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BRASSIERE AND METHOD OF MAKING SAME

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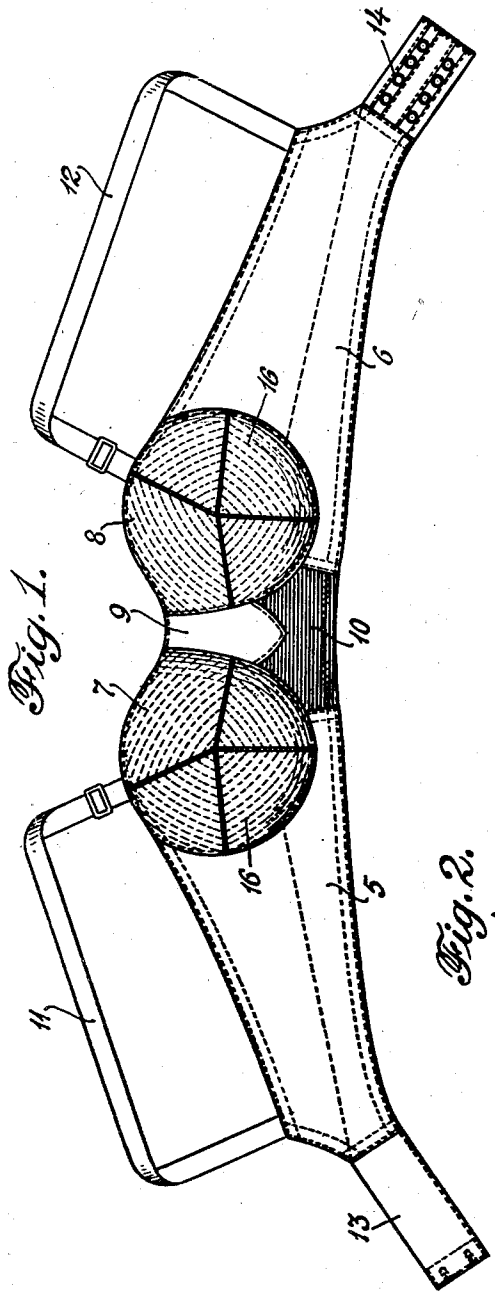

Fig. 1.

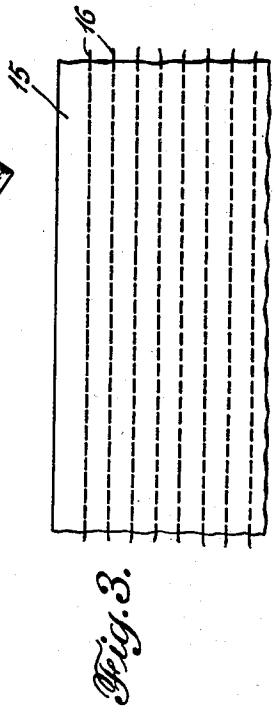

Fig. 3.

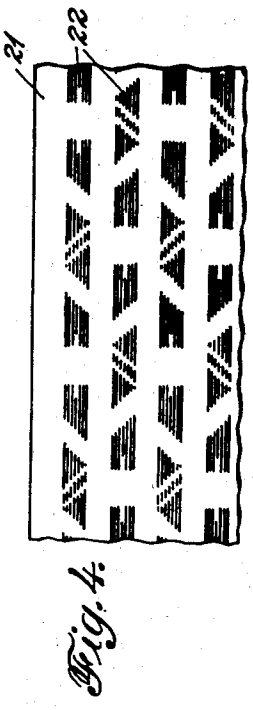

Fig. 4.

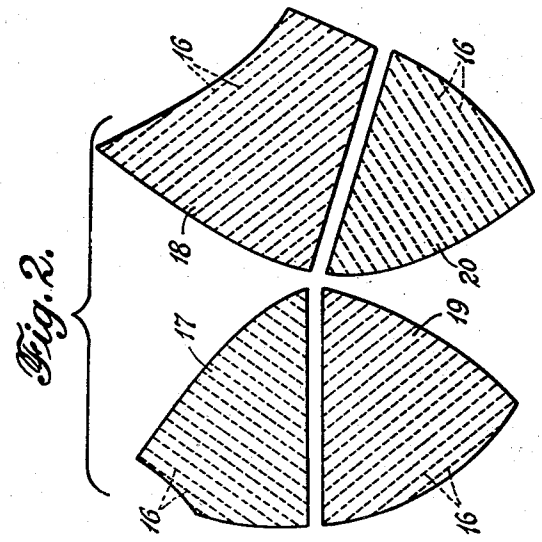

Fig. 2.

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BRASSIÈRE AND METHOD OF MAKING SAME

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7 Claims. (Cl. 2—42)

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The invention relates to an improvement in brassières and to a method of making the breast pockets of a brassière.

The primary function of a brassière is to support the breasts in a desirable position, both from the point of view of attractiveness and of comfort. The form fitting characteristics of the breast supporting pockets of a brassière have long been the subject of study by designers of women's undergarments of this general type and their efforts have been directed to the end that a comfortable and yet attractive appearance of the breast supporting pockets be attained which will at the same time afford a natural support for the breast.

The conventional material used in the manufacture of brassières, and more particularly of the breast pocket portions thereof, is of rather flimsy and flexible nature. If such very flimsy and flexible material were used for the formation of the breast pockets, then, while the material might fit snugly over the breasts, it would not have sufficient body to retain the form fitting qualities particularly upon bodily movement, and would not afford substantial natural supports for the breasts.

One of the attempts of the prior art to improve the bust-supporting qualities of a brassière has therefore been the provision of a series of lines or rows of stitches describing a spiral about the apex of the breast pocket, whereby the material constituting the breast pocket was sufficiently reinforced to substantially improve the form fitting characteristics thereof.

While the provision of such series of lines or rows of stitches describing a spiral about the apex of the pocket and extending outwardly from such apex towards the edge sections of the conically shaped breast pocket has materially increased the breast supporting function of the brassière, such an expedient adds substantially to the cost of manufacturing the brassière, particularly in the manner in which the spiral lines of stitches have been applied to the material constituting the breast pockets. Moreover, this reinforcement is attained only at the cost of considerable comfort to the wearer, because the continuous spiral line of stitching, the curved rows of stitching being quite close together, tend to hold the fabric sections forming the pocket rather rigidly or non-yieldingly to each other, and so give the wearer a feeling of confinement, there being little or no resiliency in the pockets.

It has been the practice heretofore to cut the material which is to constitute each breast pocket

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into the specific segments which are to form the conically shaped pocket, sew the segments together at their meeting edges, and to apply the single, continuous line of stitching in spiral fashion to such conically shaped pocket by an ordinary sewing machine having a single needle.

Obviously, this method of making the conically shaped breast pocket is time-consuming and requires extreme care and a high degree of skill to insure parallelism in the rows of stitching while operating on the conically shaped, three-dimensional object, so that the stitching alone constitutes a substantial cost item in the manufacture of the brassière.

In accordance with my invention, an improved form-fitting, breast-molding and breast-supporting pocket may be made at a great saving in cost of operation. Instead of cutting the pattern for the breast supporting pockets from a material having no reinforcing characteristics and applying the reinforcing stitching only after the segments of the pattern have been sewn together to form the pocket, I first apply to continuous sheets of material from which the individual pattern blanks are to be cut, a series of preferably straight, parallel lines or rows of stitching by means of a conventional multiple needle machine. In contrast with the practice of the prior art, in which the spiral stitching is applied by a single needle machine after the conically shaped breast pocket has been produced, the use of a multiple needle machine, made possible by the present invention, enables the rows of stitching to be sewn more quickly, more accurately and without unusual skill, the parallelism of the rows being obtained automatically.

After such blank sheet of fabric material has thus had imparted thereto the closely spaced parallel lines of stitching, the four pattern sections, which are to make up the breast pocket, are cut from such sheet or blank of material in such manner that when the apices of the sections are brought together the parallel lines of stitching of the fabric material form more or less quadrilateral or approximately rectangular figures, with the smallest near the joined apices of the fabric sections, and larger and larger quadrilaterals extending outwardly from the apex of the pocket.

In this manner, I am enabled to produce a substantially conically shaped pair of breast pockets in a brassière having the desired characteristics of comfortable and natural support for the breasts combined with the form fitting characteristics provided by the increased body and firmness afforded by the reinforcing stitching, but

at a considerable saving in cost. The increased comfort attending the wearing of my improved brassière arises in part from the fact that because the directional relation of the stitching to the warp of the fabric is constant (since the stitching is applied to the fabric in the piece, for example, as it is drawn from a bolt), the bias characteristics of the fabric are preserved, in contrast to curved lines of stitching, which unavoidably present relatively non-resilient lines of stitching in the bias directions and so in large part destroy the resiliency or "give" of the fabric. This resiliency is highly important for the comfort of the wearer because it enables the pockets to follow the movements of the bust while retaining the supporting and molding properties. Still greater resiliency or adaptability of the pockets may be obtained by connecting the pocket sections by a faggoting or lattice stitch, whereby relative movement between the pocket sections is made possible.

While in the preferred form of my invention I apply actual lines or rows of stitches to the fabric material from which the breast pocket pattern sections are to be cut, the advantages of my invention may be secured by selecting and using as the material for the breast pockets, a fabric which already has applied thereto a design, whether by way of stitching or weaving, which gives material the sufficient body to constitute the equivalent of after-applied lines of stitching. In other words, so long as the fabric material has been given some reinforcing adjunct, as by an originally applied woven design, the utilization of such material in the construction of a brassière would be within the spirit of my invention.

In the accompanying drawing, I have illustrated my improvement in a brassière and method of making the same, and have also illustrated the modification thereof just described.

In such drawing, in which similar reference characters identify similar parts, Fig. 1 is a front elevational view of a brassière in the construction of which my invention has been embodied; Fig. 2 is an enlarged detail of the four sections of material which, when assembled, form the brassière pocket embodied in the brassière of Fig. 1; Fig. 3 is a plan view of a piece of fabric material in flat condition to which the parallel lines or rows of stitches have been applied in accordance with my invention; and Fig. 4 is a similar view of a fabric suitable for making the brassière pocket in accordance with my invention, but which fabric already has applied thereto, as by weaving a design constituting rows of reinforcing elements for the fabric material.

Referring now to the drawing, and particularly Fig. 1 thereof, a brassière constructed in accordance with my invention is constituted of side portions **5** and **6** intermediate which are conically shaped breast supporting pockets **7** and **8**. Joining the upper sections of the breast pockets is an inelastic section of material **9** and joining the lower sections of the side portions **5** and **6** is an elastic section **10**. The brassière is provided with conventional shoulder straps **11** and **12** and fastener element-carrying back strips **13** and **14**.

As my invention relates solely to the construction and method of making the breast pockets **7** and **8**, it will be understood that the form of brassière illustrated is shown merely by way of example.

The breast pockets **7** and **8** may be made of any desirable material, such as cotton, silk, batiste, satin, lace, net or any of the other conventional fabric materials used in the art, so long as the material will readily conform to the configuration of the busts of the wearer.

In the carrying out of my invention, the fabric material which is to constitute the bust sections **7** and **8** is laid out in sheet form, a portion of which is shown in Fig. 3 and marked **15**, and to such sheet of material, in any size, are applied a series of closely and parallelly straight disposed lines or rows of stitching **16**. These rows or lines of stitching **16** may be applied to the sheet material for the close and parallel disposition thereof throughout the length or width of the fabric sheet by means of a multiple needle sewing machine, for instance one having six or even more needles simultaneously stitching six or eight lines or rows along the entire length or width of the fabric.

The fabric material thus provided with the parallel closely spaced lines of stitching has thereafter cut therefrom the pattern sections **17**, **18**, **19** and **20** shown in Fig. 2, which are to constitute the segments of the conically shaped breast pockets **7** and **8**. It will be noted from such Fig. 2, that the sections **17–20**, inclusive, are cut in patterns with their points or apices lying, when the four sections are brought together prior to the joining of their edges, so that the lines of stitching **16**, when the conically shaped pocket is formed, constitute successively larger rectangles outwardly from the apex of each conically shaped breast pocket. The four sections, obviously, are on the bias of the material, so that the four individual sections, when joined together to form a bust pocket, retain the "give" and stretch of the bias construction. The full benefit of circular stitching, for reinforcement, is thus obtained while retaining the full benefit of the bias cut of the material.

When the four sections **17–20**, inclusive, have been joined together, they will form the breast pockets **7** and **8** of the brassière, with the configuration of the lines of stitching **16** as shown in Fig. 1. Thus, each of the breast pockets **7** and **8** will be provided with previously applied series of lines or rows of stitches which describe substantial rectangles successively increasing in size about the apex of the conically shaped pocket, and thereby impart to such pocket the desired reinforcement and natural support for the breasts.

Instead of starting with a plain sheet of fabric material, such as batiste, silk or satin, there may be utilized in place thereof a fabric material **21**, a fragmentary portion of which is illustrated in Fig. 4, in which substantially parallel lines or series of lines **22** are provided in the fabric material as by being woven directly in the fabric. Such lines, forming various designs, may be woven into the material if the fabric is a woven material, or otherwise provided in the fabric. When breast pocket sections like **17–20** are cut from such material, the sections should be disposed with their apices at the center of the group in such a way that the woven lines **22** form rectangles much in the manner of the rectangles formed by the line of stitching **16** and imparting to the conically shaped breast pockets substantially the same degree of reinforcing and supporting characteristics.

The parallel lines of stitching or reinforcing means, when the brassière pocket is formed as above described, will act in the manner of curved buttresses in the conically shaped pockets, the rectangular disposition of the reinforcing means

thereby yielding much more effective results than the spiral lines of stitching of prior construction.

It will be noted from Figs. 3 and 4 that the lines of stitching 16 are applied to the web of fabric parallel to the finished edge of the fabric, represented by the straight upper edges of the portions of fabric illustrated in such figures; in other words, the stitching is applied parallel to, that is, along the warp of the fabric. When, therefore, the several segments 17 to 20 are stitched together to form a pocket, and the latter secured to the body of the brassière, the lines of reinforcement, such as the stitches 16 or the interwoven reinforcement 22, will extend at an angle to the seams joining the segments of the pocket, such reinforcing lines generally forming an oblique angle with the seams, as shown in Fig. 1, with the result that the bias resiliency of the fabric along the directions from the apex to the base of each pocket (along which it is secured to the body of the brassière) is preserved. There is accordingly a certain degree of resiliency and elasticity along the segments and in the direction of the apex of each pocket. The reinforcing action provided by the stitching or the like aids in causing the breast of the wearer to be molded to the shape of the pocket, but without discomfort to the wearer during movements of the body because of the resilience of the pocket, so that reinforcement and proper molding are secured without interference with comfort. The reinforcing action is obtained also without imparting a feeling of confinement tc the breast by reason of the fact that the reinforcements in each individual segment are more or less independent of those in the adjacent segments, the reinforcing stitching, weaving or the like of each segment being disconnected from the similar reinforcement of the adjacent segments; the reinforcing means being in the form of panels within each segment rather than in the form of continuous rings of stitching as heretofore.

A greater degree of pliability of the pocket as a whole and greater freedom of movement between the individual segments is afforded by forming the seams between the adjacent sections with faggoting or lattice stitching, as illustrated in Fig. 1, such stitching permitting a certain degree of relative movement between adjacent segments along the seam, and to some extent also transversely of the seam. It will thus be seen that the pre-formed reinforcements, the arrangement of the lines of reinforcement in the finished pocket so that they form polyoval figures with the bias stretch of the segments along the sides of the pocket, and the faggoting or lattice stitching at the seams, all contribute to the production of a pocket which has sucient reinforcement to hold the breast in proper position during bodily movement of the wearer while yet giving the wearer a feeling of freedom and elasticity which contributes greatly to her comfort.

While I have described specific embodiments of my invention, I desire to be understood that the particular shape of breast pocket illustrated, and the form of stitching or other reinforcing means is shown merely by way of example, and not by way of limitation.

I claim:

1. A brassière comprising a pair of substantially conically shaped bust-supporting pockets,

each constituted of segments of fabric material joined together at their meeting edges and forming an apex, each segment being provided with pre-formed, substantially parallel lines of fabric reinforcing means which are disconnected from the reinforcing means on the adjacent segments and form with the similar lines of fabric reinforcing means in the other fabric segments substantially closed geometrical figures, which increase in size from the apex of each bust-supporting pocket to the base of the pocket.

2. A brassière comprising a pair of substantially conically shaped bust-supporting pockets each constituted of a plurality of segments of fabric material joined together at their meeting edges and forming an apex, each segment being provided with pre-formed lines of fabric reinforcing means running substantially parallel to component yarn elements of the fabric, the fabric reinforcing means of each segment being disconnected from the reinforcing means on the adjacent segments and meeting the seams between adjacent segments at an angle, the lines of reinforcing means on the segments forming substantially closed geometrical figures which increase in size from the apex of each bust supporting pocket to the base thereof.

3. A brassière as defined in claim 2, wherein the reinforcing means comprise stitching runing parallel to the warp of the fabric.

4. A brassière as defined in claim 2, wherein the segments are joined by a lattice stitching whereby limited relative movement between the adjacent segments is made possible.

5. A brassière comprising a pair of substantially conically shaped bust-supporting pockets each constituted of four segments of woven fabric material joined together at their meeting edges by an open lattice stitch which permits relative movement between the adjacent segments, the segments forming an apex and the lattice stitching running from approximately such apex to the base of the pocket, each segment being provided with pre-formed lines of stitching running substantially parallel to the warp of the fabric, the reinforcing stitching on the several segments being discontinuous at the said meeting edges and approaching such edges at an angle, and the lines of stitching on the segments forming substantially closed, approximately rectangular figures which increase in size from the apex of each bust-supporting pocket to the base thereof.

6. In the manufacture of a brassière, the steps which comprise providing a web of fabric material with parallel lines of fabric reinforcing means, cutting from such web a plurality of segments along lines at an angle to said parallel lines of reinforcing means, and sewing the segments together to form a substantially conical bust-supporting pocket in such manner that the lines of reinforcing means on the several segments form geometrical figures, increasing in area from the apex of the conical pocket toward the base thereof.

7. The method as defined in claim 6, wherein the segments are joined together by an open lattice stitch to enable the adjacent segments to have limited bodily movement relative to each other.

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