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BRASSIERE

3,528,431

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2 Sheets-Sheet 1

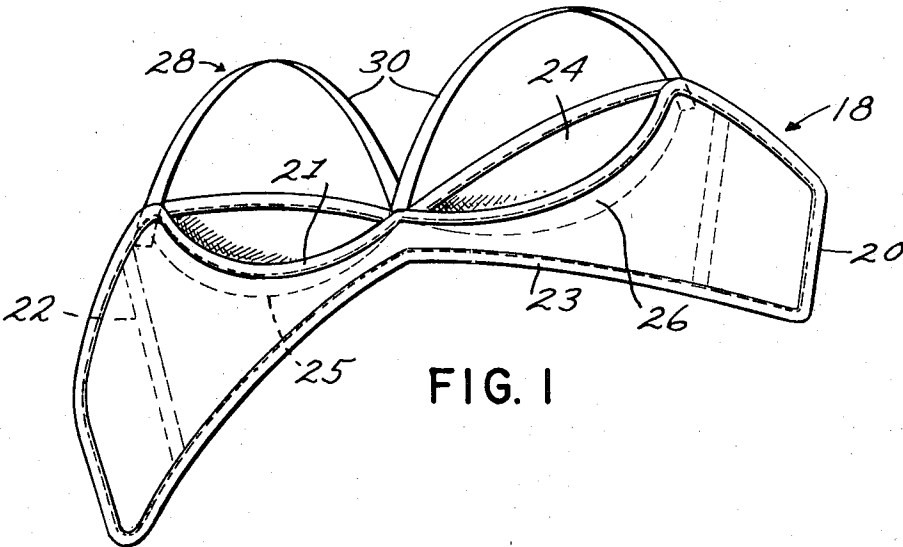


FIG. 1

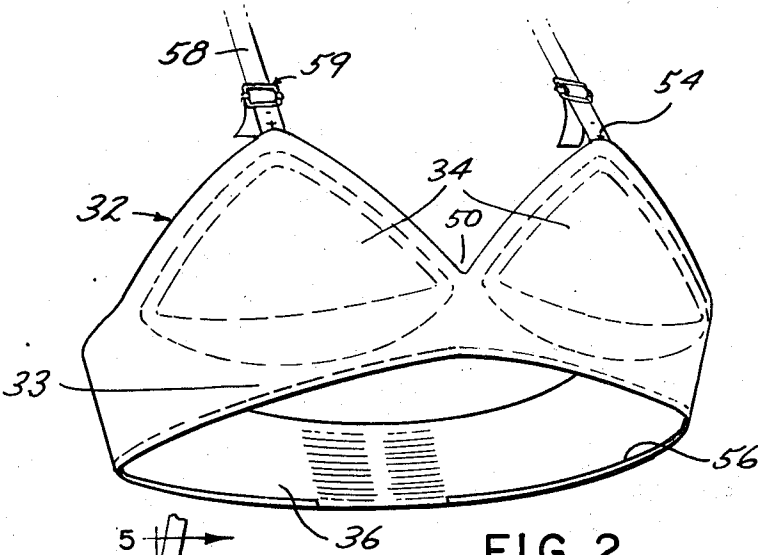


FIG. 2

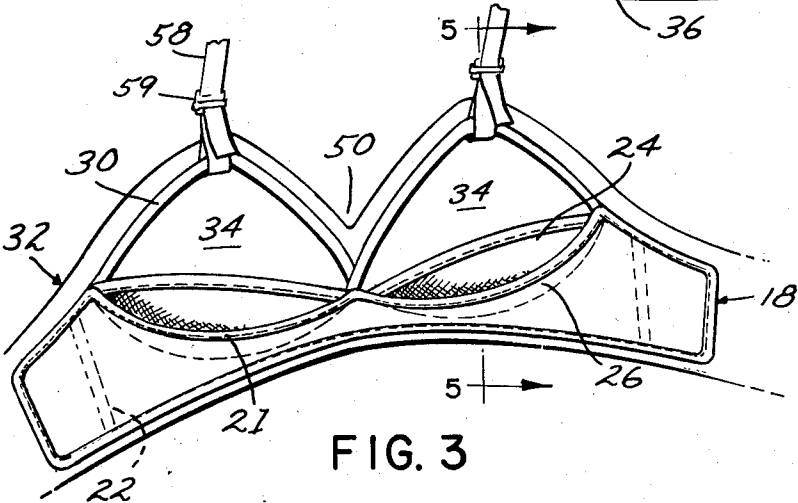


FIG. 3

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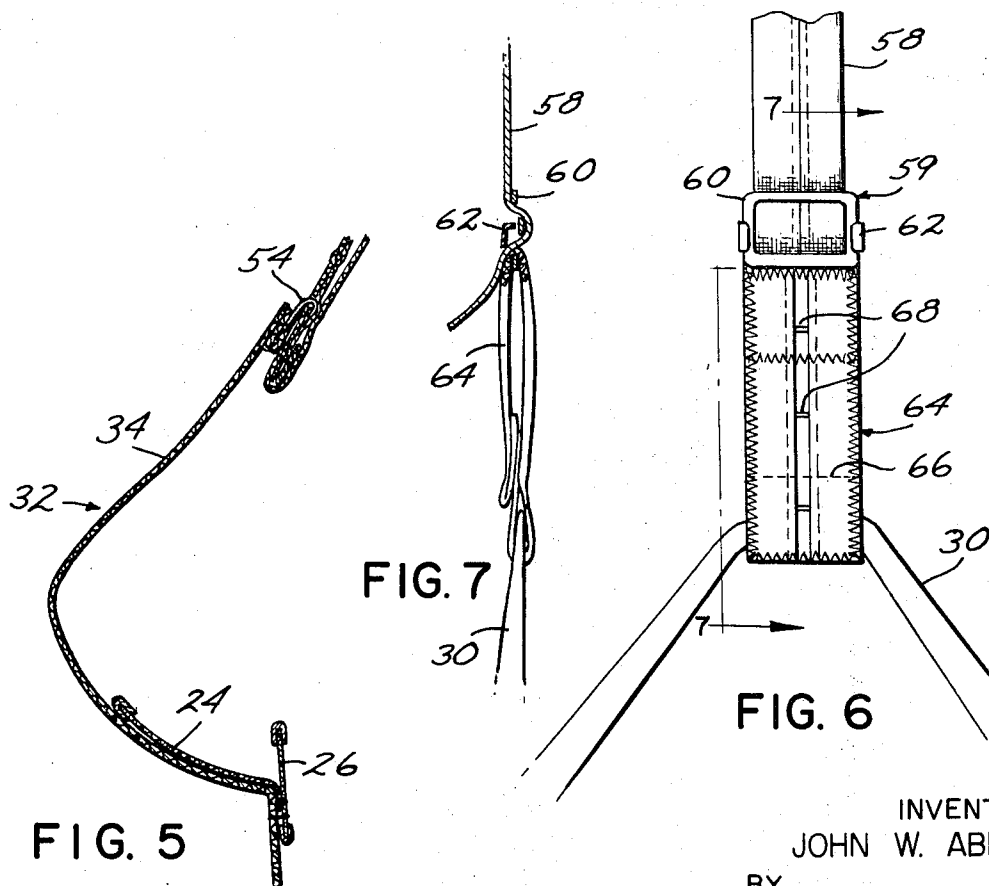
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9 Claims

ABSTRACT OF THE DISCLOSURE

A brassiere construction providing both freedom of movement and vertically adjustable, three-point suspension for the wearer. The construction includes a first cradle member made up of a pair of semi-cups attached to a body support band for supporting the lower portions of the breasts, each semi-cup having a hammock-type support, plus an outer shell comprising a pair of vertically-adjustable pockets which envelope the breasts and body and shoulder straps for securing the brassiere to the wearer.

This invention relates to an improvement in brassieres.

Heretofore probably the most prevalent limitation in the design of brassieres, especially those for large busts, is the failure to provide a fully-adjustable breast-supporting construction and hence neglecting to impart that degree of freedom-of-motion desired by the wearer, while further neglecting to provide means to comfortably vary the degree of uplift provided.

Accordingly, the principal object of the present invention is to provide an improved brassiere construction which imparts adjustable uplifting support for the breasts of the wearer, hence contributing to a woman's figure, comfort and health.

Another object is to provide a brassiere construction in which the primary uplifting is effected along a line slightly below the nipples so as to afford a direct lift without lateral displacement and at the same time distributing the lifting force over a substantial area of flesh so as to avoid local constriction and unnatural molding of the breasts, without sacrificing comfort or freedom-of-movement on the part of the wearer.

A specific object is to provide a brassiere construction utilizing a three-point uplifting force for each breast comprising a two-point "hammock" suspension for each of a pair of stiffened semi-cups plus an independent and vertically-adjustable suspension for each of a pair of breast pockets which cover the semi-cups and the breasts.

Additionally, most brassieres are constructed so that it becomes necessary to unfasten the brassiere proper to expose one or both breasts for nursing purposes. Thus still another object of the present invention is to provide a construction in which the brassiere proper remains in position on the wearer and wherein the breasts may be exposed without unfastening the body or shoulder straps of the garment.

To achieve these and objects, the brassier construction of the present invention includes a first cradle member which is particularly beneficial to the fuller figures in which the heavy breasts present a problem of support. This cradle member is formed of stiffened fabric and comprises a generally flat body band which fits snugly about the chest of the wearer directly beneath the breasts, breast supporting members in the form of a pair of semi-cups which are shaped to contain the lower portions of the breasts. This cradle member also includes a flexible suspension hanger attached to each semi-cup at opposite sides thereof so as to provide two loops which support the cups in a hammock-like manner.

The brassiere construction also includes an outer shell

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member which encircles the body and comprises a frontal part in the form of two flexible breast pockets, plus two duplicate backward extensions releasably attachable at the back of the wearer and a pair of shoulder straps connected to the backward extensions and disposed to loop opposite shoulders of the wearer. The outer shell is stitched to the body band so that the breast pockets are in front of the corresponding semi-cups. In the case of fuller breasts, with the conventional type brassiere the upper portions of the breast pockets tend to exert a downward and inward pressure against the flesh which has been forced upward by the stiffened lower portions of the pockets. This pressure may cause discomfort and prevent adequate movement of the flesh to compensate for body movements of the wearer. Accordingly this invention provides for adjustment of the breast pockets so as to provide substantial vertical uplifting of the breasts without vertically displacing the cradle member and without discomfort to the wearer. This is achieved by providing additionally the upper portion of each outer pocket with a hook member which can be adjustably and releasably attached to one of a vertical row of horizontal pins carried by a fabric link strap. Each link strap is secured to an adjustable buckle at the free end of each shoulder strap and also is slidably attached to one of the loops of the flexible suspension hanger, hence providing a three-point suspension for each breast.

The above and other novel features of the invention will become more apparent from the following detailed description of a preferred embodiment of the invention which is to be considered together with the accompanying drawing, wherein:

FIG. 1 is a detailed back or inner view of the cradle member of the invention;

FIG. 2 is a front perspective view of the preferred embodiment distended as when worn;

FIG. 3 is a fragmented back view of the preferred embodiment distended as when worn;

FIG. 4 shows a side and back perspective view of the same brassiere as it appears on a wearer;

FIG. 5 is a cross-sectional view taken substantially along line 5—5 of FIG. 3;

FIG. 6 is a fragmentary view of one of the loops of the flexible suspension hanger and the link strap and shoulder strap with which it is associated; and

FIG. 7 is a sectional view through lines 7—7 of FIG. 6.

Referring first to FIG. 1, wherein like parts are identified by like numerals, there is shown a cradle member 18 comprising a flexible body support band 20 adapted to fit snugly against the chest of the wearer, directly beneath the breasts. Preferably, but not necessarily, the band 20 is made of drill cloth (or duck) and flannel (or the like) laminated together, with the layer of flannel forming a soft inner face. Prior to lamination, drill cloth or duck is preferably treated in a manner well known in the art so as to provide sufficient body to enable it to hold its shape under repeated laundering. In addition to the above fabric combination, it should be noted that any other textile which will afford the desired strength and stiffness characteristics, and comfort to the wearer, may be substituted therefor. The support band 20 is shaped so that its upper edge 21 defines a pair of identical and adjacent concave depressions somewhat lower where the two depressions meet than at their opposite sides. The lower edge 23 of the body band is also generally concave, having its apex substantially directly below the median of the upper concave depressions. Stitched vertically, one along each side of the band, on opposite sides of the upper-edge depressions, are a pair of stiffening ribs 22, formed of thin strips of plastic, metal, or other stiff and resiliently-flexible material. The cradle member also includes a pair of

semi-cups 24 each formed with a convex lower edge and a generally flat upper edge. Each cup is made of the same material as body band 20 and is rounded longitudinally so that it will conform to the shape of a breast slightly below the nipple. The cups may be formed from a common piece of fabric so as to be joined together or preferably, as in the illustrated embodiment, may be formed as two separate parts. The two semi-cups are disposed side by side and their lower edges are attached to the upper edge 21 of body band 20. Preferably the cups are attached by stitching as shown at 25. The lower edges of the cups overlap the upper edge 21 of the band, such that a portion 26 of the edge 21 extends above the lower edge of each cup (see FIG. 5). This upwardly extending portion 26 of the band lies adjacent the chest of the wearer directly beneath the breasts. Preferably the maximum height of these upwardly-extending portions 26 occurs generally at the centerpoint of the lower edge of each cup and tapers toward the sides of the cups. Thus, when the brassiere is worn, the lower portion of the breasts will be supported by the semi-cups and the edges of the upwardly extending portions of the body band will lie directly against the lower contour of the breasts.

Additional support for the semi-cups 24 is achieved by the use of a flexible suspension hanger identified generally at 28 which consists of a suitable flat strap made of fabric and is attached by its ends, by stitching, to the body band 20 at the far sides of the two semi-cups, while its center is stitched to the body band at the center where the semi-cups meet, thereby forming two loops 30. As an alternative measure, the suspension hanger may be joined from two separate pieces of fabric strap, each forming one of the loops 30. Each loop 30 has a half-twist so that its opposite face will be disposed toward the body of the wearer when the brassiere is being worn. These loops 30 are of a length so that each will extend over and conform to the upper contours of the wearer's breasts. By means hereinafter described, these hangers are connected to shoulder straps, also hereinafter described.

Referring now also to FIGS. 2-5, and particularly FIG. 2, the brassiere also includes an outer shell 32 with a frontal portion 33 having two outer pockets 34 and opposing back sides or backward extensions 36. The latter are releasably joined together across the back of the wearer by a suitable engaging means, preferably being comprised of a first vertical row of hooks 40 sewn to a resilient-stretchable fabric or an elastic strap 42 which is stitched to one of the backward extensions 36. Two or more spaced vertical rows of eyes 44 are sewn to a spacer piece 46 which is sewn to one side of a second elastic strip 48 that is secured to the other backward extension 36.

Preferably the frontal portion 33 and the backward extensions 36 are of laminated construction, comprising two or three pieces of flexible fabric sewn together with the pockets 34 being integral with the outer layer of fabric. Preferably the pockets are joined of several pieces of fabric which are shaped and stitched together so as to have a convex molded form which conforms generally to the rounded shape of a breast. Preferably the pockets and the outer layer of the frontal portion 33 and backward extensions 36 are of a lightweight and preferably large-mesh textile material such as nylon or cotton lace or the like. The lower edges of pockets 34 are coextensive with and are secured by stitching to the convex lower edges of cups 24 or to that area of support band 20 directly adjacent the cups. Although the stitching may form a continuous seam, it preferably consists of several short-spaced seams formed at the corresponding sides of the pockets and cups and at the lower center thereof. Preferably, the adjacent upper edges of pockets 34 converge so as to define a V-shaped opening 50. Additionally the upper portion of each pocket 34 forms an apex substantially vertically above the nipple. A small hook 54 is secured at or near this apex.

From FIGS. 2 and 4, it is shown that the lower, continuous edge of member 32 is disposed to fit snugly about the body of the wearer. Accordingly, a strap of elastic or resilient-stretchable fabric 56 is sewn to this lower edge. If desired, the frontal portion also may be made of an elastic fabric.

Secured to the backward extensions 36 in any suitable manner such as stitching are two flat shoulder straps 58 disposed to lie flat and pass over opposite shoulders of the wearer. The free front ends of these shoulder straps pass through identical buckles 59 (FIG. 6), the latter being adjustable along the strap so that the effective strap length can be varied as desired. The buckles are of conventional design, preferably but not necessarily having a first section 60 of three parallel spacers closed at opposite ends so as to define two parallel elongated openings, and an additional section 62 formed of a pair of spacers defining a third parallel opening; section 62 being slidably attached to first section 60.

Also attached to each buckle 59, generally opposite the point of attachment of shoulder strap 58, is a link strap 64 (see FIGS. 6 and 7). Each link strap 64 preferably is a continuous, closed loop of a flat fabric material, passing around one spacer of the buckle and also around a corresponding one of uplifting loops 30. Each link strap thus slides freely along the corresponding one of loops 30. A line of stitching 66 across each link strap serves to form a separate loop around each hanger loop 30, thereby acting to maintain the flat shape of the hanger when supported by a corresponding link strap.

Stitched to the flat outer surface of each link strap 64, facing away from the body of the wearer, is a catch means in the form of a plurality of bars or pins 68, disposed horizontally so that at least a portion of each is exposed and can be releasably engaged by a corresponding one of breast pocket hooks 54. A variable number of pins 68 can be attached to each link strap. Preferably though, at least three pins are provided to afford a selection of three vertical positions for the pocket hook.

From the above, the manner in which the brassiere is worn should be obvious. Support band 20 fits under the breasts which are supported in part by semi-cups 24, the loops 30 lie across the upper surfaces of the breasts, supported by buckles 58 which are attached to shoulder straps 56. Outer pockets 34 support the front parts of the breasts and cover the upper surfaces of the breasts, with the degree of support being determined by the positions of hooks 54 with respect to pins 68.

Several advantages are afforded by the above design. Foremost is the provision of a three-point breast suspension with a built in vertical uplifting adjustment. To achieve these features, neither comfort nor freedom-of-movement are sacrificed. The supporting cups 24 with their hammock-type suspension contain the breasts in their correct frontal position as well as providing vertical support. Since the uplifting hanger loops 30 and the link straps 64 are slidably joined, adjustment to achieve vertical alignment with respect to the nipples and the semi-cups is possible without any attendant lateral pull in either direction. The outer pockets 34 fully contain the breasts and the adjustment thereof provided by hooks 54 and pins 68 permits adjustment in the degree of vertical lift along parallel lines through the nipples. For nursing purposes, it should also be evident that outer pockets 34 can be unhooked and lowered without unfastening the backward extensions 36 or shoulder straps 58. Finally in addition to forming a natural support for each breast, this construction also directs the front ends of the shoulder straps inwardly, hence overcoming the tendency of the straps to slip off the shoulders.

Since certain changes may be made in the above product without departing from the scope of the invention herein involved it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted in an illustrative and not in a limiting sense.

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What is claimed is:

1. A brassiere which comprises in combination:
 - a cradle member comprising a body support band and a pair of contoured breast-supporting cups, said breast cups being secured along their lower edges to said support band and each breast cup having a convex lower edge and a generally flat upper edge and wherein each cup is rounded so as to conform to the shape of a breast slightly below the nipple;
 - a suspension hanger comprising two flexible loops attached to said cradle member at opposite sides of said cups;
 - an outer shell comprising an outer body-encircling member having means for releasably securing said outer member about the body of the wearer and a pair of pockets aligned with and covering said cups, said pockets contoured to substantially fully cover the breasts of the wearer;
 - a pair of shoulder straps attached to said outer body-encircling member and disposed to loop over the shoulders of the wearer;
 - a pair of buckles, one each of said buckles attached to the free end of a corresponding shoulder strap for adjusting the effective length thereof;
 - connecting means coupled to said buckles for providing a slidable connection with said flexible loops;
 - securing means attached to the upper end of each of said pockets; and
 - means attached to said connecting means for adjustably engaging and holding said securing means.
2. The brassiere of claim 1 wherein the upper edge of said body band is characterized by a pair of concave depressions and wherein said contoured cups are separate members and are attached to the body band so that a marginal portion of said upper edge along said concave depressions extends above the lower edges of the cups and

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lies against the chest of the wearer directly adjacent the lower posterior portions of the breasts.

3. The brassiere of claim 1 wherein said cradle member is made of a laminated textile fabric comprised of drill cloth and flannel.

4. The brassiere of claim 1 wherein said pockets are of a lace fabric.

5. The brassiere of claim 1 wherein each of said pockets has an upwardly converging edge which forms an apex substantially vertically above the nipple and wherein said securing means comprises a hook attached adjacent said apex of each of said pockets.

6. The brassiere of claim 1 wherein said connecting means comprises straps looped about said flexible loops.

7. The brassiere of claim 1 wherein said last-mentioned means comprises at least two horizontally-disposed pins secured in a vertical row so as to be releasably engageable by said one of said securing means.

8. The brassiere of claim 1 wherein at least one portion of said body-enclosing member is of a resilient-stretchable fabric.

9. The brassiere of claim 1 wherein said pockets are made of a lace material.

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U.S. Cl. X.R.

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