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M. C. FRIDOLPH

2,695,409

BRASSIERE

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2 Sheets-Sheet 1

FIG.1.

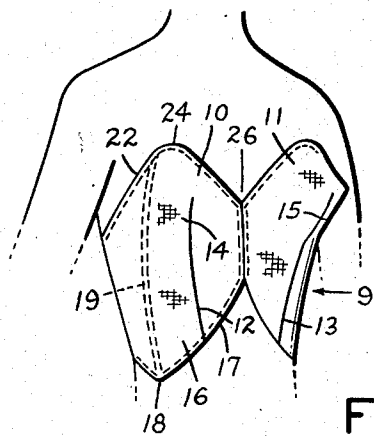


FIG.2.

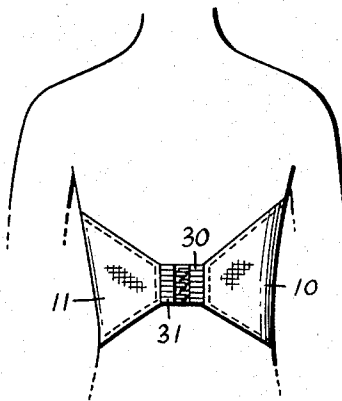


FIG.3.

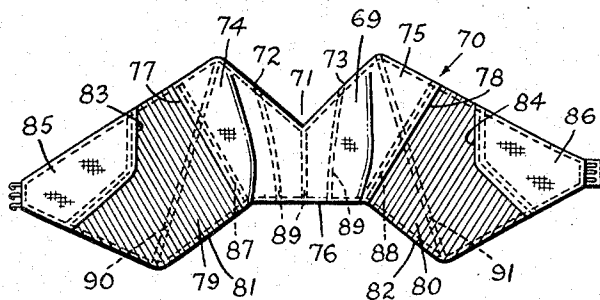
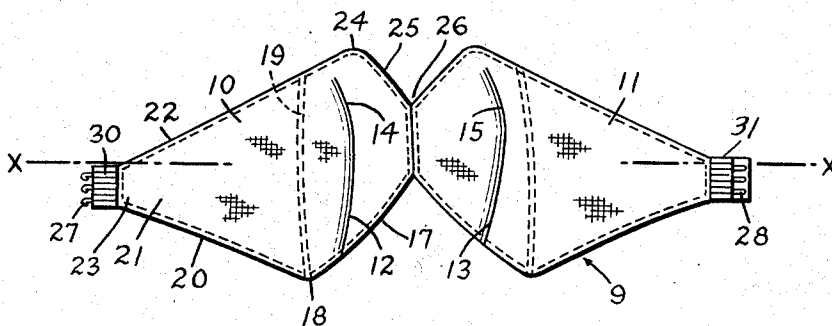


FIG.8.

INVENTOR.
MAUDE C. FRIDOLPH
BY
Campbell, Bramley, Freed & Davis
HER ATTORNEYS.

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M. C. FRIDOLPH

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FIG. 4.

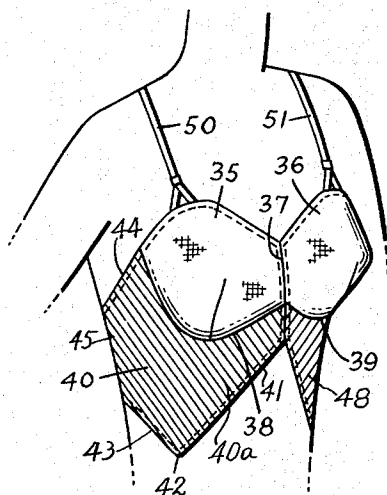


FIG. 6.

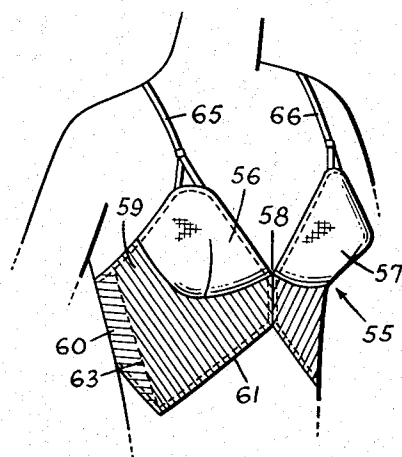


FIG. 5.

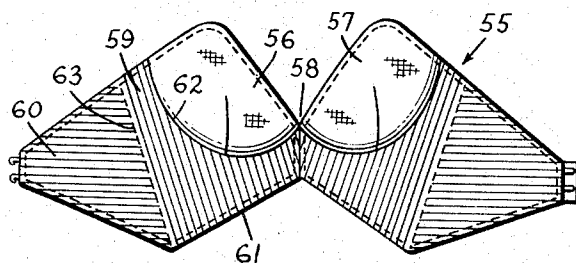
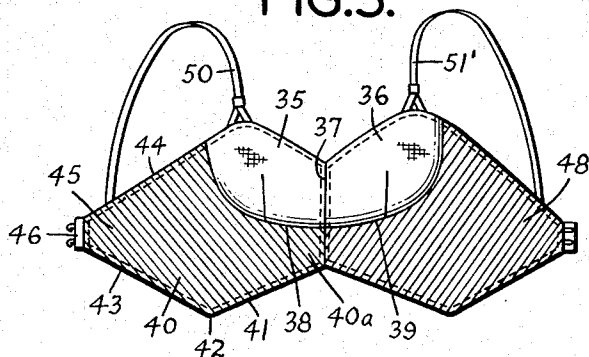


FIG. 7.

INVENTOR.
MAUDE C. FRIDOLPH
BY
Campbell, Brundage, Free, Gould
HER ATTORNEYS.

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BRASSIÈRE

Maude C. Fridolph, Laguna Beach, Calif.

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5 Claims. (Cl. 2—42)

This invention relates to improvements in brassières, and it relates particularly to a brassière which fits snugly and smoothly around the body with a minimum of shifting relative to the body and without uncomfortable constriction of the body.

Many of the presently available brassières are designed to support the bust principally through the medium of straps passing over the shoulders of the wearer or by boning or wiring. When reliance is had upon shoulder straps for support, these prior brassières have a tendency to sag in front while the side bands of the brassière, which are connected together behind the body, tend to shift upwardly so that the lower edge of the brassière tends to constrict the body and become uncomfortable.

Attempts have been made by others to overcome the tendency of the brassière to shift and constrict the body, but without marked success.

The present invention relates to a brassière which is constructed and arranged to provide a proper distribution of the forces thereon so that the brassière will remain in place and will not constrict the body uncomfortably or interfere with breathing.

More particularly, a brassière according to the present invention is constructed and arranged to produce a balancing of the forces exerted thereon through a triangulation of such forces whereby a force tending to cause the side bands of the brassière to shift relative to the body is opposed by a substantially equal force resisting such a shifting movement. Primarily, my new brassière comprises opposed, generally triangular portions below and above the horizontal center line of the brassière which are related to the conformation of the body, especially with respect to the relation of the bust to the rib cage, so that each triangular section is firmly supported by the body and resists relative shifting movement of the triangular sections opposed to it. Consequently, undesirable constriction of the body and sagging of the brassière is effectively prevented.

For a better understanding of the present invention, reference may be had to the accompanying drawings, in which:

Fig. 1 illustrates a brassière embodying the present invention, looking toward the front of the brassière, as worn;

Fig. 2 is a view showing the back of the brassière, as worn;

Fig. 3 is a front view of the brassière laid out flat to disclose details thereof;

Fig. 4 is a perspective view of a modified form of brassière, as worn;

Fig. 5 is a front view of the brassière laid out flat, to disclose details thereof;

Fig. 6 is a perspective view of still another form of brassière embodying the invention, looking toward the front of the brassière, as worn;

Fig. 7 is a front view of the brassière shown in Fig. 6 laid out flat to disclose details thereof; and

Fig. 8 is a front view of still another form of brassière embodying the present invention also shown laid out flat to disclose its details.

The form of the brassière disclosed in Figs. 1 to 3, inclusive, of the drawings is formed of suitable, inherently non-elastic textile fabric. The brassière 9 is formed of two pieces of fabric 10 and 11, which are essentially mirror images. The material forming each side 10 and 11 of the brassière can be cut out as flat pieces having darts therein, the edges of which are stitched together

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along a seam 12 or 13 to shape the inner adjacent end portions of the sections 10 and 11 into bust-receiving cup sections 14 and 15. The fabric, of course, has some degree of bias stretch which is normal to all fabrics.

The configuration of the sections 10 and 11 of the brassière is most important in assuring proper fit and retention of the brassière against sliding on the body. As best shown in Fig. 1, the section 10 has a front portion 16 below the cup section 14 which has a downwardly and outwardly inclined lower edge 17. The edge 17 may be convexly curved to conform closely to the rib cage of the body when the brassière is worn, or it can be straight, if desired. The edge 17 extends downwardly to a point 18 which is substantially in vertical alignment with the outer edge of the cup section 14 which, in Fig. 3, is indicated generally by the dotted lines 19. From the point 18, the outer end of the piece 10 which forms the side band 21 has a lower edge 20 which extends upwardly relative to the edge 17. The upper edge 22 of the section 10 is inclined upwardly from its outer end 23 to a point 24 which is substantially in vertical alignment with the center of the cup section 14, as best shown in Fig. 3. From the point 24, the edge 25 of the cup section 14 may extend downwardly at a sharp angle to the edge 22 to form a V 26 between the cup sections 14 and 15. The contour of the edge 25 may, of course, be modified for ornamental or other purposes.

The brassière section 11 is similarly formed and the opposite outer ends of the sections 10 and 11 are provided with suitable detachable fastening elements 27 and 28, such as hooks and eyes, by means of which the side bands may be secured at the back of the body. As shown in Fig. 2, the fasteners 27 and 28 may be mounted on an elastic band 30 and 31 so that the brassière may be more easily and comfortably fitted around the body.

The inclinations of the several edges of the brassière sections 10 and 11 are such that a line X—X in Fig. 3, passing through the ends of the side bands, will lie about in alignment with or slightly below the lower edges of the cup sections. The line X—X corresponds approximately to the lower cup edge of a conventional brassière. The above-mentioned line X—X divides each brassière section 10 or 11 into upper and lower portions of generally triangular shape. The lower two sides of the lower triangular portion, that is, the edges 17 and 20 will fit comfortably around the rib cage when the brassière is worn and, for that reason, the brassière will be held in position by the rib cage. To enable the edge 17 to follow and conform to the rib cage, the point 18 at the lower end of the edge 17 should be located a substantial distance below the lower edges of the cup sections and the line X—X. The position of the point 18 below this line will vary in different sizes of brassières, but generally, it will be between a minimum distance below the aforementioned line of about three inches in the smaller brassière sizes and a maximum of about six inches in the larger sizes.

The triangular portion including the edges 22 and 25 extends upwardly above the bust and likewise conforms generally to the contours of the body. Consequently, the two opposing triangles of each section 10 or 11 each has at least one edge which is relatively firmly positioned and inasmuch as these triangles have a common base, i. e. line X—X, they act to oppose shifting of the brassière and, especially, rising up of the side bands.

It will be understood, of course, that boning or other stiffening means may be provided in the front of the brassière along the dotted line 19 to position the point 18 with respect to the rib cage. Moreover, shoulder straps can be provided, if desired, although in most instances they are not essential to the proper supporting function of this garment, except perhaps in the larger sizes. Even in the larger sizes, the conformation of the brassière relieves the shoulder straps of a major portion of their usual supporting function.

Brassières of the type disclosed in Figs. 1 to 3, which are made of relatively non-stretchable fabric, should be custom-fitted to the individual for best results. However, the brassière may be modified to include appropri-

ately located and constructed elastic insets to give resiliency to the brassière.

One such elastic-containing brassière is disclosed, for example, in Figs. 4 and 5 of the drawings. This form of brassière includes a pair of cup sections 35 and 36 formed of any suitable type of fabric, preferably a non-elastic fabric. The inner edges of the cup sections 35 and 36 are joined by a straight seam 37. The lower and outer edges 38 and 39 of the cup sections 35 and 36 may be arcuate or curved, or a shape most suitable for the under section of bust cup. The upper edges of the cup sections may be curved or angular depending upon the type of garment with which the brassière is to be worn.

Joined to the lower and outer edge 38 of the cup section 35 is a panel 40 of elastic fabric which has essentially the edge configuration described in connection with the form of brassière disclosed in Figs. 1, 2 and 3. Thus, the panel 40 includes a front portion 40a disposed below the lower edge of the cup section and having a downwardly inclined edge 41 terminating at a point 42 in substantial alignment with the outer edge of the cup section 35. The lower edge 43 and the upper edge 44 of the remainder of the panel 40, which define the side band 45, converge outwardly to an outer end portion 46 having a releasable fastening element thereon. The panel 48 attached to the cup section 36 also is formed of elastic and has a shape which is a mirror image of the panel 40. The adjacent inner edges of the panels are joined by a continuation of the seam 37. The type of elastic fabric used in the panels 40 and 48 and the positioning of the panels are of great importance. The elastic material must be such that it is essentially non-stretchable in one direction, while in other directions it is stretchable. The direction of principal stretch of the fabric is illustrated in Figs. 4 and 5 by elongated shading lines. The direction of principal stretch extends substantially perpendicular to the edge 41 of the panel 39 and the corresponding edge of the panel 48. By arranging the elastic fabric in this manner, the edge 41 is essentially non-extensible so that when it engages around the rib cage, it establishes and correctly positions the point at 42 in correct alignment on the body of the wearer. On the other hand, the panels 40 and 48 are stretchable transversely and also in a bias direction so as to accommodate the natural body configuration comfortably. It will also be seen that by arranging stretch in the manner indicated, the forces acting to push up or pull down the connected ends of the side bands are essentially equalized so that the side bands are held in position, thus correcting the tendency, common to other brassières, to creep upwardly in back.

While the brassière is illustrated as being provided with shoulder straps 50 and 51, such shoulder straps are not essential and can be omitted, if desired.

The brassière is susceptible to further modification, as illustrated in Figs. 6 and 7. The configuration of the brassière 55 is essentially the same as that disclosed in Figs. 4 and 5, except the cup sections 56 and 57 are cut deeper at the top center of the brassière to form a deep V 58 between the cup sections.

The front panel and side bands of the brassière below and to the side of the cup sections 56 and 57 are formed of two pieces or panels 59 and 60 of one-way stretch elastic material. As shown in Fig. 7, the panel 59 includes the lower edge 61 of the front section and extends around the bottom and outer edge 62 of the cup section 56 and has an outer inclined edge 63 which is joined to the generally triangular panel 60 to form one side band of the garment. The panel 59 has its direction of principal stretch substantially perpendicular to the edge 61 so that the edge 61 is essentially non-stretchable lengthwise. However, the panel 59 is extensible in a vertical direction and on a bias. The triangular side band panel 60 has its direction of principal stretch lengthwise thereof and is essentially non-stretchable in a direction perpendicular to its length. However, the panel 60 can also stretch on a bias to set up the opposing forces described above which hold the garment against movement relative to the body. The other half of the brassière, including the cup section 57, is essentially a mirror image of the section described above. The brassière shown in Figs. 6 and 7 is also illustrated as including shoulder straps 65 and 66 but,

as described above, these straps may be omitted. If desired, light boning or wiring may be used to hold the cup sections in shape.

The brassière can be modified still further, as shown in Fig. 8 of the drawings. The center portion 69 of the brassière 70 can be formed of a single piece of non-elastic fabric and has a V-shaped notch 71 in its upper edge defined by the downwardly converging upper, inner edges 72 and 73 of the cup sections 74 and 75. The lower edge of the center portion 71 of the brassière may be straight across and the center portion may also have side edges 77 and 78 diverging outwardly from the opposite ends of the lower edge 76. The side edges 77 and 78 are joined to the inner edges of panels 79 and 80 formed of elastic material having its principal direction of stretch perpendicular to the outwardly diverging lower edges 81 and 82 of the panels. This arrangement of the elastic fabric in the panels 79 and 80 makes them essentially non-stretchable in directions parallel with the diverging edges 81 and 82 but stretchable in substantially all other directions.

The outer edges 83 and 84 of the panels 79 and 80 are notched and panels of non-elastic fabric 85 and 86 are stitched thereto to form a continuation of the edges of the panels 79 and 80. As illustrated, the outer edges of the panels 79, 80, 85 and 86 converge toward their outer ends to form the upper and lower opposed triangles which have been referred to above. In this form of brassière, suitable boning or stiffeners 87 and 88 may be provided along the junction line of the center panel 69 and the side panels 79 and 80 and strips of boning or reinforcement 89 may also be provided in the center portion of the center panel 69. Further support may be afforded by providing diagonal boning 90 and 91 extending between the apices of the triangles formed by the upper and lower edges of the garment. Any or all of the boning can be omitted in most instances, if desired.

From the foregoing, it will be apparent that I have provided brassières which have a triangulated arrangement of edges and panelling which, in conjunction with the contours of the human body will set up opposing forces around the center line of the garment which precludes the side bands from creeping up due to movement of the body. The firm positioning of the side bands, in turn, resists slippage of the front of the garment relative to the body and relieves the center line of the garment of the stresses which, in the ordinary brassière, tend to constrict its lower edge (corresponding to the center line of my new brassière) around the body. Due to the distribution of forces in my new brassière, it not only tends to stay in position, but provides a firm support for the bust, does not creep up or constrict the body, uplifts the rib cage, and thereby fulfills the requirements of a completely satisfactory brassière.

It will be understood, the materials used in the brassière are susceptible to considerable modification in the color, pattern or design thereof and that modifications may be made in the trim or ornamentation of the brassière.

Therefore, the forms of the invention described herein should be considered as illustrative and not as limiting the scope of the following claims.

I claim:

1. A brassière comprising a pair of cup sections having inner edges secured together, outer edges and upper and lower edges, front portions below and joined to the lower edges of said cup sections, and having lower edges diverging downwardly and terminating approximately in alignment with the outer edges of said cup sections, and side bands joined to the outer edges of said cup sections and said front portions and having upper and lower edges converging toward their outer ends from about the upper edges of said cup sections and lower ends of said diverging edges, said outer ends of said side bands being approximately in alignment with the lower edges of said cup sections when the brassière is laid out flat said front portions and said side bands comprising elastic material which is essentially non-stretchable in one direction, the elastic material being positioned in said front portions so that it is non-stretchable in a direction substantially parallel with each of said diverging edges.

2. A brassière comprising a pair of cup sections having inner edges secured together, outer edges and upper and lower edges, front portions below and joined to the lower edges of said cup sections, and having lower edges diverging

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ing downwardly and terminating approximately in alignment with the outer edges of said cup sections, and side bands joined to the outer edges of said cup sections and said front portions and having upper and lower edges converging toward their outer ends from about the upper edges of said cup sections and lower ends of said diverging edges, said outer ends of said side bands being approximately in alignment with the lower edges of said cup sections when the brassière is laid out flat said front portions comprising panels of elastic material which are essentially non-stretchable in one direction, said panels being positioned in said front portions so that they are essentially non-stretchable in a direction parallel with said diverging edges, said side bands also comprising panels of elastic material which have a principal direction of stretch lengthwise of said side bands.

3. A brassière comprising a pair of cup sections having inner edges secured together, outer edges and upper and lower edges, front portions below and joined to the lower edges of said cup sections, and having lower edges diverging downwardly and terminating approximately in alignment with the outer edges of said cup sections, and side bands joined to the outer edges of said cup sections and said front portions and having upper and lower edges converging toward their outer ends from about the upper edges of said cup sections and lower ends of said diverging edges, said outer ends of said side bands being approximately in alignment with the lower edges of said cup sections when the brassière is laid out flat each front portion below each cup section and the side band joined thereto comprising a single piece of elastic material which is essentially non-stretchable in one direction and stretchable in directions at an angle to said one direction, said elastic material being positioned in each front section and each side band so that the material is essentially non-stretchable in a direction parallel with said diverging edges.

4. A brassière comprising a pair of cup sections having inner edges secured together, outer edges and upper and lower edges, front portions below and joined to the lower

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edges of said cup sections, and having lower edges diverging downwardly and terminating approximately in alignment with the outer edges of said cup sections, and side bands joined to the outer edges of said cup sections and said front portions and having upper and lower edges converging toward their outer ends from about the upper edges of said cup sections and lower ends of said diverging edges, said outer ends of said side bands being approximately in alignment with the lower edges of said cup sections when the brassière is laid out flat the outermost ends of said side bands comprising panels of non-elastic material and the remainder of said side bands and portions of said front portions comprise elastic material which are essentially non-stretchable in one direction and being positioned in said front portions so that they are essentially non-stretchable in directions parallel with said diverging edges.

5. A brassière comprising a pair of cup sections having inner edges secured together, outer edges and upper and lower edges, front portions below and joined to the lower edges of said cup sections, and having lower edges diverging downwardly and terminating approximately in alignment with the outer edges of said cup sections, side bands joined to the outer edges of said cup sections and said front portions and having upper and lower edges converging toward their outer ends from about the upper edges of said cup sections and lower ends of said diverging edges, said outer ends of said side bands being approximately in alignment with the lower edges of said cup sections when the brassière is laid out flat, stiffening elements extending from the lower ends of said diverging edges upwardly across the front sections and side bands to the upper edges of said cup sections.

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