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C. A. BRACHT
BODY SUPPORTING GARMENT

2,915,067

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Fig. 1.

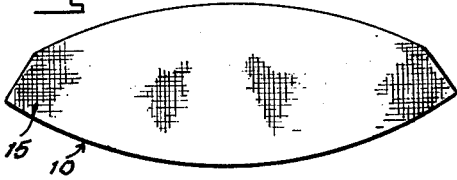


Fig. 2.

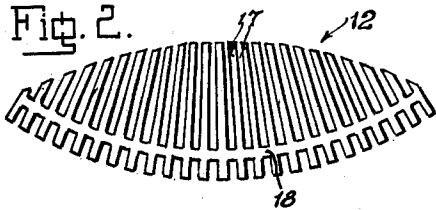


Fig. 3.

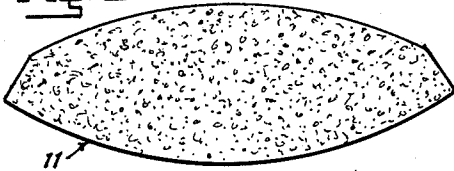


Fig. 5.

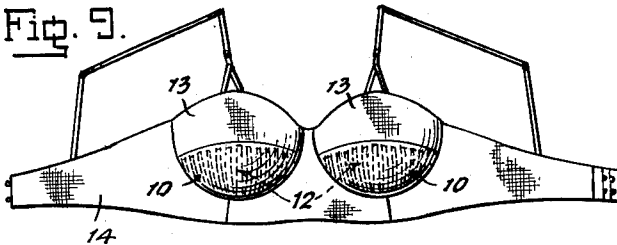


Fig. 10.

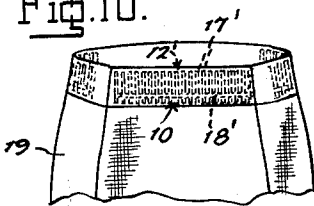


Fig. 11

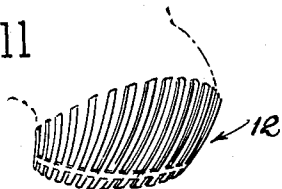


Fig. 4.

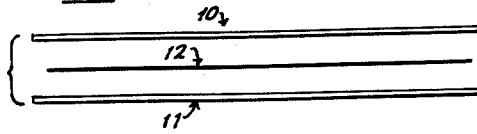


Fig. 5.

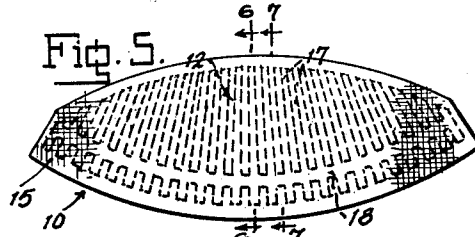


Fig. 6.

Fig. 7.

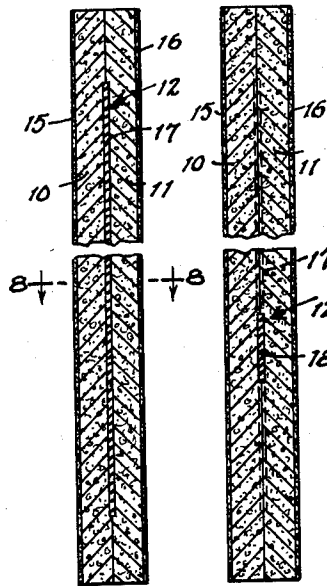
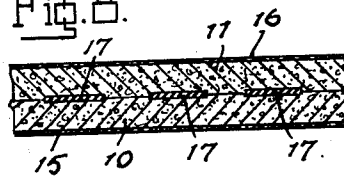


Fig. 8.



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2,915,067

BODY SUPPORTING GARMENT

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4 Claims. (Cl. 128—469)

My present invention relates to body supporting garments, such as brassieres, girdles, etc.

My invention is particularly applicable to articles of female apparel designed for improvement or support of the human figure. Thus, in a brassiere, my invention provides needed support at the base of the breasts where they are upheld and prevented from drooping. When incorporated in the waist portion of a girdle my invention prevents rolling over, serving to retain the marginal portion of the garment straight and smooth. In any case, my invention not only adds to the well groomed appearance of the wearer but also contributes materially to her comfort by applying firm but gentle support where needed.

An object is to provide an insert member having the general form and appearance of a piece of fabric and which is relatively stiff in one direction, for instance, vertically of the member, and is relatively flexible in the other direction, for instance, laterally of the member; also, to provide garments having such inserts incorporated therein for added body support in certain areas.

A further object is to provide an insert member which is sufficiently flexible and resilient in its stiffened direction to permit it to readily conform to the contours of the body.

Other objects and advantages of the invention will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawings wherein:

Fig. 1 is a plan view showing the outer side of one of the flexible layers of the insert member;

Fig. 2 is a plan view of the resiliently bendable stiffening member;

Fig. 3 is a plan view of the inner side of the other flexible layer of the insert member;

Fig. 4 is an edge view showing the parts of the insert member in separated relation prior to assembly;

Fig. 5 is a plan view of the insert member;

Fig. 6 is a vertical sectional view on an enlarged scale, taken along the line 6—6 of Fig. 5;

Fig. 7 is a vertical sectional view on an enlarged scale, taken along the line 7—7 of Fig. 5;

Fig. 8 is a horizontal sectional view taken along the line 8—8 of Fig. 6;

Fig. 9 is a front elevation showing a brassiere having an insert member according to the invention incorporated therein;

Fig. 10 is a front elevation of a girdle having an insert member according to the invention incorporated therein, and

Fig. 11 is a perspective view of the stiffener of Fig. 2 as it fits the bust.

Referring to the drawings, the insert member comprises a laminated structure consisting of a pair of flexible layers 10 and 11, of resiliently stretchable relatively thin spongy material in sheet form, such as vinyl foam, sponge rubber, or the like, between which there is sandwiched by adhesion a flexible stiffening member 12. The layers 10 and 11 are suitably shaped for the type of garment

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in which the stiffening member is to be incorporated, being shown in Figs. 1—9 as adapted for incorporation in the lower portion of cups 13 of a brassiere 14, as seen in Fig. 9. In this case the lower edges of the layers are circumferentially formed so as to conform to the lower edge of the cup when the insert member is secured in the cup structure, either as a sewn-in part forming the lower portion of the cup or as an insert super-imposed upon the cup or inserted between layers thereof. The upper edges of the layers may have any suitable form; a scalloped form is both functional and decorative in that it generally conforms to the upper edge of the lower part of the brassiere cup, to provide an uplift section having its greatest height dimension at the center and tapering toward the ends. It will be understood that any suitable shape may be employed, and in the case of insert members intended for incorporation in different types of garments, the general shape of the insert member may be rectangular, oval, or other suitable shape.

The layers 10 and 11 preferably have their outer or exposed surfaces, respectively, covered by woven fabric layers 15 and 16 adhesively laminated thereto, and these fabric layers preferably are of a material which is resiliently stretchable in one direction and non-stretchable in the other direction, the direction of stretch being transverse to the stiffened direction of the insert member, for a purpose presently more fully to appear.

The stiffening element 12 sandwiched between the layers 10 and 11 generally conforms in its outline shape to the outline shape of the layers 10 and 11, except that its edges are inwardly offset so that a margin of the layers 10 and 11 extends beyond the stiffening element. The stiffening element is formed from a relatively thin sheet of relatively stiff resiliently flexible non-stretchable plastic material, as, for instance, polyester, polyvinyl or polyethylene material in sheet or film form, from which it may be stamped out by suitable cutting dies. I prefer to use a product of E. I. Du Pont de Nemours, known as "mylar." It comprises a series of tines 17 extending in one general direction and one or more connecting bands 18 extending in a direction generally transverse to said one general direction and connecting the tines together in spaced relation between their ends, so that the stiffening member has the general appearance of a fence or a comb. In the case of an insert for a brassiere, the tines are preferably disposed along upright lines substantially radial to a center point about which the arc of the lower edge of the insert is described, and the connecting band portion 18 is approximately concentric with the lower edge.

As seen in Figs. 4, 6 and 7, the intermediate stiffening element is disposed between the layers 10 and 11 and the two layers are adhered together by suitable adhesive, the adhesive adhering to the surfaces of the stiffening element and causing the layers 10 and 11 to adhere to each other between the tines of the stiffening element. The adherence may also be through a homogeneous bond produced through application of heat, the layers and the stiffening element being thermoplastic, or by means of stitching. Thus the laminated insert member has stiffness imparted thereto in the longitudinal direction of the tines and has sufficient resilient flexibility in this direction to conform to body contours. At the same time the interposition of the freely flexible material of the layers 10 and 11 between the tines gives the insert member a high degree of flexibility in the direction transverse to the tines. By increasing or decreasing the width of the tines the degree of stiffness may be increased or decreased as desired.

While the connecting band or bands 18 gives permanent form and stability to the stiffening element, holding the tines in separated flat relation for convenience

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in handling and in assembling with the layers 10 and 11, it does not materially affect the transverse flexibility of the insert member. The outer woven fabric layers 15 and 16, in addition to giving the attractive appearance of woven fabric, also provide a protective covering for the spongy material of the layers 10 and 11. By providing stretchability in this woven fabric in lateral direction it allows the insert to have a degree of resilient stretch along its upper and lower edges.

In the embodiment of Fig. 10, the insert member 12' 10 is of rectangular form and is incorporated in the upper portion of the front panel of a girdle 19. In this case, the vertical tines 17' are parallel to each other, and the band 18' extends horizontally. In this case, the insert prevents roll-over at the midriff portion of the garment.

In any embodiment of my invention, if more than a single tine-connecting band is used, such bands are spaced apart and are approximately parallel to each other, giving added anchorage to the tines.

Various changes coming within the spirit of my invention may suggest themselves to those skilled in the art. Hence, I do not wish to be limited to the specific embodiments shown and described or uses mentioned, but intend the same to be merely exemplary, the scope of my invention being limited only by the appended claims.

I claim:

1. A stiffener for a garment insert, said stiffener being formed from a flat unitary sheet of flexible material functioning as a stiffener substantially throughout its entire area, comprising a narrow integrating member extending across the length of said stiffener, a large number of narrow tines extending transversely from said integrating member and closely spaced from each other by gaps of approximately uniform width which is substantially no greater than the width of said tines, whereby a large degree of flexibility is afforded to said stiffener along the length of said integrating member and a lesser degree of flexibility is afforded in a direction transverse to said integrating member by said narrow tines extending therefrom while the stiffener is effective as a support over substantially its entire area.

2. A garment insert comprising a stiffener as set forth in claim 1 encased between layers of flexible sheets of material.

3. A brassiere having a breast cup forming a part thereof, said breast cup having a lower arcuate edge and fitted with breast supporting means along the lower portion of said breast cup, said means comprising a stiffener

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encased between layers of fabric and being formed from a flat unitary sheet of flexible material functioning as a stiffener substantially throughout its entire area having a narrow integrating member extending across the length of said stiffener adjacent to the convexly shaped bottom edge thereof and substantially coextensive with said lower arcuate edge of the breast cup, a large number of narrow tines extending transversely from said integrating member and closely spaced from each other by gaps of approximately uniform width which is substantially no greater than the width of said tines, whereby a large degree of flexibility is afforded to said stiffener along the length of said integrating member and a lesser degree of flexibility is afforded in a direction transverse to said integrating member by said narrow tines extending therefrom while the stiffener is effective as a support over substantially its entire area.

4. A garment having a waist portion with a free upper edge, and stiffening means in said waist portion for inhibiting the rolling over of said edge, said means comprising a stiffener formed from a flat unitary sheet of flexible material and functioning as a stiffener substantially throughout its entire area having a narrow integrating member extending across the length of said stiffener adjacent to the bottom horizontal edge thereof remote from the free edge of said waist portion, a large number of narrow tines extending in substantial parallelism transversely from said integrating member and closely spaced from each other by gaps of approximately uniform width which is substantially no greater than the width of said tines, whereby a large degree of flexibility is afforded to said stiffener along the length of said integrating member and a lesser degree of flexibility is afforded in a direction transverse to said integrating member by said narrow tines extending therefrom while the stiffener is effective as a support over substantially its entire area.

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