Sept. 15, 1953 T. B. SCHAUMER 2,651,779

BRASSIERE HAVING CUPS MADE FROM ELASTIC MATERIAL

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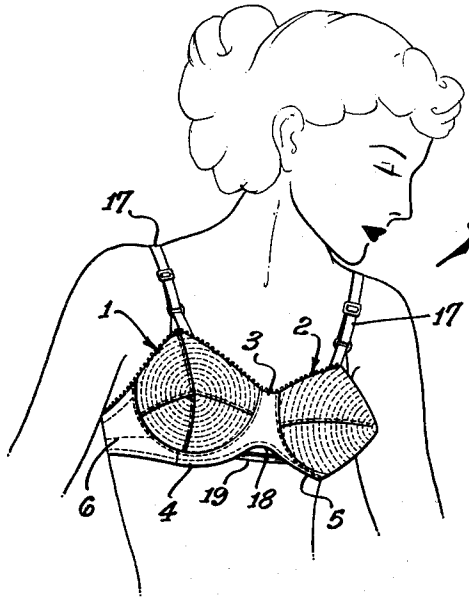


Fig. 1.

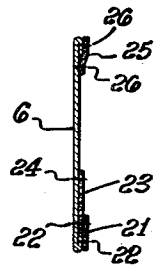


Fig. 3.

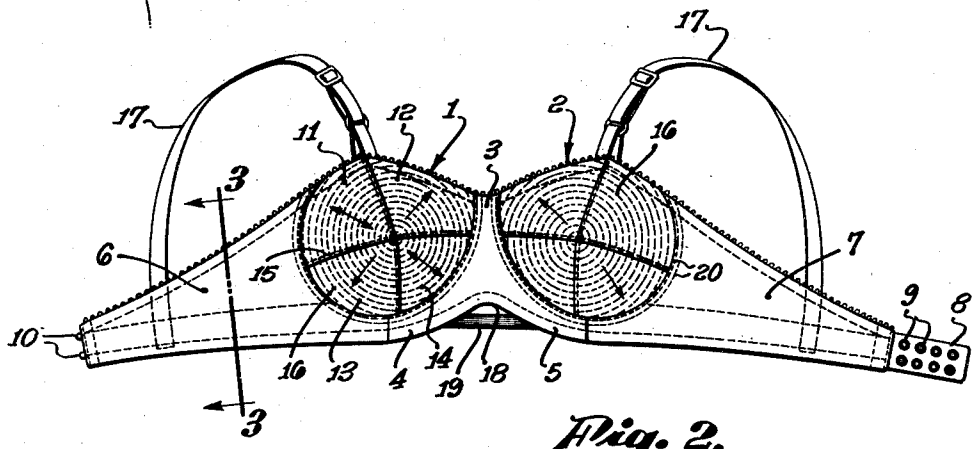


Fig. 2.

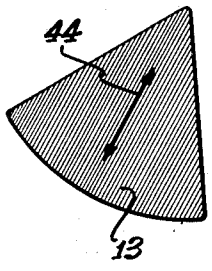


Fig. 4.

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Fig. 5.

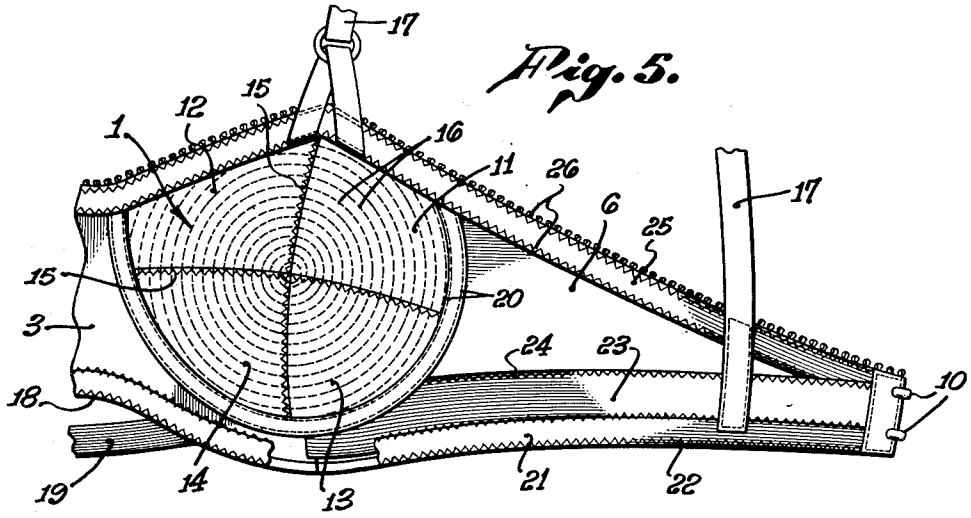


Fig. 6.

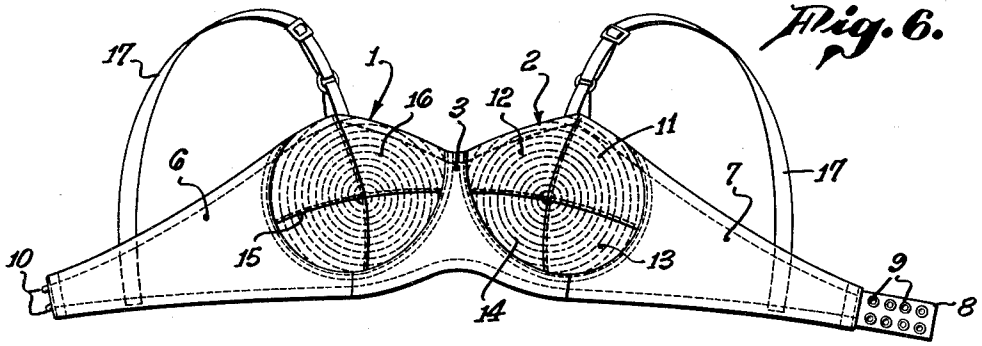


Fig. 7.

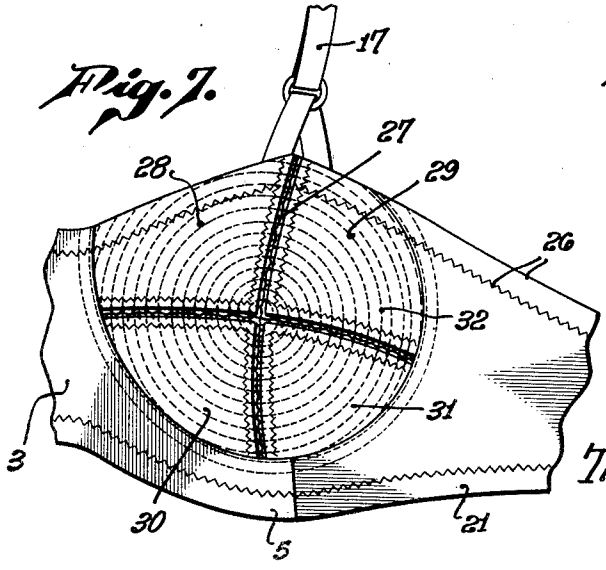
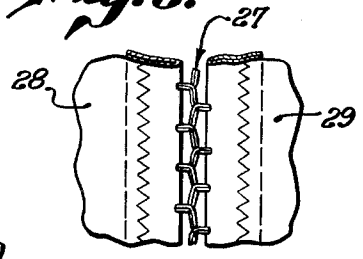


Fig. 8.



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Fig. 9.

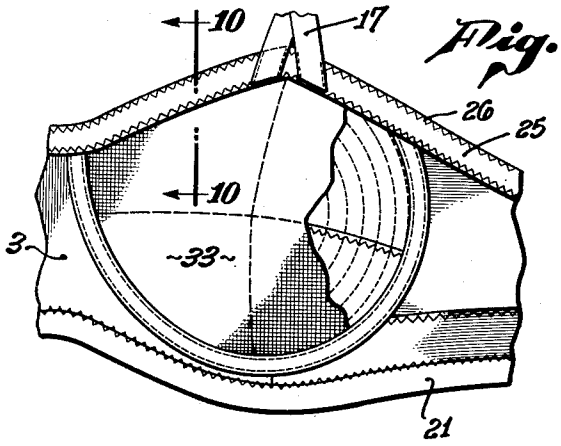


Fig. 10.

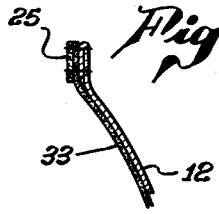


Fig. 11.

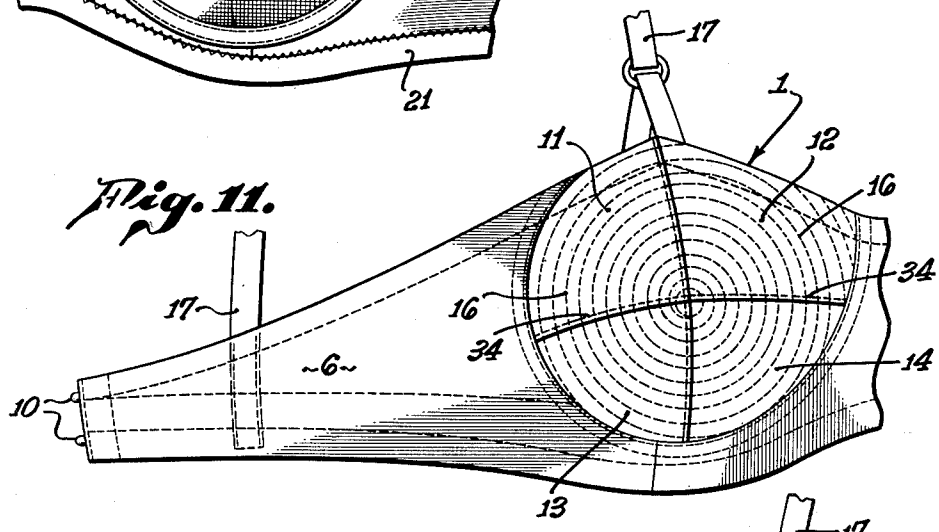


Fig. 13.

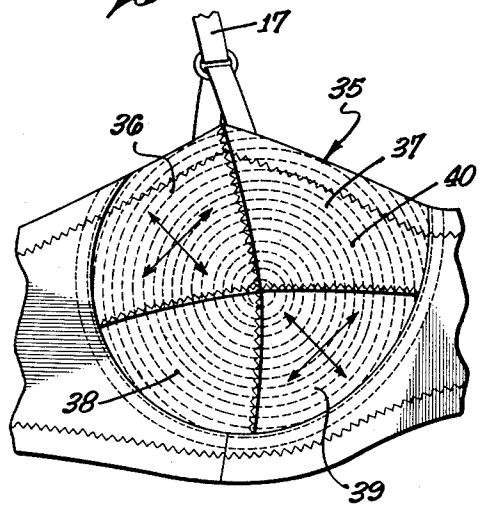
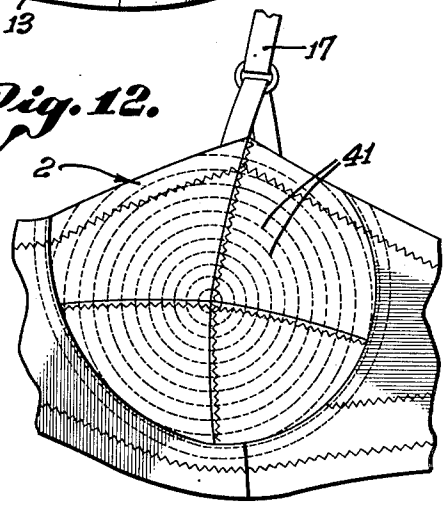


Fig. 12.



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Fig. 14.

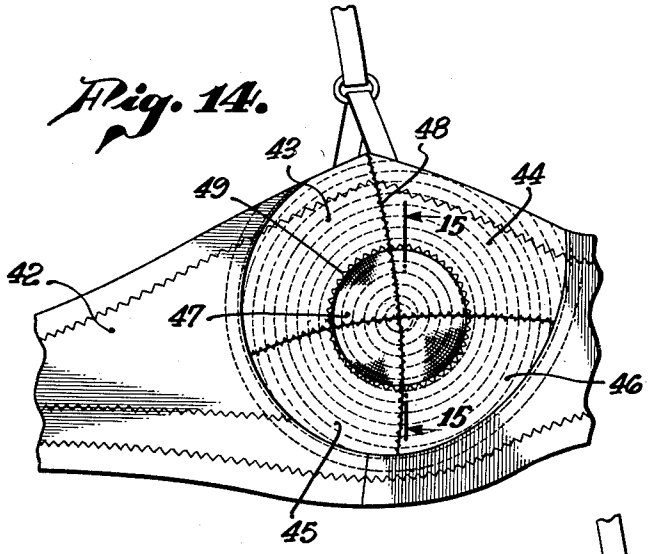
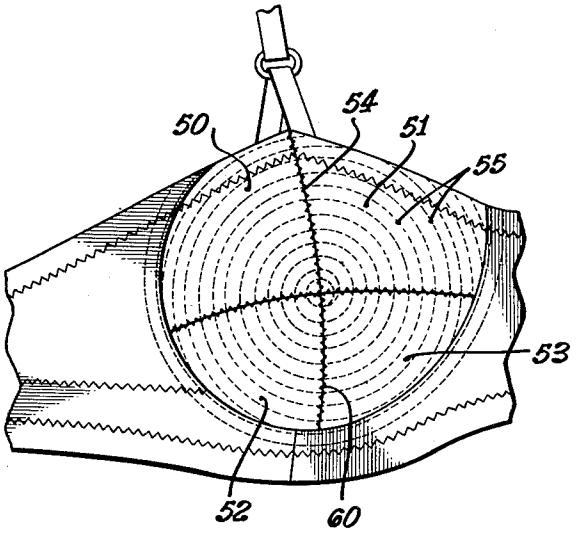


Fig. 15.



Fig. 16.



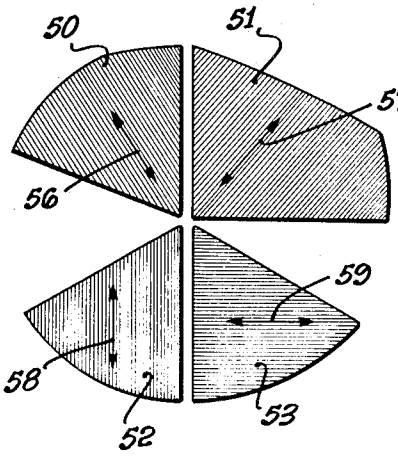


Fig. 17.

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UNITED STATES PATENT OFFICE

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BRASSIÈRE HAVING CUPS MADE FROM ELASTIC MATERIAL

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Application May 16, 1949, Serial No. 93,521

3 Claims. (Cl. 2—42)

1

This invention relates to brassières.

Brassières are now universally used for the enhancement of women's figures. This is intended to be accomplished by shaping or molding the breasts through the instrumentality of the breast cups that are shaped in such manner that they support and lift the breasts. In this way, the desirable contour may be obtained.

While in the past it has been possible, in many cases, to obtain these results by appropriate design of the breast cup and of its reinforcement, there are nevertheless inherent difficulties. For example, there are very many different types of breasts, each of which, for optimum benefits, would require an individual brassière design and size.

Obviously, all of the required sizes and shapes cannot be manufactured and stocked. Manufacturers attempt to supply individual needs by carrying a limited selection of cup sizes.

Accordingly, it is to be expected that in very many cases the fit of the brassière is a mere compromise. Of course, custom-made brassières can overcome this difficulty, but they are far too expensive to meet the demand.

A modern brassière is expected not only to fit the breasts of the individual, but also to support and mold the breasts to form desirable contours. Fallen, flabby breasts are thus caused to assume a firm outline, with a steep rise from the base of the breast to the apex region.

It is one of the objects of this invention to make it possible to mold the breasts in this fashion by aid of a brassière, and to fit individual requirements by selection from a limited variety of sizes.

Thus, by practicing this invention, a substantially perfect fit is readily attained without discomfort to the wearer.

It is another object of this invention to provide a brassière having cups that provide the required molding of the breasts and yet which are sufficiently yieldable to obviate discomfort to the wearer.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of several forms in which it may be embodied. Such forms are shown in the drawings accompanying and forming part of the present specification. These forms will now be described in detail, illustrating the general principles of the invention; but it is to be understood that such detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

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Referring to the drawings:

Figure 1 is a pictorial view of a brassière incorporating the invention and shown as being worn;

Fig. 2 is a front elevation of the brassière shown in Fig. 1, the body-encircling portion of the brassière being extended;

Fig. 3 is a sectional view, taken along a plane corresponding to line 3—3 of Fig. 2;

Fig. 4 is a diagrammatic view of one of the segments of the cup, illustrating the direction in which resilient stretching can be effected;

Fig. 5 is an inside view of a portion of the brassière illustrated in the previous figures;

Fig. 6 is a view, similar to Fig. 2, of a modified form of the brassière;

Fig. 7 is a front view of the cup portion of a further modified form of the brassière;

Fig. 8 is an enlarged view illustrating the fagoting between the cup sections shown in Fig. 7;

Fig. 9 is an inside view of the cup portion of a modified form of the brassière incorporating the invention;

Fig. 10 is a sectional view, taken along a plane corresponding to line 10—10 of Fig. 9;

Fig. 11 is a fragmentary view, similar to Fig. 2, and showing a modified form of construction;

Figs. 12, 13, 14, and 16 are front views of the cup portions, showing additional modifications;

Fig. 15 is a sectional view, taken along a plane corresponding to line 15—15 of Fig. 14; and

Fig. 17 is a plan view of the cup sections utilized in the form illustrated in Fig. 16.

In the form of the brassière shown in Figs. 1 to 5, there are two cups 1 and 2 that are intended to overlie and support the breasts of the wearer. The manner in which these cups are formed will be explained hereinafter. The outer bases or edges of the cups are joined to a body-encircling member including a central fabric element 3 which extends upwardly between the two cups 1 and 2, and which has extensions 4 and 5 projecting underneath the lower edges of the cups 1 and 2. The outer edges of the cups are, furthermore, connected to the side portions 6 and 7 which, together with the member 3, form the body-encircling band of the brassière. As is usual, the sides 6 and 7 taper to the ends and are provided with detachable fastener elements. Thus, the side member 7 is provided with the tab 8 having eyelets 9; and the side member 6 is provided with hooks 10 adapted to engage into any pair of the eyelets 9.

Both of the cups 1 and 2 are made substantially identically, and therefore it is necessary to describe but one of them. Thus, the cup 1 is shown

in this instance as provided with four sections, or quadrants, 11, 12, 13 and 14. Each of these sections is made of substantially triangular form, and of one-way stretch material. The direction of the stretch is along a line from the base of the cup to the top thereof, as indicated by the arrows 44 in Figs. 2 and 4. Furthermore, these sections are held together by a seam formed by zig-zag stitching 15 (shown most clearly in Fig. 5), so that this stitching does not interfere with the stretch of the sections.

In addition, in order to provide a reinforcement for the cups 1 and 2, lines of stitching are provided, said stitching being formed by inelastic thread, and running transversely to the direction of the stretch. In the form shown in Figs. 1 to 5, the stitching is made in the form of a continuous spiral line 16, beginning at or near the top or apex of the cup and proceeding in ever widening circles to the base of the cup. This stitching can be applied after the section 11, 12, 13 and 14 are joined together, and may be conveniently formed as a single continuous line. The spacing between the turns of the spiral may be of the order of one-fourth of an inch, but the specific number of turns is relatively unimportant.

Conventional adjustable shoulder straps 17 may be provided, joined to the top edges of the cups, as well as to the sides 6 and 7.

The central member 3 has a lower edge 18 that is arched, and an elastic webbing 19 extends across the bottom of the arch. This elastic webbing assists in holding the brassière resiliently against the body of the user.

Preferably, the members 3, 6 and 7 are also made of elastic material. Thus, the central portion 3 may be formed of one-way elastic material in which the stretch is permitted in a vertical direction. The side members 6 and 7 may also be formed of similar material in which the stretch is permitted in the horizontal direction.

The outer edge or base of each of the cups 1 and 2 is joined, as shown most clearly by Fig. 5, to the side members 6 and 7 by the rows of stitches 20. Narrow elastic webbing 21 extends completely across the lower inside edge of the garment. This webbing may be joined by zig-zag stitching 22 to the side members. A wider elastic webbing 23 is disposed, as indicated in Fig. 6, between the webbing 21 and the corresponding side member 6 or 7. The stitching 24 of zig-zag form attaches the upper edge of this strip 23 to the corresponding side section 6 or 7. Similarly, elastic webbing 25 extends completely over the top inner edge of the brassière, and is joined to the other parts of the brassière by the zig-zag stitching 26.

The use of stitching such as the stitching 16, on a cup made of sections that are capable of being extended, has important advantages. While the cup can obviously be deepened, due to the direction of the stretch, the stitching 16 prevents lateral or diametric expansion in a direction transverse to the direction of stretch. Due to the elasticity the cups 1 and 2 fit quite snugly over the breasts of the user without discomfort. The breast is molded and supported to produce the desired elevated or uplifted position. The cup being elastic in depth, there is an assurance that the cups will closely and snugly overlie the breasts, and that the cups will adequately and properly support the breasts. Since the cups readily accommodate themselves to a particular individual's breasts, the problem of exact fitting is avoided.

The provision of elastic material for the side members 6 and 7 and the central member 3 assures freedom of movement of the wearer without discomfort. The elastic webbing 19 under the arch 18 serves to maintain the cups closely against the body of the wearer. Furthermore, the sections 11, 12, 13 and 14 may be so formed as to produce quite a steep rise, and the elasticity, together with the inelastic spiral stitching 16, assures against drooping of the breasts.

In the form shown in Fig. 6, the elastic webbing 19 has been omitted, but in other respects this brassière is substantially the same as that disclosed in Figs. 1 to 5. It includes the continuous line of stitching 16 and the zig-zag seam 15 for the cups 1 and 2. The cup sections are likewise made from elastic material capable of increasing the depth of the cup.

Instead of the zig-zag stitching between the cup sections, other forms of yielding stitching might be used. For example, in Figs. 7 and 8, fagoting 27 may be used to join the cup sections 28, 29, 30 and 31. This fagoting is provided after the individual cup sections are formed with the stitching 32 running transversely to the direction of stretch of the cup section.

Although the cups 1 and 2 are quite comfortable without the use of a lining, such a lining may be provided if desired. For example, in Figs. 9 and 10, a lining 33 of thin conformable material is provided, such as lace or net. This lining is inserted inside of the cups, and is appropriately stitched thereto.

In the forms thus far described, the cup sections are joined together either by fagoting or by a zig-zag stitching. Other forms of yielding stitching can be utilized in place of the zig-zag stitching. Thus, in Fig. 11, the cup sections 11, 12, 13 and 14 of the breast cup 1 are joined together by elastic threads to form the elastic stitching 34. This stitching thus permits variation in the depth of the cups, and operates substantially in the same manner as the zig-zag seam 15 shown in Fig. 5.

In the forms thus far described, the material forming the cup section is described as one having one-way stretch, to permit stretching in a direction transverse to the direction of the inelastic stitching around the cup. However, it is not necessary to restrict the stretch to that direction alone. In Fig. 13 the cup 35 is shown as having sections 36 to 39 which may be made of two-way stretch material. Since in this form the line of inelastic stitching 40 restricts the stretch in the direction of these stitches, substantially the same effect is secured as in the form shown in Figs. 1 to 5.

The spiral line of stitching 16 is advantageous because it may be formed in a continuous operation. However, it is not essential that the breast cups be reinforced by such a spiral line. Other lines of stitching generally transverse to the direction of stretch may be used. In Fig. 12, the lines of stitching 41 are circular or annular, yet the same functions are performed as in the forms hereinabove described. In all of the forms variations in the diameter of the cup are restricted by the aid of the inelastic lines of stitching 16 or 41, while the depth of the cup is varied to fit the individual.

In the form shown in Figs. 14 and 15, the body-encircling portion 42 may be constructed in a manner similar to that disclosed in connection with Fig. 1. The breast cups are each formed in four sections, 43, 44, 45, and 46. These cup sec-

tions are made from one-way stretch fabric, the lines of stretch being generally from the base of the cup toward the top of the cup. However, the top of the cup is formed by non-elastic, loosely woven material 47, such as net or lace. Accordingly, the sections 43, 44, 45, and 46, in conjunction, form an annular arrangement. The net or lace material 47 covers the nipple region of the breast; and, due to the character of its weave, it does not cause discomfort to the wearer. This is especially useful in connection with certain types of breasts.

The seams or lines of stitching 48, joining the cup sections, may be of zig-zag configuration to permit stretching, as before. A circular seam, or line of stitching 49, firmly joins the top portion 47 to each of the cup sections.

In the form shown in Figs. 16 and 17, the cup sections 50, 51, 52, and 53 are made from one-way stretch material, joined together by zig-zag stitching 54 and, preferably, provided with a continuous spiral line of stitching 55. In this instance, the direction of the stretch may be definitely chosen for each section to produce the desired effects. This is shown by the arrows 56, 57, 58, and 59 in Fig. 17. The upper sections 50 and 51 have a stretch generally in a direction from the base of the cup toward the top of the cup. The arrow 59 in Fig. 17 indicates that the direction of the stretching is transverse, or substantially perpendicular, to the line of stitching 60 between the two lower sections. Accordingly, no stretch can occur from the base to the top of the cup in this lower section 53.

The other lower section 52 has a direction of stretch 58 which is parallel to the line of stitching 60.

By this means a firmer support is provided for the lower portion of the breast. Nevertheless, the direction of stretch is such that the cup can be worn without discomfort, and the breast is molded to the desired configuration. Since one cup section 53 is elastic in a direction corresponding to arrow 59, the base of the cup can expand somewhat to allow comfortable accommodation to the breast.

The inventor claims:

1. In a brassière: a body encircling portion; and breast cups attached thereto; each breast cup being made from a plurality of sections joined together, each of said sections being made from material having threads that are elastic in the direction from the base of the cup to the apex of the cup so that the cup is substantially uniformly resilient around the entire cup in a direction from the base of the cup to the apex of the cup the joining between sections being such as to permit stretching of the cup sections along said joining; each cup section being furthermore provided with a plurality of spaced rows of stitching transverse to the said direction.

2. In a brassière: a body encircling portion; and breast cups attached thereto; each breast cup being made from a plurality of sections joined together, each of said sections being made from material having threads that are elastic in the direction from the base of the cup to the apex of the cup so that the cup is substantially uniformly resilient around the entire cup in a direction from the base of the cup to the apex of the cup, the joining between sections being such as to permit stretching of the cup sections along said joining; each cup section being furthermore provided with a plurality of spaced rows of stitching transverse to the said direction; and the apex portion of the cup being formed of loosely fabricated non-elastic material, there being a line of stitching joining said top portion with the cup sections.

3. In a brassière: a body encircling portion; and breast cups attached thereto; each breast cup being made from a plurality of sections joined together, each of said sections being made from material having threads that are elastic in the direction from the base of the cup to the apex of the cup so that the cup is substantially uniformly resilient around the entire cup in a direction from the base of the cup to the apex of the cup, the joining between sections being such as to permit stretching of the cup sections along said joining; each cup being furthermore provided with a spiral line of stitching centering at the apex of the cup and terminating at the base of the cup.

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