

Description

The present invention relates to a support used in association with a cup of a brassiere and, more particularly, to a plastic substantially U-shape undercup support which has preselectively different cross-sectional configurations along its length.

A support, a stay or an underwire is desired in some types of brassieres to provide upward support for the cup of the brassiere. The upward support can reduce the strain on the shoulders of the brassiere wearer, and enough upward support can be provided so that the brassiere may not need shoulder straps, or at least, will need less support from the shoulder straps. Further, the upward support enhances the shape of the brassiere and, therefore, the features of the wearer.

Metal underwires, and in particular substantially U-shape metal underwires, are so universally used in brassieres that this type of brassiere is generally known as an underwire brassiere; however, such prior art underwire brassieres have certain shortcomings. Specifically, a metal underwire has little resiliency and, therefore, easily twists or distorts out of shape which distortion causes discomfort to the wearer. Accordingly, to minimize distortion, brassiere manufacturers have recommended that their metal underwire brassieres not be machine laundered. In addition, machine laundering causes the end portions of a metal underwire to damage the stitching of the sheath or pocket of material in which the metal underwire is typically enclosed in the brassiere frame so that the metal underwire will "poke-through" the brassiere. Hand laundering, which is required to avoid this poke-through, is inconvenient to the consumer. Only recently has a manufacturer of a metal underwire brassiere even suggested machine laundering and this provided the machine laundering is at a gentle, or special, cycle. However, gentle cycle laundering is inconvenient and time consuming. Specifically, gentle cycle laundering has both slower spin and milder agitation features than a normal cycle laundering, and therefore the gentle cycle laundering is not suitable for heavily soiled garments. Accordingly, gentle cycle laundering is normally limited to delicate type garments since they are not heavily soiled. Further, a relatively smaller number of garments can be laundered during gentle cycle as compared to the number laundered during normal cycle.

Some stays and supports have been made of plastic. However, a plastic support is much weaker than its similarly configured metal underwire. Accordingly, the plastic support needs to be made of a material and of a configuration which provides enough rigidity at the portion thereof under the breast of the wearer. However, such rigidity is not desired at the end portions of the plastic support since such rigidity will cause the end portions to rub against and thereby irritate the wearer as the wearer moves.

Prior art plastic stays and supports have taken various measures to provide the desired rigidity and yet avoid having the end portions thereof irritate the wearer. Such measures are found in the following patents.

U.S. Patent No. 3,030,633 is directed to plastic strips which, in certain embodiments thereof, have a body portion and tip portions of different resiliency since the tip portions are made from a softer resin material and of a thickness less than that of the body portion. The tip portions also include notches which are provided to sew the strip in place in the brassiere.

U.S. Patent No. 3,747,606 is directed to a U-shape plastic stay which can be made from any one of a variety of cross-sections, and which has an aperture in one end thereof for fastening the stay to the brassiere and a joint in the other end thereof for fastening the stay to another stay.

U.S. Patent No. 3,777,763 and U.S. Patent No. 3,884,244 are directed to U-shape plastic supports which preferably are of a rectangular cross-sectional configuration. U.S. Patent No. 3,777,763 provides that the terminal end closest to the arm of the wearer is twisted out of the plane of the remainder of the support, while U.S. Patent No. 3,884,244 provides a dish-shaped contour, i.e. the base area of the support is bent slightly forward out of the plane of the end portions and the inner peripheral edge is angularly offset from the outer peripheral edge, and end portions which may have enlarged knobs to substantially reduce or preclude abrasion of the end portions.

U.S. Patent No. 4,235,240 to Cousins is directed to a crescent shaped stiffening structure for use in a brassiere, which can be made of plastic. In one embodiment, the stiffening structure has a main support member which may be tapered three dimensionally, i.e. thicker at the center and thinner at the periphery and ends for increased flexibility, and which stiffening structure is appended to a crescent shaped flange. Another embodiment provides for a pair of flanges on opposite sides of the main support member, which flanges provide rigidity. To provide flexibility the flanges may have either staggered bifurcations as shown in Figure 6 of this patent or staggered notches as shown in Figure 8 of this patent. Although not shown in the Figures, this patent may suggest that a single flange portion is repeated bifurcated to add more flexibility.

However, such measures have made the brassiere costly to manufacture, have not completely eliminated stress from being applied to the wearer by the end portions of the support and/or the side panels of the brassiere, and further many of such prior art plastic supports and stays do not provide adequate support and comfort.

British Patent 1254250 shows a composite two-part support including an inner stiffening member encased in an outer sleeve or sheath. The inner stiffening member is of both constant configuration and constant cross-sectional dimension and the outer sleeve or sheath is of substantially constant configuration but of varying cross-section.

tional dimension.

U.S. Patent No. 2,782,417 discloses a reinforcing support which has a flat central portion which is configured to curve around the chest of a wearer and which terminates at each end in an abrupt step to join by portions which are stiffer than said flat portion.

According to the present invention there is provided a substantially U-shape support of plastics material for use in conjunction with a cup of a brassiere, characterized in that said support includes a base portion, a pair of intermediate portions and a pair of end portions, in that said base portion is centrally located at the arc of the U-shape and has a first cross-sectional configuration, said pair of intermediate portions are each adjacent and connected to a different end of said base portion, each of said pair of intermediate portions having a non uniform cross-sectional configuration along the length thereof, and said pair of end portions are each adjacent and connected to a different one of said pair of intermediate portions, each of said pair of end portions having a cross-sectional configuration different than said first cross-sectional configuration, and in that the cross-sectional area of each intermediate portion gradually reduces in size from its connection to said base portion to its connection with its adjacent end portion thereby providing a gradual transition in structure, flexibility and rigidity from said base portion to each end thereof.

According to a further aspect of the invention there is provided a brassiere having a frame adapted to encircle a wearer's body, which frame includes a pair of breast-cups and a pair of such U-shape cup supports with each said support being positioned adjacent to a different one of the pair of cups.

The invention will now be described with reference to the accompanying drawings, in which

Figure 1 is a front elevational view of a brassiere frame having a pair of the plastic U-shape configured supports of the present invention therein.

Figure 2 is a front elevational view of the plastic support of the present invention.

Figure 3 is an exploded perspective view of a portion of the plastic support of the present invention.

Figure 4 is a cross-section taken along 4—4 of Figure 2.

Figure 5 is a cross-section taken along 5—5 of Figure 2.

Figure 6 is a cross-section taken along 6—6 of Figure 2.

Figure 7 is a cross-section taken along 7—7 of Figure 2.

Figure 8 is a cross-section taken along 8—8 of Figure 2.

Figure 9 is a cross-section taken along 9—9 of Figure 2.

Figure 10 illustrates grading of the plastic support of the present invention for different cup sizes.

Figure 11 is a sketch illustrating "creep" in the plastic support of the present invention.

Referring to the drawings and more particularly to Figure 1, a brassiere, generally represented by reference numeral 1, includes a frame 2, having a pair of body encompassing side panels 3, a pair of breast receiving cups 4 sewn to a front portion of a different one of the pair of side panels, a pair of shoulder straps 5 each associated with a different one of the pair of side panels, and closure means preferably in the form of a hook 7 and eye 8 arrangement at the distal ends of the side panels. There is also provided a pair of material strips 6 each sewn to a different one of the pair of side panels 3 so that each panel and its respective strip defines an enclosed housing. Each housing is located along the lower edge and sides of a different one of the pair of cups, and is designed to provide a pocket to enclose a plastic support 10.

Referring to Figure 2, plastic support 10 is an integral structure, preferably molded, and has a substantially U-shape configuration. The arc of the U-shape support has a large radius, and may, preferably, be constructed with tip portions 18, 19 which are biased slightly towards each other to more readily conform to the features of a wearer.

Each plastic support 10 has different cross-sectional configurations along its length to meet the different rigidity and flexibility requirements of the different portions of a support. By way of background, a support having a rectangular cross-section provides a great deal of support or rigidity, however it is bulky and has little flexibility. Likewise, a support having a trapezoidal cross-section also provides a great deal of support, but also is bulky and has limited flexibility. Further, the rectangular and trapezoidal cross-sectional supports may possibly irritate the wearer unless their edges are modified. In contradistinction, a support having an elliptical cross-section is not bulky and is flexible, however it is not very rigid so that in a U-shape configuration the arc area will have a tendency to flatten out. Likewise, a support having an oval or a tear-drop cross-section basically exhibits the same characteristics as an elliptical cross-section support but is less flexible. Supports having other cross-sectional configurations, such as "I", "L" and round shapes, also do not provide both a great deal of support, which is needed in the arc portion of a U-shape support, and a great deal of flexibility, which is desired in the end portions of a U-shape support.

The plastic support 10 has one cross-sectional configuration at a base portion 12, and another cross-sectional configuration at end portions 16, 17. Base portion 12, which is at the arc of the support, has substantially either a rectangular or a trapezoidal cross-sectional configuration, with arcuate edges. Preferably it is rectangular with arcuate edges as shown in Figure 4, to provide maximum support at this region of the arc. The arcuate edges are shaped to avoid irritating the wearer of the brassiere. End portions 16, 17,

include tip portions 18, 19, respectively, which may have an elliptical, oval or tear-drop cross-sectional configuration. Preferably it is elliptical as shown in Figure 5, to provide maximum flexibility.

When the brassiere is placed on the wearer, the end portions 16, 17 spread outward, i.e. away from each other, opening the arc, so as to fit comfortably and securely about the features of the wearer, i.e. without stress or discomfort or poking into the body of the wearer, while also providing adequate support.

There is also provided regions 14, 15 which are located between base portion 12 and end portions 16, 17, respectively, to connect the base portion to the respective end portion. These regions have a third, preferably, tear-drop cross-sectional configuration which provides flexibility to effect a gradual structural and flexibility/rigidity transition from the differently configured base 12 and end portions 16, 17 of the plastic support as shown in Figures 8 and 9.

Figure 3 illustrates the different cross-sectional configurations of the preferred embodiment of the present invention in which base portion 12 has a rectangular arcuate-edged cross-sectional configuration, regions 14, (15) are intermediate portions each having a tear-drop cross-sectional configuration, and end portions 16, (17) have an elliptical cross-sectional configuration. In a 34B size plastic support 10, which size is customarily used in the brassiere manufacturing industry, the preferred embodiment of the present invention has the following approximate cross-sectional dimensions (in a .190 gauge): base portion 12 is about 0.24 cm (.095 inches), end portions 16, 17 is about 0.2 cm (.080 inches), and intermediate portions 14, 15 vary between the cross-sectional dimension of the base portion and the end portions, i.e. about from 0.2 to 0.24 cm (.080 to .095 inches).

Further, Figure 6 is provided to illustrate the difference in the configurations of the tear-drop cross-sectional intermediate portion or region 14 and the rectangular or trapezoidal cross-sectional base portion 12. Likewise, Figure 7 is provided to illustrate the difference in the configurations of the elliptical cross-sectional end portion 16 and intermediate portion 14.

Referring again to Figure 2, to provide further comfort to the wearer while simultaneously minimizing bulkiness, the start of the transition from the base portion to the intermediate portion or region and from the intermediate portion to the end portion may vary depending whether the end portion of the plastic support 10 is located closer to either the front, i.e. near the breasts, or the back, i.e. near the underarms, of the wearer. The reason for this is that the front of the brassiere is more stable, i.e. there is less flexing and pulling thereat, than at the back of the brassiere; and therefore, the front of the brassiere has more control and accordingly needs less control assistance from plastic support 10. Specifically, dotted line 13 is the median of base portion 12. If end

portion 16 will be located toward the front of the wearer, the start of the transition from base portion 12 to intermediate portion or region 14 and, in turn, from intermediate portion 14 to end portion 16 will be closer to median 13 than the start of the transition from base portion 12 to intermediate portion or region 15 and in turn intermediate portion 15 to end portion 17.

Base portion 12 is of an extent sufficiently large enough to support in a cradling manner the breast of the wearer yet as small as possible to minimize the bulk of the support.

Likewise, regions 14, 15 will be only of an extent sufficient to support the breast of the wearer. The gauge of plastic support 10, as well as the nature of the plastic, affects the extent of the base portion, and therefore the extents of the intermediate and end portions. In a 34B size (.190 gauge) plastic support 10, the preferred embodiment has base portion 12 of an extent of approximately 3.81 cm (1 1/2 inches), intermediate portions 14, 15 of extents of approximately 3.02 cm (1 3/16 inches), 3.34 cm (1 5/16 inches), respectively, and end portions 16, 17 of extents of approximately 5.08 cm (2 inches), 4.46 cm (1 3/4 inches), respectively. Specifically, the smaller the gauge of plastic support 10, the larger the extent of the base portion which is needed to support in a cradling manner the breast of the wearer.

Once the extents of the base portion, intermediate portions or regions, and end portions are determined for one size of a certain gauge of a plastic support, the extents of those portions for other sized plastic supports of the same gauge can easily be determined as illustrated in Figure 10. Therefore, the plastic support of the present invention can be used in a variety of different gauges and can readily be used in different sizes of each gauge, thereby making the plastic support of the present invention conducive to a large number of brassiere sizes and types.

The type of plastic used to make support 10 is significant since the plastic needs to be light in weight, strong yet flexible, resilient, and resistant to water, solvents, and chemicals found in liquid detergents. It has been found particularly desirable for plastic support 10 to be made of a molded plastic selected from the group including nylons, acetal resins and polyesters, and mixtures thereof, and the plastic may be reinforced by glass fillers which gives a strength to the plastic and does not make the plastic brittle if applied in limited amounts. The plastic is, preferably, made from a mixture of reinforced acetal resins, i.e. acetal resin with glass fillers, and nonreinforced acetal resin, i.e. acetal resin without glass fillers, and is, most preferably, made of a one to one mixture of non-reinforced acetal resin (without glass fillers), such as that sold by El du Pont de Nemours, Inc. under their trademark Delrin® 500, and reinforced acetal resin having glass fillers which amount to appropriately thirty-three percent of the total weight of the reinforced acetal resin, such as that also sold by El du Pont de Nemours, Inc. under their trademark Delrin® 570.

Plastic supports of the present invention, which have the U-shape configuration with three cross-sectional configured portions and made of the reinforced acetal resin-nonreinforced acetal resin compositions set forth above, have exhibited unexpected "creep" characteristics. "Creep" as defined in the present invention means a gradual drawing together of end portions 16, 17 of the U-shape plastic support 10, which drawing together tightens the arc of the plastic support. Specifically, the end portions of a U-shape plastic support tend to spread away from each other after being used, due to the body heat and weight of the wearer. Spreading away of end portions 16, 17 opens up the arc. While an initial slight spreading is desired so that the brassiere will readily conform to the features of the wearer, the brassiere will lose its shape and support, and accordingly the wearer will lose the feeling of support and therefore confidence in the brassiere, if the degree of the spread is too great. Logically, one would assume that machine laundering at normal cycles of a brassiere having a plastic U-shape configured support would result in an increase in the degree of spread of the plastic support thereof due to the hot water employed in the normal cycles. However, the plastic support of the present invention has exhibited unexpected "creep" characteristics which further tend to make the brassiere retain its support and shape. While both end portions 16 and 17 exhibit the same "creep" characteristics, Figure 11 illustrates the characteristics of "creep" with respect to only one end portion 17 of plastic support 10. Specifically, after wear, end portion 17 of plastic support 10, which end portion initially is at position 20, spreads outward to position 22. It has been found that after machine laundering at a normal cycle, the end portion 17 not only returns to its initial position 20, but continues inward slightly further to position 24. The "creep" characteristic of plastic support 10 of the present invention assures that the brassiere will at least return to its initial shape a great number of times for a longer period of time so that the wearer is provided with the same support, and also the same feeling of support, shaping and confidence, as provided before the brassiere was worn or laundered. Since the end portions of plastic support 10 of the present invention are flexible, when the brassiere is placed on the wearer, the "creep" can easily be accommodated so that the plastic support of the present invention will not cause the wearer discomfort.

The plastic support not only retains its resiliency but also resists "poke-through" the brassiere pocket even though it is not directly sewn into place in the brassiere, even after the brassiere has been repeatedly machine laundered at normal cycles.

Claims

1. A substantially U-shape support (10) of plastics material for use in conjunction with a cup (4)

of a brassiere (1), characterized in that said support includes a base portion (12), a pair of intermediate portions (14, 15) and a pair of end portions (16, 17), in that said base portion (12) is centrally located at the arc of the U-shape and has a first cross-sectional configuration, said pair of intermediate portions (14, 15) are each adjacent and connected to a different end of said base portion, each of said pair of intermediate portions having a non uniform cross-sectional configuration along the length thereof, and said pair of end portions (16, 17) are each adjacent and connected to a different one of said pair of intermediate portions, each of said pair of end portions having a cross-sectional configuration different than said first cross-sectional configuration, and in that the cross-sectional area of each intermediate portion (14, 15) gradually reduces in size from its connection to said base portion (12) to its connection with its adjacent end portion (16, 17) thereby providing a gradual transition in structure, flexibility and rigidity from said base portion to each end thereof.

2. A support according to claim 1, characterized in that said first cross-sectional configuration is of a cross-sectional area greater than the mean cross-sectional area of said intermediate portion, and in that said intermediate portion is of a mean cross-sectional area greater than the cross-sectional area of said end portion.

3. A support according to claim 1 or claim 2, characterized in that said base portion (12) has a generally rectangular cross-sectional configuration, each end portion (16, 17) has a generally elliptical cross-sectional configuration, and each intermediate portion (14, 15) has a generally tear-drop cross-sectional configuration.

4. A support according to any of claims 1-3, characterized in that said support is made of a plastic selected from a group including nylons, acetal resins and polyesters.

5. A support according to any of claims 1-3, characterized in that said support is made of a mixture of nonreinforced acetal resin and reinforced acetal resin.

6. A support according to claim 5, characterized in that said support is made of a one to one ratio of a mixture of nonreinforced acetal resin and reinforced acetal resin.

7. A support according to claim 4, characterized in that said plastic is selected in conjunction with said differing cross-sectional configurations along said support so that said end segments are spaced closer together after a brassiere having said support has been subjected to normal cycle machine laundering than immediately before such laundering, thereby ensuring that said support repeatedly regains its original support and shape capabilities after the brassiere is worn and laundered.

8. A support according to claim 1, characterized in that said base portion (12), said pair of intermediate portions (14, 15) and said pair of end portions (16, 17) are discrete, contiguous segments of said support (18).

Plastic supports of the present invention, which have the U-shape configuration with three cross-sectional configured portions and made of the reinforced acetal resin-nonreinforced acetal resin compositions set forth above, have exhibited unexpected "creep" characteristics. "Creep" as defined in the present invention means a gradual drawing together of end portions 16, 17 of the U-shape plastic support 10, which drawing together tightens the arc of the plastic support. Specifically, the end portions of a U-shape plastic support tend to spread away from each other after being used, due to the body heat and weight of the wearer. Spreading away of end portions 16, 17 opens up the arc. While an initial slight spreading is desired so that the brassiere will readily conform to the features of the wearer, the brassiere will lose its shape and support, and accordingly the wearer will lose the feeling of support and therefore confidence in the brassiere, if the degree of the spread is too great. Logically, one would assume that machine laundering at normal cycles of a brassiere having a plastic U-shape configured support would result in an increase in the degree of spread of the plastic support thereof due to the hot water employed in the normal cycles. However, the plastic support of the present invention has exhibited unexpected "creep" characteristics which further tend to make the brassiere retain its support and shape. While both end portions 16 and 17 exhibit the same "creep" characteristics, Figure 11 illustrates the characteristics of "creep" with respect to only one end portion 17 of plastic support 10. Specifically, after wear, end portion 17 of plastic support 10, which end portion initially is at position 20, spreads outward to position 22. It has been found that after machine laundering at a normal cycle, the end portion 17 not only returns to its initial position 20, but continues inward slightly further to position 24. The "creep" characteristic of plastic support 10 of the present invention assures that the brassiere will at least return to its initial shape a great number of times for a longer period of time so that the wearer is provided with the same support, and also the same feeling of support, shaping and confidence, as provided before the brassiere was worn or laundered. Since the end portions of plastic support 10 of the present invention are flexible, when the brassiere is placed on the wearer, the "creep" can easily be accommodated so that the plastic support of the present invention will not cause the wearer discomfort.

The plastic support not only retains its resiliency but also resists "poke-through" the brassiere pocket even though it is not directly sewn into place in the brassiere, even after the brassiere has been repeatedly machine laundered at normal cycles.

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2. A support according to claim 1, characterized in that said first cross-sectional configuration is of a cross-sectional area greater than the mean cross-sectional area of said intermediate portion, and in that said intermediate portion is of a mean cross-sectional area greater than the cross-sectional area of said end portion.

3. A support according to claim 1 or claim 2, characterized in that said base portion (12) has a generally rectangular cross-sectional configuration, each end portion (16, 17) has a generally elliptical cross-sectional configuration, and each intermediate portion (14, 15) has a generally teardrop cross-sectional configuration.

4. A support according to any of claims 1—3, characterized in that said support is made of a plastic selected from a group including nylons, acetal resins and polyesters.

5. A support according to any of claims 1—3, characterized in that said support is made of a mixture of nonreinforced acetal resin and reinforced acetal resin.

6. A support according to claim 5, characterized in that said support is made of a one to one ratio of a mixture of nonreinforced acetal resin and reinforced acetal resin.

7. A support according to claim 4, characterized in that said plastic is selected in conjunction with said differing cross-sectional configurations along said support so that said end segments are spaced closer together after a brassiere having said support has been subjected to normal cycle machine laundering than immediately before such laundering, thereby ensuring that said support repeatedly regains its original support and shape capabilities after the brassiere is worn and laundered.

8. A support according to claim 1, characterized in that said base portion (12), said pair of intermediate portions (14, 15) and said pair of end portions (16, 17) are discrete, contiguous segments of said support (18).



9. A brassiere (1) having a frame (2) adapted to encircle a wearer's body which frame includes a pair of breast cups (4), and characterized by a pair of generally U-shape breast cup supports (10) as defined in claim 1, each support (10) being positioned adjacent to a different one of the pair of breast cups (4).

Patentansprüche

1. Stützeinrichtung (10) aus Kunststoffmaterial, die im wesentlichen U-förmig ist, zur Verwendung in Verbindung mit einem Körbchen (4) eines Büstenhalters (1), dadurch gekennzeichnet, daß die Stützeinrichtung einen Basisabschnitt (12), ein Paar von Zwischenabschnitten (14, 15) und ein Paar von Endabschnitten (16, 17) aufweist, daß der Basisabschnitt (12) mittig am Bogen der U-Form angeordnet ist und eine erste Querschnittsform hat, das Paar von Zwischenabschnitten (14, 15) jeweils anschließend an ein verschiedenes Ende des Basisabschnitts angeordnet und damit verbunden ist, wobei jeder des Pairs von Zwischenabschnitten über den Verlauf seiner Länge eine nichteinheitliche Querschnittsform hat, und das Paar von Endabschnitten (16, 17) jeweils anschließend an einen verschiedenen aus dem paar der Zwischenabschnitte angeordnet und damit verbunden ist, wobei jeder aus dem Paar von Endabschnitten eine von der ersten Querschnittsform verschiedene Querschnittsform hat, und daß sich die Querschnittsfläche jedes Zwischenabschnitts (14, 15) von ihrer Verbindung mit dem Basisabschnitt (12) zu ihrer Verbindung mit dem anschließenden Endabschnitt (16, 17) in ihrer Größe allmählich reduziert, so daß sich ein allmählicher Übergang hinsichtlich Struktur, Flexibilität und Festigkeit von dem Basisabschnitt zu jedem der Enden ergibt.

2. Stützeinrichtung nach Anspruch 1, dadurch gekennzeichnet, daß die erste Querschnittsform eine größere Querschnittsfläche hat als die mittlere Querschnittsfläche des Zwischenabschnitts, und daß der Zwischenabschnitt eine größere mittlere Querschnittsfläche hat als die Querschnittsfläche des Endabschnitts.

3. Stützeinrichtung nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß der Basisabschnitt (12) eine im allgemeinen rechteckige Querschnittsform hat, jeder Endabschnitt (16, 17) eine im allgemeinen elliptische Querschnittsform hat, und jeder Zwischenabschnitt (14, 15) eine im allgemeinen tränenförmige Querschnittsform hat.

4. Stützeinrichtung nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß die Stützeinrichtung aus einem aus der Gruppe der Nylone, Azetalharze und Polyester ausgewählten Kunststoff hergestellt ist.

5. Stützeinrichtung nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß die Stützeinrichtung aus einer Mischung von nicht verstärktem Azetalharz und verstärktem Azetalharz hergestellt ist.

6. Stützeinrichtung nach Anspruch 5, dadurch gekennzeichnet, daß die Stützeinrichtung herge-

stellt ist aus einer Mischung von nicht verstärktem Azetalharz und verstärktem Azetalharz mit einer Verteilung von eins zu eins.

7. Stützeinrichtung nach Anspruch 4, dadurch gekennzeichnet, daß der Kunststoff in Verbindung mit den verschiedenen Querschnittsformen entlang der Stützeinrichtung derart ausgewählt ist, daß die Endsegmente einen engeren gegenseitigen Abstand einnehmen, nachdem ein mit der Stützeinrichtung versehener Büstenhalter einem normalen maschinellen Waschzyklus unterworfen worden ist als unmittelbar vor einer solchen Wäsche, wodurch sichergestellt wird, daß die Stützeinrichtung wiederholt ihre ursprünglichen Stütz- und Formeigenschaften annimmt, nachdem der Büstenhalter getragen und gewaschen worden ist.

8. Stützeinrichtung nach Anspruch 1, dadurch gekennzeichnet, daß der Basisabschnitt (12), das Paar von Zwischenabschnitten (14, 15) und das Paar von Endabschnitten (16, 17) getrennte, aneinander anschließende Segmente der Stützeinrichtung (18) sind.

9. Büstenhalter (1) mit einem Rahmen (2), der dazu vorgesehen ist, den Körper einer Trägerin zu umgeben, wobei der Rahmen ein Paar von Körbchen (4) für die Brust enthält, gekennzeichnet durch ein Paar von im allgemeinen U-förmigen Brustkörbchen-Stützeinrichtungen (10) nach Anspruch 1, wobei jede Stützeinrichtung (10) anschließend an ein unterschiedliches aus dem paar von Brustkörbchen (4) angeordnet ist.

Revendications

1. Support (10) sensiblement en forme de U en matière plastique à utiliser avec un bonnet (4) d'un soutien-gorge (1), caractérisé en ce que ledit support comporte une portion de base (12), une paire de portions intermédiaires (14, 15) et une paire de portions extrêmes (16, 17), en ce que ladite portion de base (12) est placée centralement à l'arc de la forme de U et a une première configuration en section transversale, chacune de ladite paire de portions intermédiaires (14, 15) est adjacente et connectée à une extrémité différente de ladite portion de base, chacune de ladite paire de portions intermédiaires ayant une configuration en section transversale non uniforme sur sa longueur et chacune de ladite paire de portions extrêmes (16, 17) étant adjacente et connectée à l'une de ladite paire de portions intermédiaires, chacune de ladite paire de portions extrêmes ayant une configuration en section transversale différente de ladite première configuration en section transversale et en ce que l'aire en section transversale de chaque portion intermédiaire (14, 15) se réduit graduellement en taille de sa connexion à ladite portion de base (12) jusqu'à sa connexion à sa portion extrême adjacente (16, 17) pour ainsi former une transition graduelle de structure, flexibilité et rigidité de ladite portion de base à chaque extrémité.

2. Support selon la revendication 1, caractérisé en ce que ladite première configuration en section



transversale a une aire en section transversale plus grande que l'aire en section transversale moyenne de ladite portion intermédiaire et en ce que ladite portion intermédiaire est d'une aire en section transversale moyenne plus grande que l'aire en section transversale de ladite portion extrême.

3. Support selon la revendication 1 ou la revendication 2, caractérisé en ce que ladite portion de base (12) a une configuration en section transversale généralement rectangulaire, chaque portion extrême (16, 27) a une configuration en section transversale généralement elliptique et chaque portion intermédiaire (14, 15) a une configuration en section transversale généralement en forme de larme.

4. Support selon l'une quelconque des revendications 1—3, caractérisé en ce que ledit support est fait d'un plastique choisi dans le groupe consistant en nylons, résines acétals et polyesters.

5. Support selon l'une quelconque des revendications 1—3, caractérisé en ce que ledit support est fait d'un mélange de résine acétal non renforcée et de résine acétal renforcée.

6. Support selon la revendication 5, caractérisé en ce que ledit support est fait d'un rapport de un

à un d'un mélange de résine acétal non renforcée et de résine acétal renforcée.

7. Support selon la revendication 4, caractérisé en ce que ledit plastique est choisi en conjonction avec lesdites configurations différentes en section transversale le long dudit support de manière que lesdits segments extrêmes soient plus rapprochés l'un de l'autre après avoir soumis un soutien-gorge ayant ledit support à un cycle normal en machine à laver immédiatement avant ce passage en machine à laver, pour ainsi assurer que ledit support regagnera de manière répétée ses capacités d'origine de support et de forme après avoir porté et lavé le soutien-gorge.

8. Support selon la revendication 1, caractérisé en ce que ladite portion de base (12), ladite paire de portions intermédiaires (14, 15) et ladite paire de portions extrêmes (16, 17) sont des segments distincts et contigus dudit support (18).

9. Soutien-gorge (1) ayant une structure (2) adaptée à entourer le corps d'une utilisatrice, laquelle structure comporte une paire de bonnets (4) et caractérisé par une paire de supports généralement en forme de U (10) pour les bonnets, tels que définis à la revendication 1, chaque support (10) étant placé adjacent à un bonnet (4) différent.

