June 11, 1963 M. DUGAN 3,093,137

BRASSIERE

Filed April 5, 1961

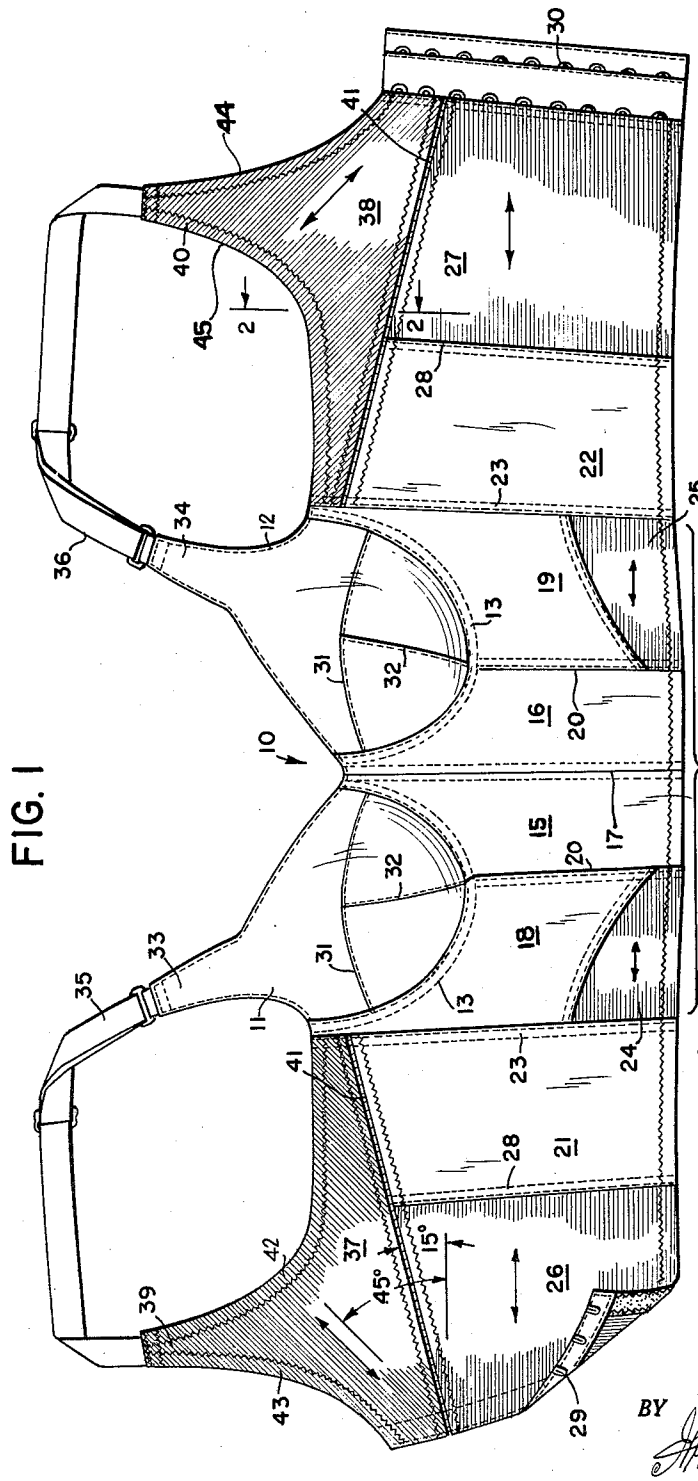

FIG. 1

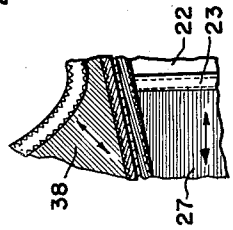

FIG. 3

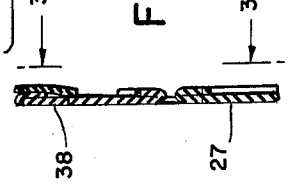

FIG. 2

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United States Patent Office 3,093,137 Patented June 11, 1963

3,093,137

BRASSIERE

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Filed Apr. 5, 1961, Ser. No. 100,936
3 Claims. (Cl. 128—443)

This invention relates to brassieres, and more particularly to a brassiere having means responsive to physical activities of the wearer, while maintaining its primary function of molding and supporting the busts.

Although varying attempts have been made to provide greater response in a brassiere to the physical activities of the wearer thereof, while still maintaining its supporting and molding functions, the practical results attained, especially of a person endowed with heavy and/or pendulous busts, have been far from satisfactory. In any of such attempts, reliance upon the uplifting support necessary for such class of wearers still must be upon the shoulder straps. It is obvious, therefore, that in spite of variations and/or additions, of panels and other devices, the weight of the bust continues to be placed on such shoulder straps.

Such class of wearers, too, are prone to a greater fleshy area especially in the region under the arms, and tighter lateral body-encircling controls, with the hope of relieving the pull and digging of the shoulder straps in the shoulder area, only tend to compact such fleshy area into "rolls" under the armpits, and at best result in an unsightly silhouette of the female figure.

Where attempts have been made at elastic inserts to relieve shoulder strap stresses, such attempts have not fully met the demands of today's active wearer especially in response to bending and like activities. This is especially noticeable when the wearer, in pursuance of physical activities, experiences digging and consequent unsightly silhouette especially at the shoulders as a result of shoulder strap tensions.

It is therefore an object of the present invention to provide means, in a brassiere, to relieve stresses and strains imposed by the shoulder straps upon the body of the wearer, and to allow a greater degree of freedom of movement of the wearer.

Another object of the present invention is to provide means to radiate stresses and strains resulting from the pull of the conventional shoulder strap of a brassiere so that the discomforts of a concentrated pull are dissipated.

A further object of the present invention is the provision of a brassiere which will permit greater physical activity of the wearer with a minimum of restrictive discomforts.

Another object herein is the provision of a brassiere responsive to bending, twisting, stretching, and like activities without detracting from the molding and supporting functions of the conventional brassiere.

A still further object of the present invention is to furnish added support and control particularly to the underarm area of the wearer so as to eliminate "rolls" of flesh commonly occurring in such areas.

In general, achievement of the foregoing aims, objects and advantages of the present invention is accomplished by the provision of a plurality of panels having a one-way stretch characteristic, disposed in a particular relationship to each other so as to yield a horizontal, vertical, and oblique stretch characteristic at the rear of a brassiere, without affecting the supporting and molding functions of a brassiere.

The particular relationship of such panels according to the present invention further affords relief from stresses and "digging" especially at the shoulders of the wearer,

while effectively controlling fatty underarm tissue and results in a more natural contour.

Other objects, advantages, and inventive characteristics of the present invention will become apparent to those versed in the art from the following description of a specific embodiment thereof as illustrated in the accompanying drawings in which similar reference characters identify similar parts in the several views, and in which:

FIG. 1 is a plan view of the front of the garment according to the present invention;

FIG. 2 is a view taken on line 2—2 of FIG. 1; and

FIG. 3 is a view taken on line 3—3 of FIG. 2.

Referring now to the drawings, the brassiere **10** of the present invention comprises a pair of bust cups **11**, **12** joined by stitching **13** along the side and lower perimeters thereof to the front portion **14** of the brassiere adapted to overlay the diaphragm area of the body. Such front portion **14** may be of a conventional single panel of non-stretchable fabric or may comprise a pair of inner central panels **15**, **16** joined by stitching **17** along the vertical inner edges thereof and a pair of outer central panels **18**, **19** joined along the inner vertical edges by stitching **20** to panels **15**, **16** respectively.

The sides of the garment **10** are provided with panels **21**, **22** preferably by non-stretch fabric and is joined along the vertical edges thereof by stitching **23** to the outer vertical edges of panels **18**, **19**. Gusset inserts **24**, **25** at the bottom of panels **18**, **19** respectively, may further be provided to insure lateral stretch and additional comfort to the wearer.

The rear of the garment **10** comprises a plurality of panels **26**, **27** joined along the inner vertical edges by stitching **28**, to the vertical edges of panels **21**, **22**, respectively. The outer vertical edges of panels **26**, **27** are provided with securing means such as hooks **29** and eyes **30** for securement at the back of the wearer so as to form a body encircling garment.

The bust cups **11**, **12** of the garment **10** are substantially of conventional construction and are fabricated of a non-stretch material in a plurality of sections and reinforced by transverse stitching **31** and vertical stitching **32** in the lower portion thereof. Bust cups **11**, **12** are further provided, in the upper region thereof, with substantially elongated areas **33**, **34** gently tapering at the peak thereof, and having secured thereto in conventional manner, one end of shoulder straps **35**, **36** of conventional construction. The opposite ends of shoulder straps **35**, **36** are secured in conventional manner to upper rear panels **37**, **38** presently to be described, as substantially angular corners **39**, **40** thereof.

Referring more particularly to the rear area of garment **10**, rear panels **26**, **27** are of one way stretch material, the stretch characteristic thereof being on a horizontal or a 180° plane with respect to the body of the garment. The rear of the garment **10** is provided with substantially triangular panels **37**, **38**, heretofore referred to as upper rear panels, the hypotenuse thereof seamed by stitching **41**, preferably using non-stretch thread, to include the upper edges of panels **21**, **22**, and **26**, **27**, respectively, at an angle of 15° with respect to the horizontal plane of the garment **10**. The side edges **42**, **43** and **44**, **45** of panels **37**, **38**, respectively, are substantially arcuately contoured upwardly forming substantially angular corners **39**, **40**.

Upper rear panels **37**, **38** are specifically formed of a fabric having a one way stretch characteristic and being biased on an angle of 30° from the hypotenuse, or bottom edge thereof.

It will be evident from the foregoing that panels **26**, **27** having a horizontal stretch on a 180° plane will furnish

sufficient confinement as well as lateral stretch for the comfort of the wearer.

Upper rear panels **37, 38** disposed as they are obliquely at a 15° angle with respect to said rear panels **26, 27** and cut on a bias at a 30° angle with respect to said rear panels **26, 27,** furnishes a one way stretch characteristic at an angle of 45° from the horizontal plane of the body of the garment. The resulting stretch, therefore, of the shoulder straps **35, 36** is thus vertical and oblique as well as horizontal and makes control of underarm bulges resulting from stresses of the shoulder strap on a vertical plane, as well as on an oblique plane, responsive to bending and stretching possible.

The disposition of such panels **37, 38** extending at the top of the rear panels **26** and **27,** as well as the top of side panels **21** and **22,** further serves to dissipate the degree of stress over a larger area, rather than being concentrated at a focal point, as is the case in the conventional brassiere.

Although a specific embodiment of the present invention has been described and illustrated, it is to be understood that the present invention is not limited to the embodiment described and illustrated in the drawings, but various adaptations may be made without departing from the spirit and scope of the invention as described and illustrated.

I claim:

1. A brassiere comprising a pair of bust cups and a diaphragm portion within which said bust cups are laterally disposed; side panels to which said diaphragm portion at the outer vertical edges thereof is secured; a plurality of rear panels secured to said side panels along the vertical edges thereof; a substantially triangular panel secured to the top of each rear and side panel, said triangular panel being biasly disposed with respect to the horizontal plane of said garment; and shoulder straps secured at one end thereof to the top of said bust cups, and at the other end thereof to said triangular panel.

2. A brassiere according to claim 1 wherein said biasedly disposed panels are within a range of from 40° to 50° with respect to the horizontal plane of said garment.

3. In a brassiere, having a diaphragm portion, laterally spaced bust cups within said diaphragm portion, side panels laterally extending from said diaphragm portion; a rear portion comprising a plurality of upper and lower rear panels having a one way stretch characteristic; and shoulder straps extending from said bust cups to said upper rear panels; said lower panels of said rear section having a horizontally disposed stretch characteristic; and said upper panels of said rear section joined to said lower panels at the top thereof having an obliquely disposed stretch characteristic, whereby the combination of said upper and lower rear panels yield a horizontal, vertical, and oblique stretch characteristic at the rear of said garment.

References Cited in the file of this patent

UNITED STATES PATENTS

2,052,163	Brown	Aug. 25, 1936
2,866,462	Faron	Dec. 30, 1958
2,884,927	Goldstein	May 5, 1959
2,888,930	Coleman et al.	June 2, 1959