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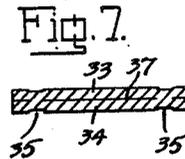
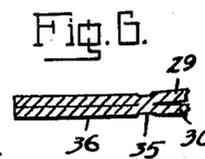
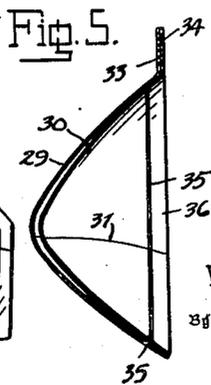
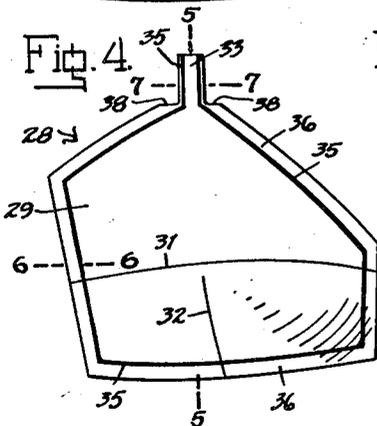
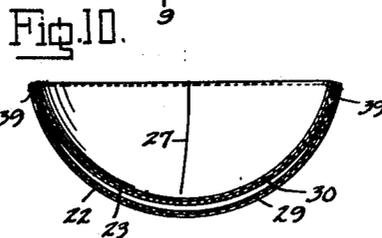
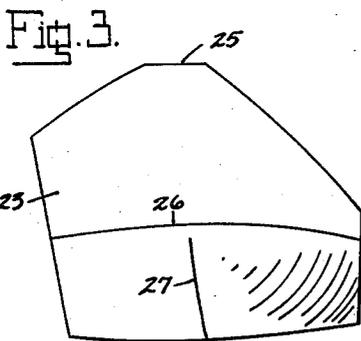
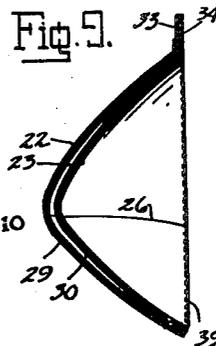
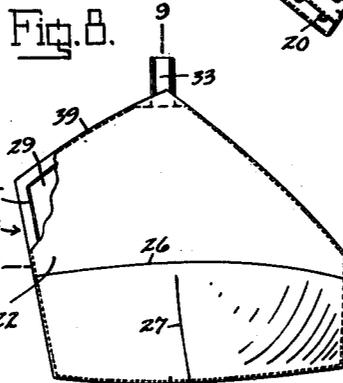
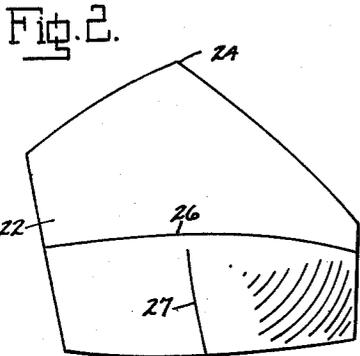
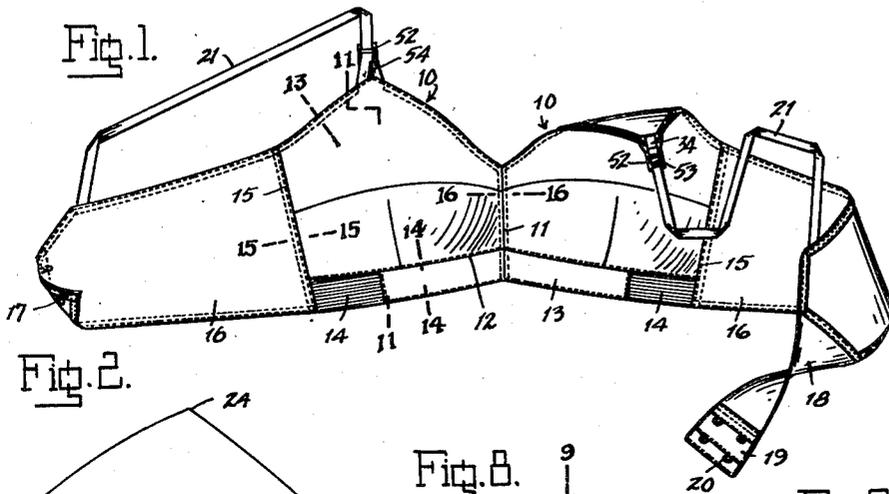
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2,544,300

BRASSIERE

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2 Sheets-Sheet 1



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# UNITED STATES PATENT OFFICE

2,544,300

## BRASSIÈRE

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3 Claims. (Cl. 2—42)

1

The present invention relates to an improved brassière, particularly intended for women having a bust which is under-developed, flat, unsymmetrical or otherwise lacking in normal or natural configuration, and has for its object to provide a brassière having a predetermined external shape designed to give an accepted ideal contour for a given size and provided with pneumatic form-filling means whereby the wearer of such given size may adapt such brassière to her individual form with complete comfort and with the same appearance as if the wearer naturally possessed such ideal contour.

With the above and other objects in view, an embodiment of the invention is shown in the accompanying drawings, and this embodiment will be hereinafter more fully described with reference thereto, and the invention will be finally pointed out in the claims.

In the drawings:

Fig. 1 is a front elevation of a brassière, according to the illustrated exemplary embodiment of the invention.

Fig. 2 is a front elevation of the outer fabric layer of one of the bust pockets.

Fig. 3 is a front elevation of the inner fabric layer of one of the bust pockets.

Fig. 4 is a front elevation of one of the pneumatic bladder members adapted for incorporation in the brassière.

Fig. 5 is a vertical sectional view, taken along the line 5—5 of Fig. 4.

Fig. 6 is an enlarged detail sectional view, taken along the marginal portion of the bladder member on the line 6—6 of Fig. 4.

Fig. 7 is an enlarged detail sectional view, taken across the nozzle portion of the bladder member on the line 7—7 of Fig. 4.

Fig. 8 is a front elevation, partly broken away, of one of the complete bust pocket units.

Fig. 9 is a vertical sectional view, taken along the line 9—9 of Fig. 8.

Fig. 10 is a horizontal sectional view, taken along the line 10—10 of Fig. 8.

Fig. 11 is a vertical sectional view, taken along the line 11—11 of Fig. 1.

Fig. 12 is a view similar to Fig. 11 and showing the brassière in place upon the wearer.

Fig. 13 is an enlarged detail sectional view, taken along the line 13—13 of Fig. 1.

Fig. 14 is an enlarged detail sectional view, taken along the line 14—14 of Fig. 1.

Fig. 15 is an enlarged detail sectional view, taken along the line 15—15 of Fig. 1.

Fig. 16 is an enlarged detail sectional view, taken along the line 16—16 of Fig. 1.

2

Fig. 17 is a fragmentary perspective view from the outer side, showing the forward shoulder strap connection to the bust pocket.

Fig. 18 is a fragmentary perspective view from the inner side, showing the shoulder strap connection to the bust pocket and the nozzle-sealing means of the pneumatic bladder member.

Fig. 19 is a perspective view of one of the nozzle-sealing shoulder-strap-attaching buckles employed.

Fig. 20 is a fragmentary front elevation, showing a modified form of the invention in which the pneumatic bust pocket units are detachably connected to the brassière.

Similar reference characters indicate corresponding parts throughout the several figures of the drawings.

Referring to the drawings the brassière, according to the illustrated exemplary embodiment of the invention, comprises a pair of bust-receiving pockets 10—10 joined together along a central seam 11 and secured along their lower edges by a seam 12 to a diaphragm band 13 provided with horizontal elastic inserts 14—14, the side edges of the bust pockets and the end edges of the elastic inserts being connected by seams 15—15 to the forward edges of back strap sections 16—16, one of which is provided at its free end with hook fasteners 17 while the other is provided at its free end with a horizontally elastic band 18 provided at its end with a tab 19 having eye fasteners 20 for engagement by the hook fasteners. Shoulder straps 21—21 are connected between the upper edges of the bust pockets and the back strap sections.

The bust pockets 10 are preformed before sewing into the brassière, and in this respect the manufacturing procedure follows the usual methods, particularly in the case of so-called full-fashioned bust pockets, wherein the flat fabric material making up the pockets is provided with darts, seams and the like which impart to the bust pocket a predetermined cup shape.

It is proposed in the present invention to form the pockets 10 of an outer fabric layer 22 of full-fashioned form and an inner fabric layer 23, conforming to the outer layer at its peripheral edges, but having slightly less rounded projection so as to provide a narrow space between them in their assembled relation, this space converging at the margins where the edges of the layers are brought together. The apex of the upper edge of the layer 22 is pointed, as at 24, while the apex of the upper edge of the layer 23 is truncated, as at 25, for a purpose presently to more fully appear. While the full-fashioning

3

of the layers 22 and 23 may be carried out in any of the usual ways, the illustrated embodiment shows the two layers as each formed of upper and lower sections seamed along a transverse outwardly curved line 26, the lower section being provided substantially centrally with an upwardly and outwardly curved dart 27. The fabric of the outer layer 22 may be of any suitable material, as for instance marquisette, satin, cotton, nylon, or the like, which material is relatively thin and flexible but is substantially non-stretchable, so that the predetermined form give to the outer layer will be the external form of the brassière. The inner layer 23 may be of the same material as the outer layer, or it may be of a different material suited for soft engagement with the skin.

Between the layers 22 and 23 there is secured the pneumatic bladder according to the invention and indicated generally as 28. This bladder is formed of an air-impervious, very thin, lightweight flexible material. While latex and similar elastic materials may be employed, it is preferred to use a material either substantially non-elastic, or having a low degree of elasticity. A suitable material is thin sheet plastic, such as one of the well known polyvinylchloride plastics, which is capable of having two layers seamed together by the application of heat to form an airtight bond between them and is also capable of having woven fabric secured to it by machine stitching.

As shown in Figs. 4 to 7 the bladder 28 is formed of two layers 29 and 30, full-fashioned in a similar manner to the fabric layers 22 and 23, and each consisting of upper and lower sections secured along a transverse curved seam 31 formed by overlapping and adhering the overlapped portions by the application of heat, and the lower section having an upwardly and outwardly curved dart 32, also formed by overlapping and adhering the overlapped portions by the application of heat. The patterns for forming the upper and lower sections of the layers 29 and 30 are substantially similar to the patterns of the layers 22 and 23 of the bust pockets, so that the cup shape of the layers 29 and 30 substantially conforms to the cup-shape of the layers 22 and 23, the rounded projection of the inner layer being slightly less than the outer layer, so as to provide a slight air space between the layers. At the apex of the upper edge, however, and at a point substantially coinciding with the point of attachment of the shoulder straps to the bust pockets the layers 29 and 30 are provided with tongue extensions 33 and 34 for the purpose of providing an air injection nozzle, as will presently more fully appear.

The two layers 29 and 30 are adhered together along their marginal portions by heat produced seams 35, which cause a homogeneous adherence of the two layers together to form an airtight connection between them, this seam extending in parallel inwardly spaced relation to the edges of the layers so as to provide a relatively wide fin-like margin 36 for attachment within the edge seams of the bust pockets, as will presently more fully appear. The seams 35 extend along the side edges of the tongue portions 33 and 34 and terminate at the outer ends of these tongue portions to provide a flat nozzle slit 37 for the injection of air into the bladder. At each side of the nozzle the margin 36 terminates in a shoulder edge 38 to enable the margin to be freely folded, as will presently more fully appear.

4

The bust pocket unit is assembled by placing the bladder member between the two fabric layers 22 and 23 and securing them together by a line of stitching 39 adjacent the peripheral edge and outwardly of the sealing seams 35, the stitching terminating adjacent each side of the nozzle of the bladder member. Fig. 8 shows the complete left-hand bust pocket unit ready for sewing into the brassière structure. The right-hand unit is identical, but of opposite design.

The bust pocket units are secured in the brassière in substantially the same manner that the usual full-fashioned pocket would normally be secured, the marginal portion 36 being of such width, thickness and flexibility that its interposition within the marginal edges of the fabric layers 22 and 23 does not appreciably increase the thickness or interfere with folding.

Thus the right and left bust pocket units are seamed together along the center seam 11, the diaphragm band 13 is seamed along their lower edges by the seam 12, the side edges are seamed to the back strap sections 16-16 by the seams 15, and the upper edge is folded and bound with tape at its inner side in the usual manner, the stitching in every case being outwardly of the sealing seams 35 of the bladder members.

As shown in Fig. 16 the center seam 11 is formed by stitching 40 securing the two units together, the margins being folded flat at the inner side and covered by a tape 41 secured by stitching 42 and 43.

As shown in Fig. 14 the seam 12 securing the diaphragm band 13 is formed by binding the marginal edges of the bust pocket units and the diaphragm band with a binding tape 44 secured by stitching 45, folding the bound margin upwardly at the inner side, and securing the fold by stitching 46.

As shown in Fig. 15 the side seams 15 are formed by engaging the outer margin of the bust pocket unit between the folded side margins of the two layers of the back-strap section and securing by stitching 47 and 48.

As shown in Fig. 13 the upper margins of the units are secured by the stitching 49 and 50 which secures the finishing tape 51 at the inner side of the upper edge of the brassière. The nozzle portion of the bladder member is extended outwardly from the apex at the upper edge of each bust pocket unit where the shoulder strap is secured, the edge stitching being omitted at this point so that it will not extend across the nozzle. The nozzle is thus concealed behind the end of the shoulder strap and being extremely flat will not produce any appreciable bulge.

The bladders are not inflated to any great extent but are simply intended to have enough air placed therein to compensate for the difference in form of the wearer and the predetermined form of the bust pocket outer layer 22. The air may be injected into the bladder by inserting a small tube in the nozzle end and blowing with the mouth, or a suitable air pump may be used. When the tube is removed the nozzle will assume a flat form and it may thereupon be effectually sealed by folding over and securing with a suitable clip. As shown in Figs. 17 and 18 the clip may be provided as a part of the shoulder strap buckle 52 by providing the latter with a lower inwardly offset bar 53, the folded nozzle being simply engaged beneath the bar 53 where it is effectually concealed by the V-shaped shoulder strap end 54. The shoulder strap end is engaged over the intermediate bar 55 of the buckle and

the shoulder strap 21 is engaged over the upper bar 56. When the desired amount of air is placed in the bladders this air will remain for a very considerable period without leakage, so that it is not necessary to inflate them each time the garment is worn.

In the position of the brassière upon the body, as shown in Fig. 12, the inner layer 39 of the bladder member and the inner fabric layer 23 are simply pressed inwardly to the body, the softness and flexibility of the material allowing this to take place without any appreciable discomfort from the slight wrinkling that takes place in the preformed material as it is pressed inwardly from the normal position, as shown in Fig. 11, to the body-conforming position, as shown in Fig. 12. In this latter position the spacing of the inner layers from the outer layers will be entirely dependent upon the particular form of the wearer, that is the inner layers will not tend to change or distort the form of the wearer but will conform thereto with an even all-over pressure, and at the same time the outer layer 29 of the bladder will be pressed by the entrapped air into conforming relation to the outer layer 22 of the bust pocket. Convergence of the edges of the bladder to its fin-like margin 36, its outlining and full-fashioning in conformity to the outer layer 22, and the manner in which it is secured by the folding and stitching of the marginal portion with the securing seams of the bust pocket prevents any possibility of the bladder causing an unnatural bulge or ridge upon the outer surface of the brassière.

It is pointed out that the outer and inner layers of the bladder may each be full-fashioned by moulding a sheet of material into shape instead of employing the seams and darts, or they may be formed by any other suitable methods.

In Fig. 20 there is illustrated a modification of the invention in which the bust pocket unit is provided along its margin within each of the angular corners with snap fastener elements 57 for detachable fastening to complementary snap fastener elements 58 provided within a bust pocket member 59 of the brassière.

The term "brassière" as employed herein is intended to mean a brassière per se, as well as the brassière or bust pocket sections of other garments such as foundations, corsets, bathing suits, etc.

We have illustrated and described preferred and satisfactory embodiments of the invention, but it will be understood that changes may be made therein, within the spirit and scope thereof, as defined in the appended claims.

What is claimed is:

1. In a brassière, a pair of bust receiving pockets, each comprising an outer layer of flexible non-elastic air-impervious material having a permanent cupped contour normally presenting a convex front surface simulating the contour of a bust of predetermined size and shape, an inner layer of flexible air-impervious material substantially conforming in peripheral outline to said outer layer and having a cupped contour normally presenting a concave rear surface providing a pocket for receiving the bust of the wearer, said layers being joined at their peripheral portions by an air-impervious seal to provide an air retaining space between said layers, and sealable means in communication with said space for admitting between said layers a quantity of air determined by the size of the bust of the wearer,

said outer layer adapted to be resiliently sustained by said air and said inner layer adapted to be moved thereby inwardly from said outer layer into conforming relation to the bust of the wearer.

2. In a brassière, a pair of bust receiving pockets, each comprising an outer layer of flexible non-elastic material having a permanent cupped contour normally presenting a convex front surface simulating the contour of a bust of predetermined size and shape, an inner layer of flexible material substantially conforming in peripheral outline to said outer layer and having a cupped contour normally presenting a concave rear surface providing a pocket for receiving the bust of the wearer, and an air-inflatable bladder member disposed between said outer and inner layers and comprising an outer layer of flexible non-elastic air-impervious material having a permanent cupped contour normally presenting a convex front surface conforming to the internal surface of said first-mentioned outer layer, an inner layer of flexible air-impervious material having a cupped contour normally conforming to the internal surface of said first mentioned inner layer, said layers of said bladder member being joined at their peripheral portions by an air-impervious seal to provide an air retaining space between said layers, and sealable means in communication with said space for admitting between said bladder member a quantity of air determined by the size of the bust of the wearer, said outer layers adapted to be resiliently sustained by said air and said inner layers adapted to be moved thereby inwardly from said outer layers into conforming relation to the bust of the wearer.

3. For use in a brassière including a bust receiving pocket having an outer layer of flexible material, an air-inflatable bladder member adapted for engagement within said pocket comprising an outer layer of flexible non-elastic air-impervious material having a permanent cupped contour normally presenting a convex front surface simulating the contour of a bust of predetermined size and shape, an inner layer of flexible air-impervious material substantially conforming in peripheral outline to said outer layer and having a cupped contour normally presenting a concave rear surface providing a pocket for receiving the bust of the wearer, said layers being joined at their peripheral portions by an air-impervious seal to provide an air retaining space between said layers, and sealable means in communication with said space for admitting between said layers a quantity of air determined by the size of the bust of the wearer, said outer layer adapted to be resiliently sustained by said air and said inner layer adapted to be moved thereby inwardly from said outer layer into conforming relation to the bust of the wearer.

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