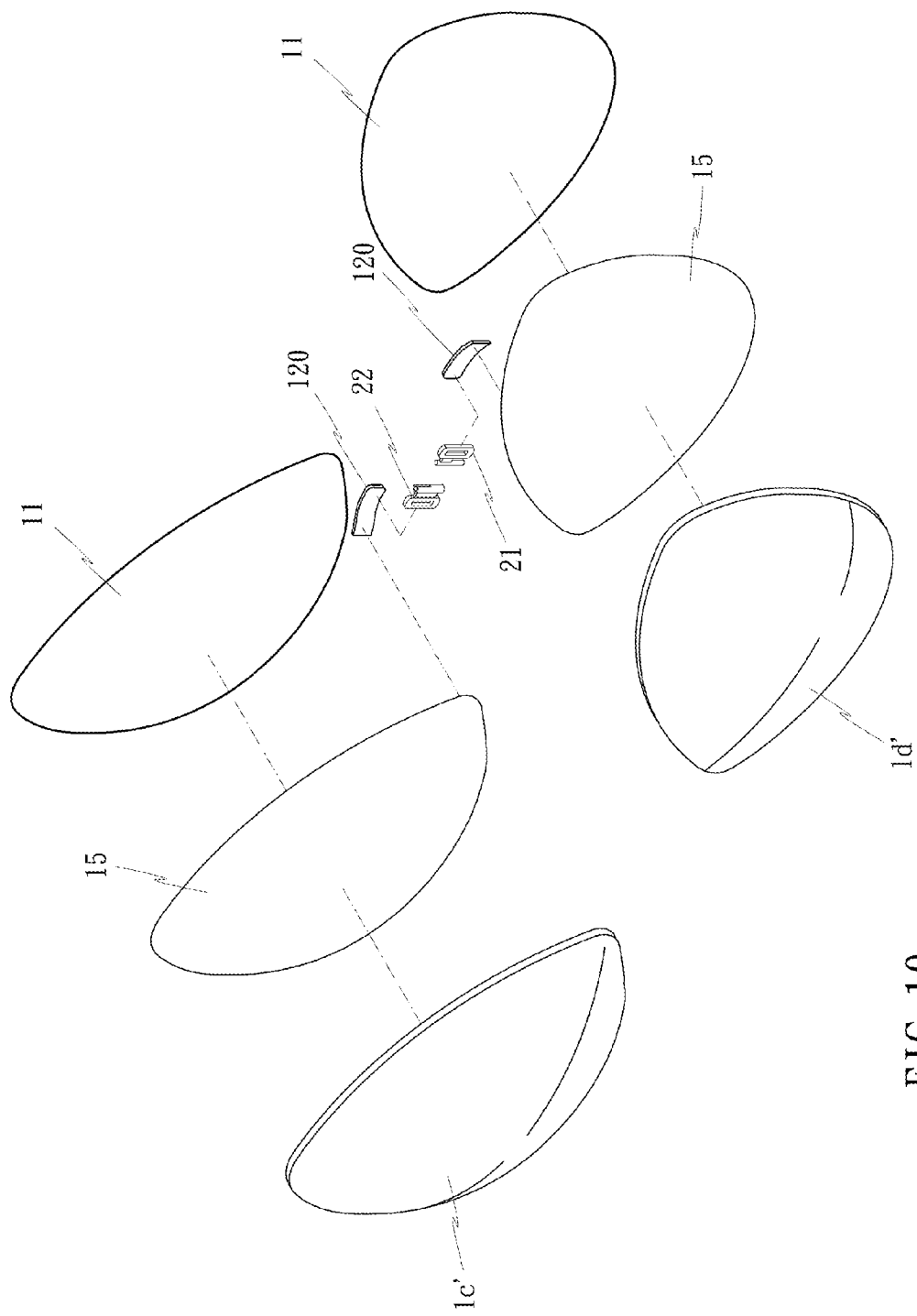


FIG. 10

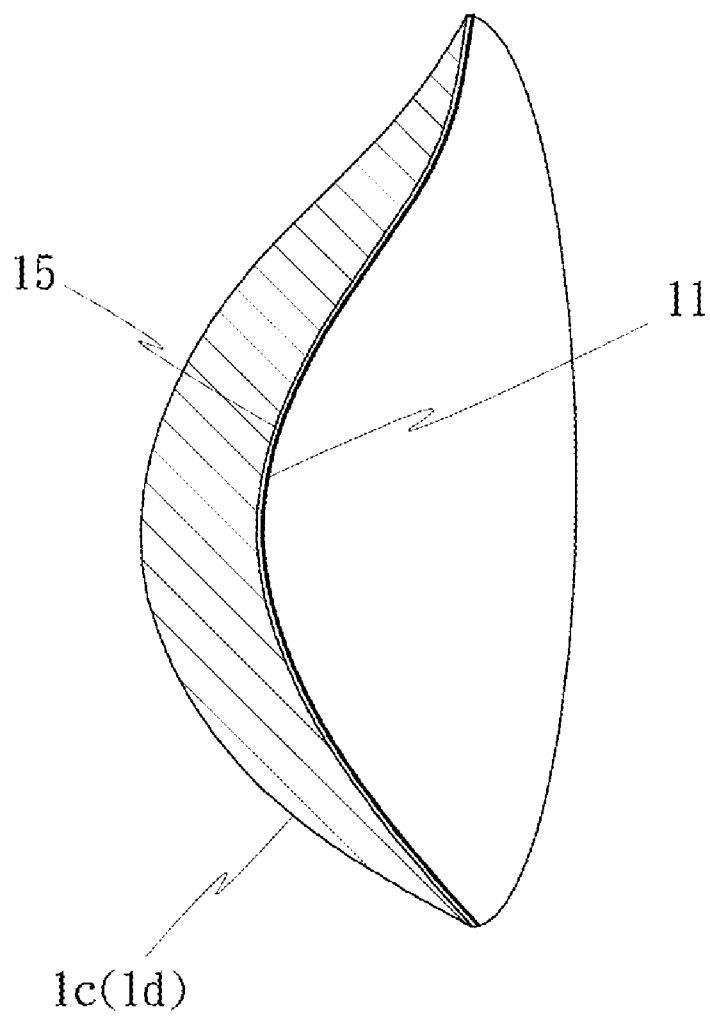


FIG. 11

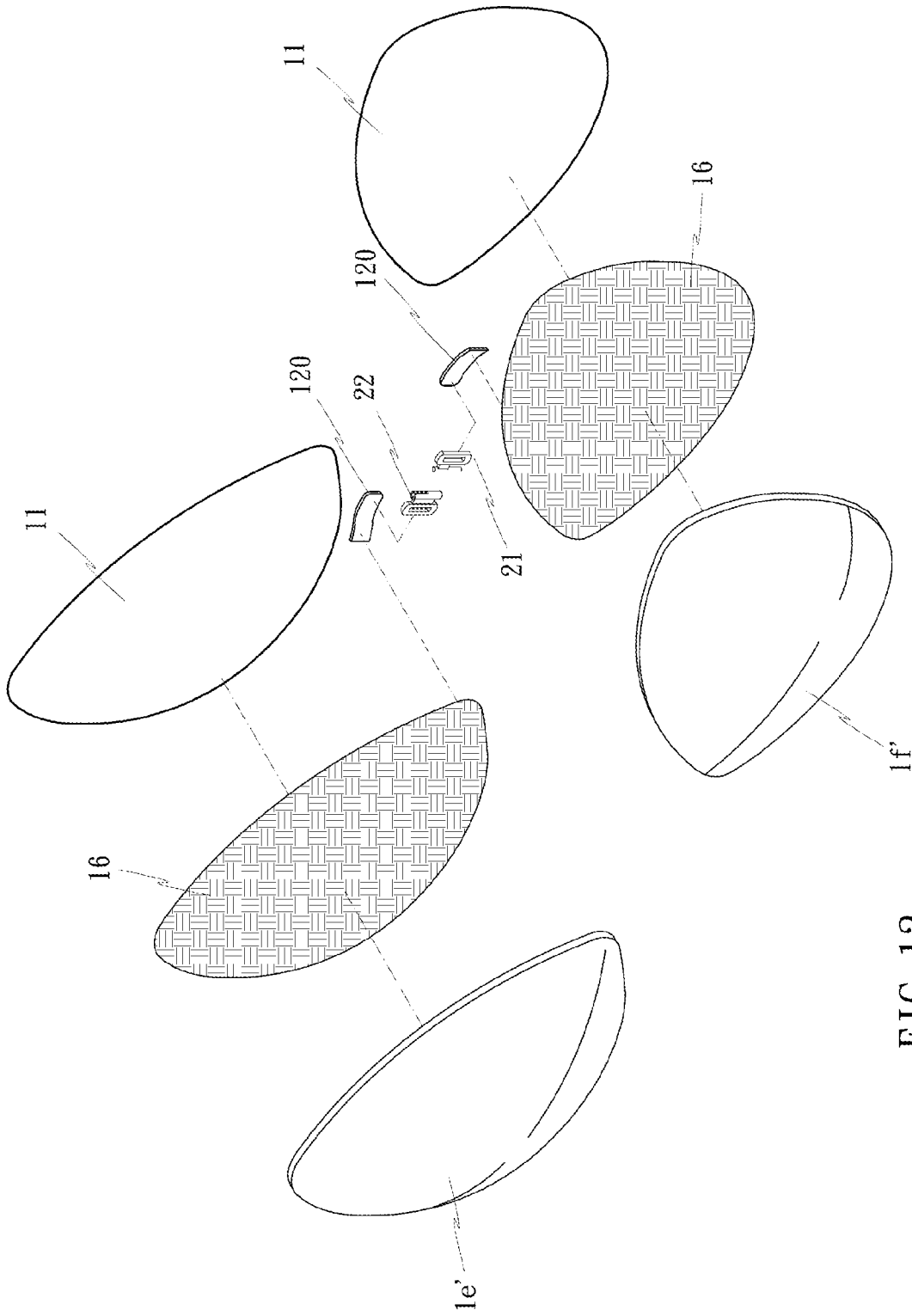


FIG. 12

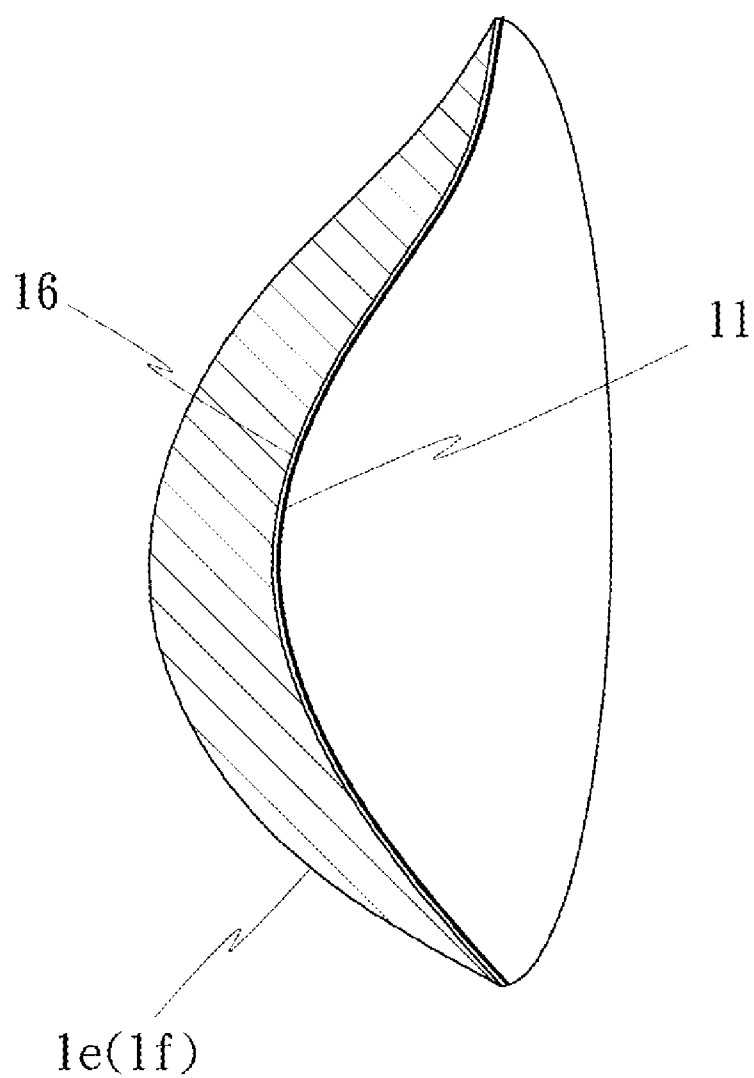


FIG. 13

SILICONE GEL BRA

BACKGROUND OF THE INVENTION

[0001] (a) Field of the Invention

[0002] The present invention relates to a silicone gel bra, and more particularly to a bra that is ventilative, light and comfortable, without worrying about detachment.

[0003] (b) Description of the Prior Art

[0004] Conventional bras include fabric bras and hidden bras which use a thermoplastic film material to encase a volume of silicone gel. As disclosed in U.S. Pat. No. 6,758,720 (filing No. 10/159,251), an attachable breast form enhancement system comprises:

[0005] a pair of breast forms, each breast form comprising a volume of silicone gel encased between thermoplastic film material;

[0006] an interior surface, the interior surface facing towards a user's breast, wherein substantially the entire interior surface from edge to edge comprises a pressure sensitive adhesive layer disposed thereon for adjoining the breast form to the user's breast;

[0007] an outer side facing towards the user's armpit, and an inner side facing opposite the outer side, wherein the breast form is secured to the user's breast solely by the pressure sensitive adhesive layer; and

[0008] a connector adapted to adjoin the breast forms, wherein the connector is positioned between the inner sides of each of the breast forms.

[0009] U.S. Pat. No. 6,758,720 uses the thermoplastic film material to encase the silicone gel. Because the film and the silicone gel are different materials, they may be detached from each other after a period of time and can't be used anymore. The technique by using the thermoplastic film to encase the silicone gel is not perfect.

[0010] Besides, the breast forms having the silicone gel encased between thermoplastic film material cannot provide a ventilation effect. The entire surface of the breast form is not ventilative, which is not beneficial to the breast. The silicone gel is heavy to influence the effect of the bra cups attached to the breast. If the user skips quickly or jumps up and down, the bra may be displaced or detached. Accordingly, the inventor of the present invention has devoted himself based on his many years of practical experiences to solve these problems.

SUMMARY OF THE INVENTION

[0011] The primary object of the present invention is to provide a silicone gel bra which comprises two silicone gel bra cups and a connector. The silicone gel bra cups are formed with a volume of silicone gel shaped in a mold. Each silicone gel bra cup has an inside surface. A portion of the inside surface or the entire inside surface is coated with a reusable adhesive layer. The two silicone gel bra cups are connected by the connector to constitute the silicone gel bra. The silicone gel bra cups are made of a single material, not using the thermoplastic film as the encasing material for the silicone gel. This simplifies the manufacture procedures and has a quick forming effect, without worrying about detachment caused by different materials.

[0012] Preferably, the silicone gel bra cups each have an extension portion. The extension portion is inserted through a loop of the connector, and then folded reversely to be adhered to the relative bra cup. The silicone gel bra cups and the connector are connected quickly and stably.

[0013] Preferably, the left and right silicone gel bra cups furthermore have a plurality of air apertures. The air apertures can be evenly arranged on the entire silicone gel bra cups, providing a ventilation function for the breast.

[0014] Preferably, before the silicone gel bra cups are formed, the silicone gel material of the left and right silicone gel bra cups can be mixed with a forming agent to form a silicone gel form material with air bubbles to constitute the left and right silicone gel bra cups to lower the specific gravity of the silicone gel and to lighten the bra cups. Accordingly, the bra is light for the user to wear comfortably. The bra cups can be attached to the breast stably. When the user skips quickly or jumps up and down, the bra won't be displaced or detached.

[0015] Preferably, the left and right silicone gel bra cups are formed by the silicone gel or the silicone gel form material directly shaped in the mold. The outer surfaces of the silicone gel bra cups can be embossed with a design of flowers or have a pattern thereon to enhance the whole appearance.

[0016] Preferably, before forming the silicone gel bra cups, a film is placed at the inside surface of each of the silicone gel bra cups to be formed in the mold. After formed, the film is integrally formed with the inside surface of each of the silicone gel bra cups. A portion of the film or the entire film is coated with the reusable adhesive layer.

[0017] Preferably, the film is made of a thermoplastic material. The film and the silicone gel bra cups are integrally formed by pressurizing and heating. After formed, the film is integrally formed with the inside surface of each of the silicone gel bra cups. The silicone gel bra cups 1c, 1d have a predetermined curved shape.

[0018] Preferably, before forming the silicone gel bra cups, an elastic fiber fabric is placed at the inside surface of each of the silicone gel bra cups to be formed in the mold. After formed, the elastic fiber fabric is integrally formed with the inside surface of each of the silicone gel bra cups. A portion of the elastic fiber fabric or the entire elastic fiber fabric is coated with the reusable adhesive layer.

[0019] Preferably, the inner sides of the silicone gel bra cups are connected with the extension portions made of a thermoplastic film material or an elastic fiber fabric by high frequency heating, ultrasonic waves or hot-pressing. The extension portions have a certain thickness and a better strength to be connected to the connecting members, such that the extension portions have a better tensile strength.

[0020] Preferably, the inside surface of each silicone gel bra cup can be coated or sprayed with a treating agent to form a surface film on the inside surface of each silicone gel bra cup. A portion of the surface film or the entire surface film is coated with the reusable adhesive layer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. 1 is an exploded view of the present invention;

[0022] FIG. 2 is a perspective view of the present invention;

[0023] FIG. 3 is a sectional view of the present invention;

[0024] FIG. 4 is a schematic view of the present invention when in use;

[0025] FIG. 5 is a schematic view showing the bra cups having air apertures according to an embodiment of the present invention;

[0026] FIG. 6 is a schematic view showing the bra cups having air apertures according to another embodiment of the present invention;

[0027] FIG. 7 is a sectional view showing the bra cup made of the silicone gel form material of the present invention;

[0028] FIG. 8 is a schematic view showing that the outer surfaces of the bra cups have a foggy pattern;

[0029] FIG. 9 is a schematic view showing that the outer surfaces of the silicone gel bra cups are bright surfaces;

[0030] FIG. 10 is an exploded view according to another embodiment of the present invention before formed;

[0031] FIG. 11 is a sectional view of the silicone gel bra cup of FIG. 10;

[0032] FIG. 12 is an exploded view according to a further embodiment of the present invention before formed; and

[0033] FIG. 13 is a sectional view of the silicone gel bra cup of FIG. 12.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0034] Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings.

[0035] As shown in FIG. 1 through FIG. 3, the silicone gel bra of the present invention comprises two silicone gel bra cups 1a, 1b and a connector 2.

[0036] The silicone gel bra cups 1a, 1b are formed with a volume of silicone gel shaped in a mold. Each silicone gel bra cup has an inside surface. A portion of the inside surface or the entire inside surface is coated with a reusable adhesive layer 11.

[0037] The connector 2 can be a detachable connecting member (as shown in the embodiment) or a single connecting member (not shown in the drawings). As shown in the drawings, the detachable connector comprises two separate connecting members 21, 22 which are respectively coupled to relative inner sides of the silicone gel bra cups 1a, 1b to engage with each other as shown in FIG. 2. Furthermore, the two separate connecting members 21, 22 can be adjusted for a desired tightness.

[0038] The aforesaid silicone gel cups 1a, 1b are made of a single material, not using the thermoplastic film as the encasing material for the silicone gel. This simplifies the manufacture procedures and has a quick forming effect, without worrying about detachment caused by different materials. As shown in FIG. 4, the present invention can enhance the user's breast.

[0039] As shown in the drawings of the embodiment, the silicone gel bra cups 1a, 1b each have an extension portion 12, as shown in FIG. 1. The extension portion 12 is inserted through a loop of the connecting member (namely, the loops 211, 221 of the connecting members 21, 22 as shown in the drawings) and then reversely folded to be adhered to the relative bra cup (as shown in FIG. 2). In this way, the silicone gel bra cups 1a, 1b and the connector 2 are connected quickly and stably.

[0040] FIG. 5 and FIG. 6 show another embodiment. The left and right silicone gel bra cups 1a, 1b of the present invention furthermore have a plurality of air apertures 13. After the silicone gel bra cup is coated with the adhesive layer, the silicone gel bra cup is punched. As shown in FIG. 5, the air apertures 13 are arranged about the central portion of the bra cup. As shown in FIG. 6, the air apertures 13 can be evenly arranged on the entire silicone gel bra cups 1a, 1b, providing a ventilation function for the breast.

[0041] FIG. 7 shows a further embodiment. Before the silicone gel bra cups are formed, the silicone gel material of the left and right silicone gel bra cups 1a, 1b of the present invention can be mixed with a forming agent to form a sili-

cone gel form material 14 with air bubbles to constitute the left and right silicone gel bra cups 1a, 1b to lower the specific gravity of the silicone gel and to lighten the bra cups. Accordingly, the bra is light for the user to wear comfortably. The bra cups can be attached to the breast stably. When the user skips quickly or jumps up and down, the bra won't be displaced or detached.

[0042] The left and right silicone gel bra cups 1a, 1b of the present invention are formed with the silicone gel or the silicone gel form material directly shaped in the mold. The outer surfaces of the silicone gel bra cups 1a, 1b can be embossed with a design of flowers or have a pattern thereon to enhance the whole appearance. As shown in FIG. 8, the outer surfaces of the silicone gel bra cups 1a, 1b have a foggy pattern. As shown in FIG. 9, the outer surfaces of the silicone gel bra cups 1a, 1b are bright surfaces.

[0043] The silicone gel and the reusable adhesive layer 11 of the present invention use a harmless silicone or adhesive material to ensure the safety of the skin. This is prior art and won't be described hereinafter.

[0044] FIG. 10 and FIG. 11 show another embodiment. Before forming the silicone gel bra cups 1c', 1d', a film 15 is placed at the inside surface of each of the silicone gel bra cups 1c', 1d' to be formed in the mold. After formed, the film 15 is integrally formed with the inside surface of each of the silicone gel bra cups 1c', 1d', as shown in FIG. 10. A portion of the film 15 or the entire film 15 is coated with the reusable adhesive layer 11.

[0045] The film 15 is made of a thermoplastic material or a similar material. FIG. 10 is an exploded view showing the bra cups before formed. The silicone gel bra cups 1c', 1d' have not been formed. In fact, the film 15 and the silicone gel bra cups 1c', 1d' are integrally formed by pressurizing and heating. After formed, the film 15 is integrally formed with the inside surface of each of the silicone gel bra cups 1c', 1d'. As shown in FIG. 11, the silicone gel bra cups 1c, 1d have a predetermined curved shape.

[0046] FIG. 12 and FIG. 13 show a further embodiment. Before forming the silicone gel bra cups 1e', 1f', an elastic fiber fabric 16 is placed at the inside surface of each of the silicone gel bra cups 1e', 1f' to be formed in the mold. After formed, the elastic fiber fabric 16 is integrally formed with the inside surface of each of the silicone gel bra cups 1e', 1f', as shown in FIG. 13. A portion of the elastic fiber fabric 16 or the entire elastic fiber fabric 16 is coated with the reusable adhesive layer 11.

[0047] FIG. 12 is an exploded view showing the bra cups before formed. The silicone gel bra cups 1e', 1f' have not been formed. In fact, the elastic fiber fabric 16 and the silicone gel bra cups 1e', 1f' are integrally formed by pressurizing and heating. After formed, the elastic fiber fabric 16 is integrally formed with the inside surface of each of the silicone gel bra cups 1e', 1f'. As shown in FIG. 13, the silicone gel bra cups 1e, 1f have a predetermined curved shape.

[0048] The inside surface of each silicone gel bra cup of the present invention can be coated or sprayed with a treating agent to form a surface film on the inside surface of each silicone gel bra cup (not shown in the drawing). A portion of the surface film 16 or the entire surface film is coated with the reusable adhesive layer 11. The surface film functions as the thermoplastic film 15 or the elastic fiber fabric 16.

[0049] As shown in FIG. 10 and FIG. 12, the inner sides of the silicone gel bra cups 1c, 1d or 1e, 1f are connected with the extension portions 20 made of a thermoplastic film material,

elastic fiber fabric or the like by high frequency heating, ultrasonic waves or hot-pressing. The extension portions **20** have a certain thickness and a better strength to be connected to the connecting members **21**, **22**, such that the extension portions **120** have a better tensile strength.

[0050] The silicone gel bra cups as shown in FIG. **10** to FIG. **14** can have a plurality of air apertures for ventilation. The silicone gel material of the silicone gel bra cups can be mixed with a forming agent to form a silicone gel form material to lower the specific gravity of the silicone gel and to lighten the bra cups. The outer surfaces of the silicone gel bra cups can be embossed with a design of flowers or have a pattern thereon.

[0051] Although particular embodiments of the present invention have been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the present invention. Accordingly, the present invention is not to be limited except as by the appended claims.

What is claimed is:

1. A silicone gel bra, comprising two symmetric silicone gel bra cups and a connector,

the silicone gel bra cups being formed with a volume of silicone gel shaped in a mold, the silicone gel bra cups each having an inside surface, a portion of the inside surface or the entire inside surface being coated with a reusable adhesive layer;

the connector being coupled to relative inner sides of the silicone gel bra cups to engage with each other; thereby, the connector being adapted to connect the two silicone gel bra cups.

2. The silicone gel bra as claimed in claim **1**, wherein the connector comprises two separate connecting members which are respectively coupled to the relative inner sides of the silicone gel bra cups.

3. The silicone gel bra as claimed in claim **1**, wherein the silicone gel bra cups each have an extension portion, the extension portion being inserted through a loop of the connector and reversely folded to be adhered to the relative bra cup.

4. The silicone gel bra as claimed in claim **1**, wherein the silicone gel bra cups have a plurality of air apertures thereon.

5. The silicone gel bra as claimed in claim **1**, wherein before forming, the silicone gel of the silicone gel bra cups is

mixed with a forming agent to form a silicone gel form material with air bubbles to constitute the silicone gel bra cups.

6. The silicone gel bra as claimed in claim **1**, wherein outer surfaces of the silicone gel bra cups are embossed with a design of flowers or have a pattern thereon.

7. The silicone gel bra as claimed in claim **1**, wherein outer surfaces of the silicone gel bra cups have a foggy pattern.

8. The silicone gel bra as claimed in claim **1**, wherein outer surfaces of the silicone gel bra cups are bright surfaces.

9. The silicone gel bra as claimed in claim **1**, wherein before forming the silicone gel bra cups, a film is placed at the inside surface of each of the silicone gel bra cups to be formed in the mold, after formed, the film being integrally formed with the inside surface of each of the silicone gel bra cups, a portion of the film or the entire film being coated with the reusable adhesive layer.

10. The silicone gel bra as claimed in claim **9**, wherein the film is made of a thermoplastic material.

11. The silicone gel bra as claimed in claim **1**, before forming the silicone gel bra cups, an elastic fiber fabric is placed at the inside surface of each of the silicone gel bra cups to be formed in the mold, after formed, the elastic fiber fabric being integrally formed with the inside surface of each of the silicone gel bra cups, a portion of the elastic fiber fabric or the entire elastic fiber fabric is coated with the reusable adhesive layer.

12. The silicone gel bra as claimed in claim **1**, wherein after the silicone gel bra cups are formed, the inside surface of each of the silicone gel bra cups is coated or sprayed with a treating agent to form a surface film on the inside surface of each of the silicone gel bra cups, a portion of the surface film or the entire surface film is coated with the reusable adhesive layer.

13. The silicone gel bra as claimed in claim **9**, wherein the inner side of each of the silicone gel bra cups is connected with an extension portion by high frequency heating, ultrasonic waves or hot-pressing.

14. The silicone gel bra as claimed in claim **13**, wherein the extension portion is made of a thermoplastic film material.

15. The silicone gel bra as claimed in claim **13**, wherein the extension portion is made of an elastic fiber fabric.

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