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3,196,878

BRASSIERE WITH ADJUSTABLE CONNECTOR

Filed Sept. 28, 1962

2 Sheets-Sheet 1

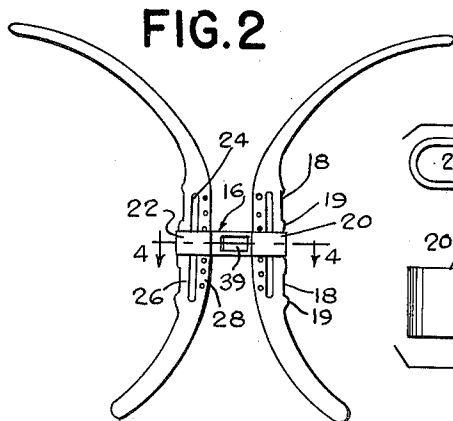
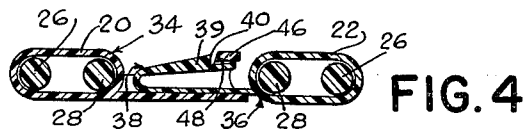
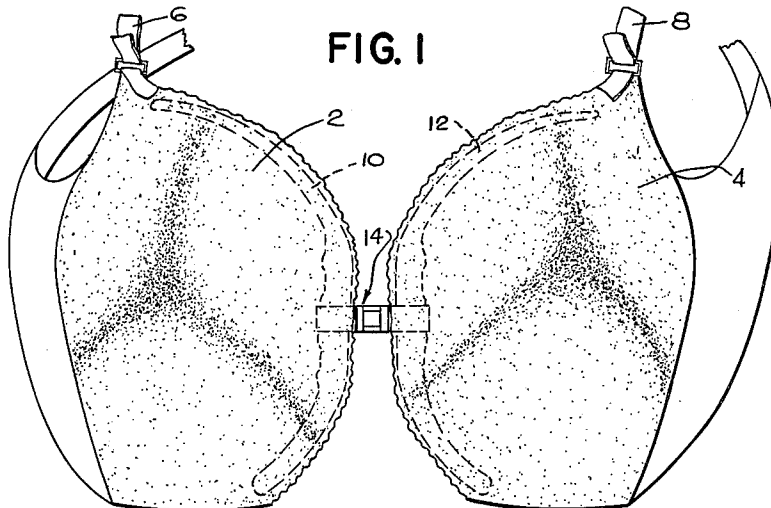


FIG. 5

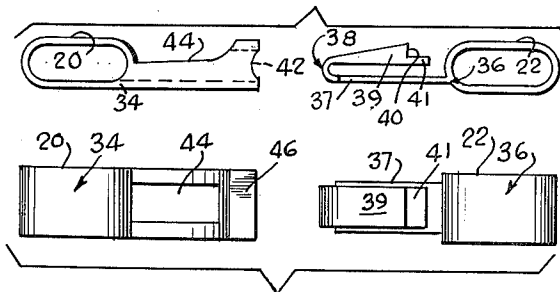


FIG. 6

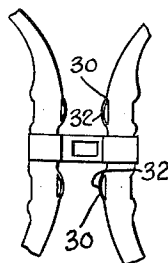


FIG. 3

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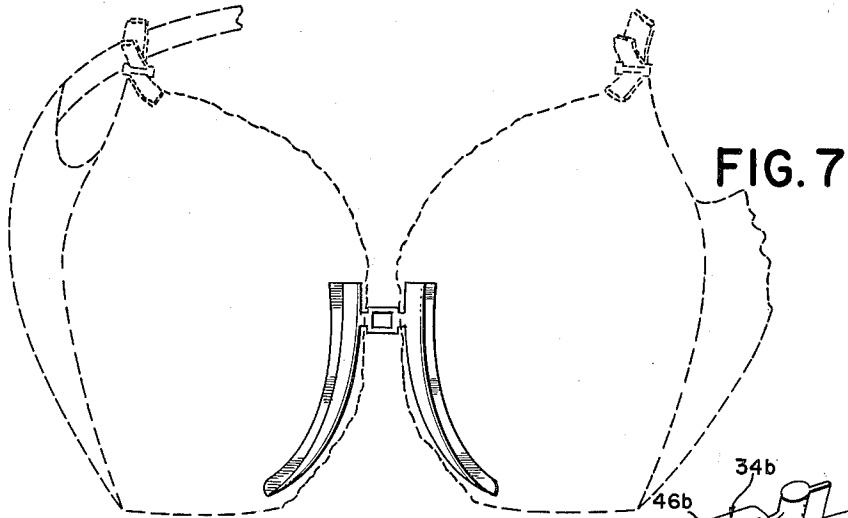


FIG. 7

FIG. 9

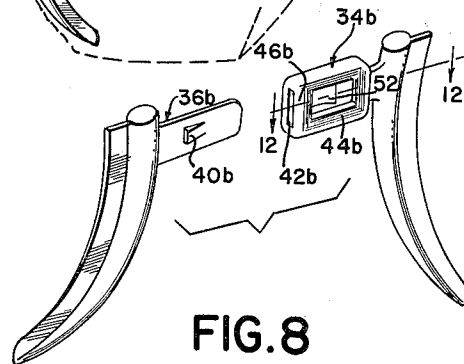
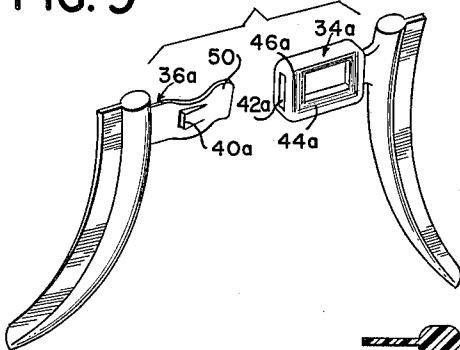


FIG. 8

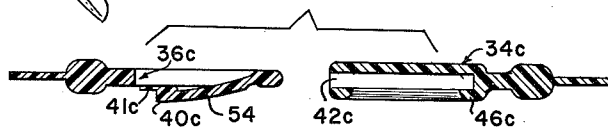


FIG. 11

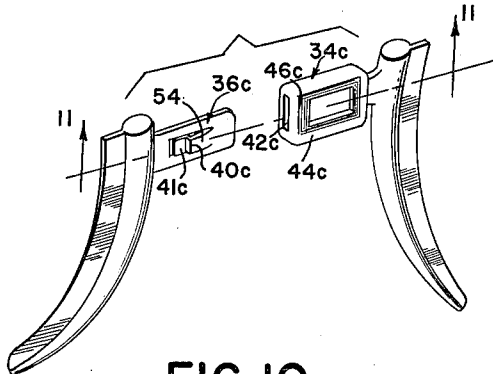


FIG. 10

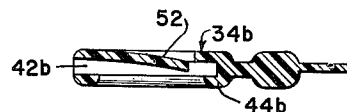


FIG. 12

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BRASSIERE WITH ADJUSTABLE CONNECTOR

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10 Claims. (Cl. 128-470)

This invention relates to brassieres and more particularly to brassieres having an adjustable connection immediately between the breast cups thereof. Moreover, this invention is most advantageously utilized in brassieres which are of the front clasping type and it involves an improved clasp assembly especially well adapted for garments of this structure.

Brassieres are generally constructed with a fabric connection sewn between the breast cups and a torso-encircling band extending from the outer edges of the breast cups and detachably fastened in the center of a wearer's back. In recent years it has become increasingly common to modify this structure so that the torso-encircling band is an integral elasticized strap and the detachable connection is placed between the breast cups, adjacent to the wearer's sternum. This invention is especially suited to brassiere construction of this latter type.

It is an object of this invention to provide a novel and efficient means for vertically adjusting the connection between the cups of a brassiere so that the relative angular positions formed by the cups may more accurately conform to the physique of the individual wearer, thus yielding greater comfort and better support to the user.

Another object is to provide a means for locking the connection between the cups in the desired position after the proper vertical adjustment has been made.

A further object is to provide a brassiere having novel clasp means for detachably releasing the connection between the breast cups for simple, efficient, and trouble-free donning or removing of the garment. The clasp also provides maximum comfort to the wearer of the brassiere by presenting a unitary smooth surface which contacts the wearer's sternum.

Another object is to provide a brassiere stay which is especially well adapted for front closing brassieres with vertically adjustable connecting means.

The foregoing objects are achieved by providing a brassiere with elongated stay members along the inner edges of the cups and a joining member attached to both stays and slideable therealong, and providing resilient means for locking the ends of the joining member within depressions in the stay member.

Furthermore, the objects are achieved by a novel clasp member which may be a part of the above-mentioned joining member. The clasp has interfitting male and female members. The male member has a shoulder thereon which engages an edge of an aperture located in the face of the female member.

Other objects and advantages will become apparent from the following description and the related drawings wherein:

FIG. 1 is a front view of a brassiere of the instant invention, showing the general location of the elements to which this invention pertains;

FIG. 2 is a front view of the brassiere stays showing a detachable clasp and means for vertically adjusting the connection between the stays;

FIG. 3 is a fragmentary view of a modification of the brassiere stay;

FIG. 4 is an enlarged cross-sectional view of the brassiere clasping means, taken along line 4-4 in FIG. 2;

FIG. 5 is a plan view of the brassiere clasp as detached;

FIG. 6 is a front elevation of the brassiere clasp as detached;

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FIG. 7 is a front view of a modified form of stay and clasp assembly, showing a brassiere in ghosted outline form;

FIG. 8, 9, and 10 are perspective views of various modifications of the improved stay and clasp assembly;

FIG. 11 is a cross-sectional view of the stay and clasp shown in FIG. 10, as taken along the line 11-11; and

FIG. 12 is a cross-sectional view of the female clasp member shown in FIG. 8, as taken along the line 12-12.

The drawings are more fully explained hereinafter with particular reference to the various numerical designations, each individual numeral having the same significance in the different figures.

As can be seen in FIG. 1, the improved brassiere has the usual breast cups 2 and 4, shoulder straps 6 and 8, and it is connected at its back by any form of torso-encircling band, not shown, with or without a detachable connection. This band is attached to the outer edges of the cups.

Along the inner edges of the cups 2 and 4 are stay members 10 and 12 which may be held in pockets in the brassiere or by any other suitable means. As shown, the stays serve the function of supporting the inner edges of the cups, but they need not serve in any structural capacity. The cups are held together by a joining member 14 which is mounted for longitudinal adjustment along the stays.

Due to varying physical characteristics of individuals, it is especially desirable to allow for vertical adjustment of the joining means 14, so that the connection may be made in a position which will be comfortable to the wearer and yield the most desirable support. To provide this adjustability, the stays are preferably made of a resilient plastic material, and are provided with apertures in a portion thereof which allow the stays to be biased against the sleeve-like ends of the joining member. As will be described hereinafter, this resiliency allows the locking of the joining member in its desired position.

This may be best seen in FIG. 2 where there is shown a clasp assembly 16 rather than the integral joining means shown in FIG. 1. Along the outer edges of the stays, a series of depressions 18 with intervening ridges 19 are provided to accommodate the stay engaging sleeves 20 and 22 of the joining member or clasp assembly 16. An elongated aperture 24 is located in the stay, resulting in two relatively flexible portions 26 and 28 of the stay shank. These flexible portions, at the areas of depressions 18 are so spaced that when in their normal position, they securely hold the rib engaging sleeves 20 and 22 of the clasp assembly and prevent them from passing over the ridges 19.

In order to vary the vertical position of the joining means, the flexible portions 26 and 28 are pinched toward one another, a rib engaging sleeve 20 or 22 is slid into the desired position and then the flexible portions are released, thus locking the sleeve in another depression.

It is also possible to effect adjustment by forcing the stay engaging sleeves 20 and 22 over the ridges 19 on the stays. The resiliency of the stay shank portions 26 and 28 will lock the sleeves in alignment with depressions 18 when the proper adjustment has been made.

A modification of this structure is shown in FIG. 3 wherein a portion of the stay is in the form of an undulating resilient strip 32, which defines a series of relatively small apertures 30. It can readily be seen that this structure will also provide easy adjustability of the vertical position of the cup joining means.

The clasp means which may be used with this improved brassiere construction can best be understood by reference to FIGS. 4 through 6 and FIGS. 9 through 12.

Four modifications of the clasp assembly are illustrated. Each has a female housing with a slot in one end which

receives a male member. The outer face of the female member is partially open in order to provide a surface which a shoulder on the male member may engage. Resilient means are used to urge the shoulder outwardly into engagement with the edge of the open face. This open face also exposes a portion of the male member when it is locked in the female member to allow for easy disengagement of the clasp members. When latched, there are no rough projecting members on the clasp and thus no unsightly bulges are produced in the outer garments. The smooth inside surface of the female member which rests on the wearer's sternum makes the brassiere quite comfortable to the wearer.

Each embodiment of the clasp may be described as having a male member and a female member. Each female member has spaced apart inner and outer face members, the outer face member having an opening therein; and each male member has a shoulder which is resiliently biased into the opening in the outer face member of the female member. This shoulder projects into the opening to lock together the male and female members.

It should be noted that the inner portions of the clasp assembly are those which are toward the wearer, and the outer portions are those away from the wearer. This terminology differs from that used in describing the breast cups, wherein their inner sides are the adjoining sides, and their outer sides are those which attach to the torso-encircling band.

The first form which the clasp member may take is shown in FIGS. 4, 5, and 6. The female member 34 is a housing dimensioned so that it will slidably accommodate a resilient U shaped band 38 on the male member 36. The band 38 is made of a straight leg 37 and a tapered leg 39. The tapered leg 39 faces outwardly, away from the wearer. An end portion of the tapered leg is cut out to form a shoulder 40 and a tang 41.

The female member 34 has an aperture or slot 42 in one end which receives the male member and a partially open outer face 44 which allows part of the tapered leg 39 of the male member to extend therethrough. The portion of the outer face which is formed between the slot 42 and the face aperture acts as a locking bar 46. As can be seen by reference to the drawings, when the clasp is in locking engagement, the shoulder 40 abuts against the locking bar 46 and thus prevents the clasp from disengaging.

The clasp is easily locked by inserting the U shaped band 38 of the male member 36 into the aperture 36 in the catch member 34. When the shoulder 40 clears the locking bar 46, the resiliency of the clasp material causes it to spring outwardly, assuming the position shown in FIG. 4. Tang 41 prevents the tapered leg 39 from springing too far outwardly. Firm locking engagement may be further insured by slightly tapering the shoulder 40 and the corresponding surface on the locking bar 46. Thus, any force tending to pull the clasp members apart will instead force them into further locking engagement, as corner 48 of the locking bar is drawn into the corner in the latching member formed by shoulder 40 and tang 41.

To release the clasp, the wearer may press on the tapered outer leg 39 of the male member until the shoulder 40 may freely pass under the locking bar 46 and out the aperture 42.

Other suitable clasp assemblies are shown in FIGS. 9 through 12. These are illustrated as being integrally molded with another type of stay which is mounted in a brassiere as shown in FIG. 7.

The clasp assembly shown in FIG. 9 is similar to that described above in that the female member 34a is a housing with a slot or aperture 42a in one end designed to receive the male member and a partially open outer face 44a. The vertical dimension of the slot 42 is greater than that of the aperture in the open face. The portion

of the housing lying between the slot 42 and the opening in the face acts as a locking bar 46a.

The male member 36a comprises an undulating strip of resilient material with a straight portion 50 toward its outer end to facilitate insertion into slot 42a. A shoulder 40a is on the outer face of the male member and it is somewhat narrower than the male member itself. When the resilient male member is inserted into slot 42a, it is somewhat straightened. The resiliency urges the shoulder 40a outwardly and when it clears the locking bar 46a, it will snap into locking engagement with the locking bar.

This clasp may easily be unfastened by pressing the shoulder 40a inwardly and pulling the clasp members apart.

Another modification of the clasp is shown in FIGS. 8 and 12 where the male member 36b need not be resilient. A tapered shoulder 40b similar to that described above is on the outer face of the male member.

The female member is similar to the one described above, except that a U shaped cut is taken on the inner face of the housing and the material surrounded thereby is permanently inclined inwardly. This may best be seen in FIG. 12. The resilient tongue 52 thus formed in the female member will serve to urge the male member 36b outwardly to insure the locking of the shoulder 40b against the locking bar 46b. As in the other constructions, the locking bar 46b is formed between the aperture 42b and the opening in the outer face 44b of the female member.

In FIGS. 10 and 11 a still further modification is shown. The female member 34c with end slot or aperture 42c, a partially open face 44c, and locking bar 46c is identical to that described above in the FIG. 9 modification.

The male member 36c is made of a resilient material and it has a substantially straight body portion. A U shaped cut extends through the faces of the body portion to define a catch portion 54. This catch portion 54 is permanently inclined outwardly and is sufficiently resilient to be easily pressed inwardly. A shoulder 40c and tang 41c are located toward the outer end of the catch portion 54.

When the male member 36c is inserted in the female member 34c, the catch portion 54 is depressed until shoulder 40c clears the locking bar 46c. Then, the resiliency of the catch portion causes it to move outwardly, causing the shoulder 40c to engage against the locking bar 46c.

Disengagement is accomplished by pressing the catch portion 54 until shoulder 40c slides freely below the locking bar 46c.

Having described my invention, numerous modifications will occur to those skilled in the art. It is understood that the invention is not limited only to the embodiments described herein, but by the claims which follow.

I claim:

1. A brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, vertically disposed elongated stay members mounted along the inner edges of said cups, a cup joining member having its ends encircling, slidably attached to and movable along said stay members, said stay members each having vertically arranged depressions therein along one side thereof, and resilient means biasing the ends of said joining member into said depressions to prevent inadvertent movement of the ends of said joining member longitudinally along said stay members.

2. A brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, vertically disposed elongated stay members mounted along the inner edges of said cups, a cup joining member having its ends encircling, slidably attached to and movable along said stay members, each stay member having a series of vertically arranged depressions on one side thereof and resilient means on the opposite side thereof, said resilient means acting to retain the slidable ends of said joining member in said depressions.

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3. A brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, vertically disposed elongated stay members mounted along the inner edges of said cups, a cup joining member having two connected sleeve members, each of said sleeve members encircling and being longitudinally slidable along only one of said stay members, each of said stay members being made of a resilient plastic material and having a vertically arranged series of depressions along one side thereof, a longitudinally extending elongated aperture passing through said stay adjacent said depressions, the resiliency of each said stay in the vicinity of said aperture acting to bias said sleeve into one of said depressions.

4. A brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, vertically disposed elongated stay members mounted along the inner edges of said cups, a cup joining member having two interconnected sleeve members, each of said sleeve members encircling and being longitudinally slidable along only one of said stay members, each of said stay members having a series of vertically arranged depressions on one side thereof, said depressions adapted to accommodate said sleeve members, an undulating resilient portion on the opposite side of said stay member, said resilient portion acting to bias said sleeve member into one of said depressions.

5. A front clasping brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, vertically disposed elongated stay members mounted along the inner edges of said cups, a clasp assembly having two members in detachable engagement, each of said clasp members having a sleeve attached thereto, each of said sleeves encircling and being slidably mounted on one of said stay members, each of said stay members having a plurality of sleeve accommodating depressions on one side thereof and resilient means on the opposite side thereof to bias said sleeves into said depressions.

6. A front clasping brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, vertically disposed elongated stay members mounted along the inner edges of said cups, a clasp assembly having two members in detachable engagement, each of said clasp members having a sleeve portion encircling and longitudinally slidable along one of said stay members, each said stay member having a series of sleeve holding depressions along one side thereof and an elongated aperture extending through said stay, said stays being made of a resilient material, said stays being sufficiently resilient in the vicinity of said aperture to enable shifting of said sleeve portions from one said depression to another said depression.

7. A front clasping brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, vertically disposed elongated stay members mounted along the inner edges of said cups, a clasp assembly having two members in detachable engagement, each of said clasp members having a sleeve portion encircling and longitudinally slidable along one of said stay members, each said stay member having a plurality of sleeve engaging depressions along one side thereof and an undulating resilient portion along the opposite

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side thereof, said resilient portion adapted to hold said sleeve portions within said depressions.

8. A front clasping brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, stay members mounted on the inner edges of said cups, a clasp assembly having a male member and a female member in detachable engagement, each said member having a sleeve portion encircling and in slidable engagement along each of said stay members, each of said stay members having sleeve accommodating depressions therein and means to resiliently bias said sleeve member into said depressions, said female clasp member comprising a housing having a face member on the inner side thereof, a locking bar fixedly spaced outwardly from said face member and generally parallel thereto, said male member slidable between said face member and said locking bar, a shoulder on the outer side of said male member, resilient means biasing said shoulder outwardly to lock against said locking bar.

9. A stay for a brassiere comprising a member of a resilient material adapted to be mounted along the inner edge of a breast cup, said stay adapted to slidably receive a sleeve placed therearound, a plurality of depressions on an outer edge of said stay capable of accommodating said sleeve, said stay having a longitudinally oriented elongated aperture therethrough transversely aligned with and spaced from said depressions, the resiliency in the area of said depressions holding said sleeve in one of said depressions but sufficient to permit forcible adjusting of said sleeve from one depression to another.

10. A brassiere stay and clasp assembly adapted to be mounted between the cups of a front clasping brassiere comprising a pair of stay members and a clasp assembly with a male member and a female member, each of said clasp members having a sleeve portion encircling and in slidable engagement along each of said stay members, each of said stay members having sleeve accommodating depressions therein and means to resiliently bias said sleeve member into said depressions, said female clasp member comprising a housing having a face member on the inner side thereof, a locking bar fixedly spaced outwardly from said face member and generally parallel thereto, said male member slidable between said face member and said locking bar, a shoulder on the outer side of said male member, resilient means biasing said shoulder outwardly to lock against said locking bar.

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ADELE M. EAGER, *Primary Examiner.*