

41-
8d-

1.163,166



PATENT SPECIFICATION

DRAWINGS ATTACHED

1.163,166

Date of Application (No. 51681/67) and filing Complete Specification: 14 Nov., 1967.

Application made in Australia (No. 14177) on 21 Nov., 1966.

Complete Specification Published: 4 Sept., 1969.

Index at acceptance:—A3 V(1B2A, 3A, 7A1)

International Classification:—A 41 c 3/00

COMPLETE SPECIFICATION

An Improved Brassiere

5 We, BERLEY LIMITED, a Company incorporated in the State of New South Wales, of 39—47 Regent Street, Sydney, New South Wales, Commonwealth of Australia, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to brassieres.

15 To make a brassiere with the lower edge of the front portion relatively close to the bottom of the breast cups and the centre top of the back portion substantially below the shoulder blades when worn, the normal tube or ring structure of a brassiere has to be varied. The structure required may be characterised as a tube sliced at an acute angle.

20 Such a structure formed of the normal materials used in brassiere manufacture, such as woven or knitted fabrics, would not maintain its position on the body during natural body movement. To keep such a brassiere in place designers have introduced stiffening members of metal or plastics materials. These often cause discomfort and tend to constrain some body movements.

25 Most brassieres have elastic material in the body encircling portion to help keep the brassiere in place and give comfort in wear. When the back portion of the brassiere is angled substantially downwards on the back of the wearer's body, greater reliance has been placed on the contracting pull of elastic to keep the back portion in place. Under these conditions with the circumference of the body decreasing towards the waist there is a tendency for the pressure of the back portion against the body to be greater towards the top edge and less towards the bottom edge of the back portion. Adherence to the body is therefore reduced. Moreover once the back portion starts to move upwards and the downward angle at the back is reduced, the tension of the elastic correspondingly decreases and so reduces adherence

to the body. This makes further upward movements easier until the downward angle is eliminated, the elastic is fully contracted and there is no tension keeping the back portion in place. The back is then higher on the body than required and the brassiere is loose on the body and performs no useful function.

The main object of the present invention is to provide a brassiere in which the aforesaid disadvantages are minimized or eliminated.

According to the present invention, there is provided a brassiere including two breast cup portions secured to the upper margin of an elastic front panel, two side panels secured along respective outer edges of said cup portions and said front panel and two back panels secured along respective outer edges of said side panels, said panels all being formed from elastic two-way stretch material having greater electricity in one direction than in the direction at right angles thereto and the greater elasticity in each of said back panels being in a direction parallel to the upper edge thereof, each of said back panels being substantially triangular in form, the base of the triangle forming the upper edge of the back panel, and having one of its side edges secured to the outer edge of the adjacent side panel, each back panel being so disposed that perpendiculars drawn downwards from said base are directed angularly inwards towards said outer edge of said adjacent side panel, or towards a downward extension of said outer edge.

Terms such as "upper", "lower", "side", "front" and "rear" refer to the position of the portions referred to when the brassiere is in position on a standing figure.

It is also to be appreciated that, as known in the art, "two-way" stretch material is a woven or knitted material having elasticity in two directions at right angles to each other. Elasticity, or "stretch", in the present instance, is greater in one direction than in the other, and it will be clear that for the same amount of extension the greater the stretch, the less the

[Price 4s. 6d.]

applied tension, and the less the stretch, the greater the applied tension.

Having the above in mind, the invention will now be described, in a preferred form thereof, with reference to the accompanying drawings of which:—

Figure 1 is a diagrammatic view of a brassiere incorporating the features of the invention, and

Figure 2 is a portion of Figure 1 enlarged to show features thereof in greater detail.

The brassiere 1 consists essentially of a front panel 2, which may conveniently consist of two half panels 2a and 2b joined together at their vertical edges 3.

Above the upper edge 4 of the front panel 2, which is suitably recessed or scalloped, two lower breast cup sections 5 of suitable non-stretch material are secured in the known manner and as shown in Figure 1. The lower cup sections 5 are secured to upper non-stretch cup sections 6, also in the known manner.

To each outer edge of the front panel 2 and the upper cup section 6 and lower cup section 5 is secured a two-way stretch side panel 7 which extends for the full height of the panel 2 and cup sections 5 and 6. The side panels 7 are generally triangular in form, with the base 8 of each extending slightly angularly downwards from the lower edge of the front panel 2. The substantially vertical inner edges of the side panels 7 are preferably slightly and oppositely sinuous in shape to form an arcuate recess 9 where they are secured to the cup sections 5 and 6.

At their upper ends, the panels 7 are provided with securing means 9a for shoulder straps 10. These means 9a may, as is normal, take the form of plastics hooks to allow the straps to be detached and replaced.

Back panels 11 are secured to the lower portion of the outer edges of the side panels 7 and are of substantially triangular form, the bases of the triangles forming the upper edges 12 of the back panels and being perfectly linear.

One edge 13 of each back panel 11 is secured to the lower part of the outer edge of a side panel 7 and extends upwardly from its lower edge 8 to approximately half the vertical height of the side panel. Another edge 14 of each back panel 11 forms a continuation of the lower edge 8 of the side panel 7 to which the back panel 11 is secured and extends outwardly and angularly downwardly from the edge 8.

The junction between the edges 12 and 14 of each panel 11 may be truncated and provided with hook and eye or other suitable fastening means 15 and 15a in the known manner. Adjacent the fastening means 15a, on the edge 14 may, if desired, be secured an elastic strap and hook 16 for securing the back panels 11 to a girdle or other article of clothing. Because of the nature of the invention, however, the

means 16 are not essential.

To the upper edge of each back panel a device 17, for securing the shoulder straps 10 is secured, each shoulder strap having an adjuster 18 interposed therein in the known manner. If desired one shoulder strap 10 may be dispensed with and the opposite ends of the other strap 10 be inserted in the hooks 9a to form a halter-type strap 10a as shown in the dotted lines 10a in Figure 1.

Furthermore, the fastening means 15, 15a may be dispensed with and those ends of the back panels 11 be secured together to form a "step-in" type of brassiere.

As stated hereabove, the material forming the panels 2, 7 and 11 is a two-way stretch material having a greater stretch (lower tension) in the direction of the solid line arrows 19 (see Figure 2) and a lesser stretch (greater tension) in the direction of the dash line arrows 20.

The front panel 2 is cut from this material so that the line 19 of greatest stretch lies substantially parallel with the lower edge of the panel and the line 20 of lesser stretch lies vertically of that panel.

In the side panels the greatest stretch 19 is substantially transversely thereof and the lesser stretch substantially vertically thereof.

In the back panels 11, the line of greatest stretch 19 is parallel with the upper edges 12 of the panels and the line 20 of lesser stretch, being at right angles thereto, meets the lower edge 14 diagonally.

Thus, when the brassiere is being worn, and the lower edges 8 and 14 surround a plane which is sloped downward towards the wearer's waist at the rear, the horizontal line of stretch 19 in the front panels will hold the front snugly into the front of the body, whilst in the back panels 11 the upper edges 12 will be comparatively slack and under less tension in comparison with the lower edges 14, which will embrace the back of the wearer with an increased tension intermediate that of the combined lines 19 and 20.

By this means the greatest tension is on the lower edge of the back panels and thus the tendency for the back to rise and lose its tension is substantially eliminated, particularly as this zone of greater tension is below the back muscles normally fixed and contracted by arm flexed movements.

It will, of course, be appreciated that the above description relates only to the basic structure of the brassiere and that its peripheral edges may be suitably and elastically hemmed or rolled and provided with such decorative trimmings as may be desired.

WHAT WE CLAIM IS:—

1. A brassiere including two breast cup portions secured to the upper margin of an elastic front panel, two side panels secured along respective outer edges of said cup portions and said front panel and two back panels secured

applied tension, and the less the stretch, the greater the applied tension.

Having the above in mind, the invention will now be described, in a preferred form thereof, with reference to the accompanying drawings of which:—

Figure 1 is a diagrammatic view of a brassiere incorporating the features of the invention, and

Figure 2 is a portion of Figure 1 enlarged to show features thereof in greater detail.

The brassiere 1 consists essentially of a front panel 2, which may conveniently consist of two half panels 2a and 2b joined together at their vertical edges 3.

Above the upper edge 4 of the front panel 2, which is suitably recessed or scalloped, two lower breast cup sections 5 of suitable non-stretch material are secured in the known manner and as shown in Figure 1. The lower cup sections 5 are secured to upper non-stretch cup sections 6, also in the known manner.

To each outer edge of the front panel 2 and the upper cup section 6 and lower cup section 5 is secured a two-way stretch side panel 7 which extends for the full height of the panel 2 and cup sections 5 and 6. The side panels 7 are generally triangular in form, with the base 8 of each extending slightly angularly downwards from the lower edge of the front panel 2. The substantially vertical inner edges of the side panels 7 are preferably slightly and oppositely sinuous in shape to form an arcuate recess 9 where they are secured to the cup sections 5 and 6.

At their upper ends, the panels 7 are provided with securing means 9a for shoulder straps 10. These means 9a may, as is normal, take the form of plastics hooks to allow the straps to be detached and replaced.

Back panels 11 are secured to the lower portion of the outer edges of the side panels 7 and are of substantially triangular form, the bases of the triangles forming the upper edges 12 of the back panels and being perfectly linear.

One edge 13 of each back panel 11 is secured to the lower part of the outer edge of a side panel 7 and extends upwardly from its lower edge 8 to approximately half the vertical height of the side panel. Another edge 14 of each back panel 11 forms a continuation of the lower edge 8 of the side panel 7 to which the back panel 11 is secured and extends outwardly and angularly downwardly from the edge 8.

The junction between the edges 12 and 14 of each panel 11 may be truncated and provided with hook and eye or other suitable fastening means 15 and 15a in the known manner. Adjacent the fastening means 15a, on the edge 14 may, if desired, be secured an elastic strap and hook 16 for securing the back panels 11 to a girdle or other article of clothing. Because of the nature of the invention, however, the

means 16 are not essential.

To the upper edge of each back panel a device 17, for securing the shoulder straps 10 is secured, each shoulder strap having an adjuster 18 interposed therein in the known manner. If desired one shoulder strap 10 may be dispensed with and the opposite ends of the other strap 10 be inserted in the hooks 9a to form a halter-type strap 10a as shown in the dotted lines 10a in Figure 1.

Furthermore, the fastening means 15, 15a may be dispensed with and those ends of the back panels 11 be secured together to form a "step-in" type of brassiere.

As stated hereabove, the material forming the panels 2, 7 and 11 is a two-way stretch material having a greater stretch (lower tension) in the direction of the solid line arrows 19 (see Figure 2) and a lesser stretch (greater tension) in the direction of the dash line arrows 20.

The front panel 2 is cut from this material so that the line 19 of greatest stretch lies substantially parallel with the lower edge of the panel and the line 20 of lesser stretch lies vertically of that panel.

In the side panels the greatest stretch 19 is substantially transversely thereof and the lesser stretch substantially vertically thereof.

In the back panels 11, the line of greatest stretch 19 is parallel with the upper edges 12 of the panels and the line 20 of lesser stretch, being at right angles thereto, meets the lower edge 14 diagonally.

Thus, when the brassiere is being worn, and the lower edges 8 and 14 surround a plane which is sloped downward towards the wearer's waist at the rear, the horizontal line of stretch 19 in the front panels will hold the front snugly into the front of the body, whilst in the back panels 11 the upper edges 12 will be comparatively slack and under less tension in comparison with the lower edges 14, which will embrace the back of the wearer with an increased tension intermediate that of the combined lines 19 and 20.

By this means the greatest tension is on the lower edge of the back panels and thus the tendency for the back to rise and lose its tension is substantially eliminated, particularly as this zone of greater tension is below the back muscles normally fixed and contracted by arm movements.

It will, of course, be appreciated that the above description relates only to the basic structure of the brassiere and that its peripheral edges may be suitably and elastically hemmed or rolled and provided with such decorative trimmings as may be desired.

WHAT WE CLAIM IS:—

1. A brassiere including two breast cup portions secured to the upper margin of an elastic front panel, two side panels secured along respective outer edges of said cup portions and said front panel and two back panels secured



along respective outer edges of said side panels, said panels all being formed from elastic two-way stretch material having greater elasticity in one direction than in the direction at right angles thereto and the greater elasticity in each of said back panels being in a direction parallel to the upper edge thereof, each of said back panels being substantially triangular in form, the base of the triangle forming the upper edge of the back panel, and having one of its side edges secured to the outer edge of the adjacent side panel, each back panel being so disposed that perpendiculars drawn downwardly from said base are directed angularly inwards towards said outer edge of said adjacent side panel, or towards a downward extension of said outer edge.

2. A brassiere according to claim 1, wherein the lower edge of said front panel lies substantially horizontal and the direction of greater elasticity of the front panel lies parallel with said lower edge.

3. A brassiere according to claim 1 or 2, wherein the lower edges of said side panels extend angularly downwardly outwards from the lower edge of said front panel and the direction of greater elasticity of said side panels lies angularly upwardly and outwardly of the direction of greater elasticity of said front panel.

4. A brassiere according to claim 3, wherein the lower edges of said back panels extend angularly downwardly from the lower edges of said side panels.

5. A brassiere according to any preceding claim, wherein said front panel is formed from two conjoined symmetrical half panels joined

together at the vertical centre of said front panel.

6. A brassiere according to any preceding claim, including securing means adjacent the upper edge of each breast cup portion for removably securing a halter-type supporting strap thereto.

7. A brassiere according to claim 6, further including additional means at the upper edge of each said back panel for detachably securing one end of a shoulder strap thereto, the other end of the shoulder strap being detachably secured to the first mentioned securing means which is adjacent the upper edge of the breast cup portion nearer to the back panel.

8. A brassiere according to any preceding claim, wherein the ends of said back panels remote from said side panels are truncated.

9. A brassiere according to claim 8, wherein said truncated ends are provided with detachable connecting means.

10. A brassiere according to claim 8, wherein said truncated ends are secured together as by stitching.

11. A brassiere according to any preceding claim, wherein the lower edge of one of said back panels has means thereon for detachable securement to a girdle or other nether garment.

12. A brassiere substantially as herein described with reference to Figures 1 and 2 of the accompanying drawings.

HASELTINE, LAKE AND CO.,

Chartered Patent Agents,
28, Southampton Buildings,
Chancery Lane,
London, W.C.2.

Agents for the Applicants.

Printed for Her Majesty's Stationery Office by the Courier Press, Leamington Spa, 1969.
Published by the Patent Office, 25 Southampton Buildings, London, W.C.2, from which copies may be obtained.

I CERTIFY THIS, INCLUDING THE DRAWING FORMING PART HEREOF, TO BE A TRUE COPY OF THE SPECIFICATION AS ACCEPTED.

ACTING FOR COMPTROLLER,
THE PATENT OFFICE,
25 Southampton Buildings, London, W.C.2.



* C L M S *