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(54) **ADJUSTABLE ATHLETIC BRA**
VERSTELLBARER SPORT-BH
SOUTIEN-GORGE ATHLÉTIQUE RÉGLABLE

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Description**CROSS-REFERENCE TO RELATED APPLICATION**

[0001] This patent application claims benefit under 35 U.S.C. §119 to U.S. Provisional Patent Application No. 62/485,233, filed April 13, 2017, and U.S. Provisional Patent Application No. 62/637,063, filed March 1, 2018.

FIELD OF THE INVENTION

[0002] The present invention relates generally to a support garment, and more specifically to a bra that has support features that simultaneously provides stability, support and comfort.

BACKGROUND OF THE INVENTION

[0003] Various support garment designs, which include bras, are known.

[0004] Document WO 2008/017707 A1 discloses a bra according to the preamble of claim 1.

[0005] Many bras are designed to primarily limit vertical movement of breasts. Such movement commonly occurs due to repetitive motion (e.g., walking, running) in a single direction that cause breasts to move up and down (vertically). However, during an athletic activity, breasts commonly move in eight different directions including upward movement, downward movement, side to side movement (i.e., movement of breasts left and right) and movement inward and outward. Movement of breasts in these eight directions occurs especially during explosive movements (e.g., shuffling quickly from side to side while playing, soccer, basketball or tennis) where such movement causes an abrupt shifts in weight that can in turn cause the breasts to move uncomfortably if not properly stabilized.

[0006] Current athletic bra designs are commonly secured either at the front or rear using a hook and eye closure system or a similar system and can include strap adjustment features. However, such conventional bra designs do not provide adequate three-dimensional support to prevent substantial movement of breasts up and down, side to side and in and out during exercise or an athletic activity and can be difficult to adjust. Additionally, these bras commonly include molded cups that typically do allow for a proper fit as breast shapes and sizes range widely. Alternatively, athletic bra designs can be pre-sized seamed or seamless bras that can be pulled over an individual's head and include openings through which the individual can extend their arms. These bras designs regularly include elastomeric features. However, conventional pre-sized pullover bra designs do not provide adequate three-dimensional support to prevent substantial movement of breasts up and down, side to side and in and out during exercise or an athletic activity and are not adjustable to ensure proper fit and support. Additionally, the compression of breasts using these bras is com-

monly uncomfortable.

SUMMARY OF THE INVENTION

[0007] The present invention is directed to an adjustable athletic bra that minimizes three-dimensional movement of breasts laterally (side to side), vertically (up and down), and in and out (i.e., eight dimensional movements of breasts) to provide stability of breasts in multiple directions and allows for customization of the fit of the bra as desired. The bra can be customized dynamically based on the activity and preference of an individual wearing the bra and supports breasts independently to address any asymmetry. The bra provides both full support and comfort.

[0008] In an embodiment, the present invention is directed to a bra that comprises a body including a front portion, a rear portion, a first side portion that extends between a first end of the front portion and a first end of the back portion, a second side portion that extends between a second end of the front portion and a second end of the rear portion, a first shoulder strap that is fixed to and extends between the front portion and the rear portion and a second shoulder strap that is fixed to and extends between the front portion and the rear portion. The back portion includes a first back strap system and a second back strap system that are independent of each other and a front support system that is affixable to the front portion and that includes a first piece of material and a second piece of material and that is configured to adjust tension across the front portion of the bra.

[0009] The first shoulder strap can be comprised of two pieces of material that are connected to each other with one piece of material including elastomeric properties and the other piece of material including non-elastomeric properties and the second shoulder strap can be comprised of two pieces of material that are connected to each other with one piece of material including elastomeric properties and the other piece of material including non-elastomeric properties.

[0010] The first back strap system includes a first leg, a second leg that extends at a first angle in a first direction from the first leg toward the second side portion and a third leg extending at a second angle from the first leg in a second direction toward the first side portion and a first panel that extends contiguously from the third leg. The second back strap system, which is independent of the first back strap system and a mirror opposite configuration of the first back strap system includes a first leg, a second leg that extends at a first angle in a first direction from the first leg toward the first side portion and a third leg that extends at a second angle from the first leg in a second direction toward the second side portion and a second panel that extends contiguously from the third leg. The first panel extends from the back portion around the first side portion toward the front portion and is fixed along a bottom edge thereof to the band. The second panel extends from the back portion around the second

side portion toward the front portion and is fixed along a bottom edge thereof to the band.

[0011] The bra includes a band that extends about a periphery thereof at the bottom end of the front portion, the rear portion and the first side portion and second side portion. The band can be comprised of an elastomeric material to allow for adaptability and to aid in compression of the bra. The band can include a fastening system to fix to a first end and a second end thereof to each other.

[0012] The front portion of the bra can comprise a plurality of layers of material including an external support layer and a cup layer. The support layer can include at least one panel whereby at least a portion of the panel includes elastomeric properties. The cup layer can include a first cup and a second cup, which is independent of the first cup. The first piece of material and the second piece of material can each be comprised of a single piece of elastomeric material. Alternatively, the first piece of material and the second piece of material can each be comprised of a blend of non-elastomeric and elastomeric material. The first piece of material and the second piece of material can be independent elements of each other such that one of the first piece of material and the second piece of material slides over or under the other of the first piece of material and the second piece of material. The first piece of material can be fixed to the first shoulder strap and a first end of the second piece of material is fixed to the second shoulder strap.

[0013] In another embodiment, the present invention is directed to a method of securing an athletic bra according to any one of claims 1-11 that includes the steps of placing the bra on an individual, connecting a first end of the band to a second end of the band, grasping and pulling the first side strap such that the second shoulder strap is tensioned, the second piece of material that is part of the front support system compresses at least a respective first half of the front portion toward the user and the first back strap system is tensioned toward the first side portion, connecting the first side strap to the band at the front portion, grasping and pulling the second side strap such that the first shoulder strap is tensioned, the first piece of material that is part of the front support system compresses at least a respective second half of the front portion toward the individual and the second back strap system is tensioned toward the second side portion and connecting the second side strap to the band at the front portion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014]

FIG. 1 is a front perspective view of an embodiment of an adjustable athletic bra of the present invention; FIG. 2 is a front view the bra of FIG. 1; FIG. 3A is a rear view the bra of FIG. 1 that includes an adjustable system to ensure proper support with the adjustable system in a closed position;

FIG. 3B is a rear view the bra of FIG. 1 showing the adjustable system in an open position;

FIG. 4 is a front view of the bra of FIG. 1 depicting support features in accordance with an aspect of the present invention;

FIG. 5 is front perspective view of the bra of FIG. 1 showing the support feature of FIG. 4 and the synergistic movement of feature of the bra when tightened;

FIG. 6 is an exploded view of various features of the bra of FIG. 1;

FIGS. 7A-7D are views of the bra of FIG. 1 depicting how features of the bra act in concert to stabilize laterally, vertically and in and out;

FIG. 8A is a first front perspective view of another embodiment of an adjustable athletic bra the present invention that includes a zipper to allow for opening of the bra at the front;

FIG. 8B is a second front perspective view of the bra of FIG. 8A showing the directional tensioning of the bra during use;

FIG. 8C is a third front perspective view of the bra of FIG. 8A showing the interaction of features of the bra during use;

FIG. 9 is a rear view of the bra of FIG. 8A;

FIG. 10 is a front view of the bra of FIG. 8A showing a support system;

FIG. 11 is a first front perspective view of a non-claimed embodiment of an adjustable athletic bra that includes an adjustment features at the front of the bra with the bra depicted in a closed state;

FIG. 12 is a rear view of the bra of FIG. 11;

FIG. 13 is a second front perspective view of the bra of FIG. 11 showing the front portion of the bra in an open state; and

FIG. 14 is a front view of the bra of FIG. 11 showing a support system.

DETAILED DESCRIPTION OF EMBODIMENTS OF THE INVENTION

[0015] With reference now to the drawings and in particular FIGS. 1-14, embodiments of athletic bras of the present disclosure, which are generally designated by the reference numerals 100, 200 and 300, will be described.

[0016] As will be discussed in more detail below, the bra 100, 200, 300 includes interconnected elements that in use together evenly compress and support breasts to ensure lateral (left and right), vertical (up and down) and in and out stabilization of the breasts. By providing support and compression across these directions, the bra 100, 200, 300 minimizes three-dimensional movement of breasts across at least eight directions of travel.

[0017] As shown in FIGS. 1-3, the athletic bra 100 includes a front portion 102, a rear portion 104, a first side, or left side, portion 106 that extends between a first end of the front portion 102 and a first end of the rear portion

104 and a second side, or right side, portion 108 that extends between a second end of the front portion 102 and a second end of the rear portion 104. A base 109 (see FIG. 6) extends about a lower region of the front portion 102, the rear portion 104 and the side portions 106, 108. A band 110 extends about the periphery of the bra 100 at the bottom end of the front portion 102, rear portion 104 and side portions 106, 108. The band 110 can be comprised of an elastomeric material to allow for adaptability and to aid in compression of the bra 100 to various individual's bodies. The band 110 includes a fastening system 113 (see FIGS. 3A and 3B) fixed to a first end and a second end thereof. The fastening system 113 includes a hook and eye configured to receive the clasp or hook. However, the fastening system 113 should not be limited to that shown. Exemplary fasteners that can comprise the fastening system 113 can include snaps, clips, buttons, hook and loop fasteners, ties, etc.

[0018] The front portion 102, as can be seen, for example, by viewing FIGS. 1-4, can comprise a plurality of layers of material including an external support layer 112 and a cup layer 114. The support layer 112 can be divided into a plurality of panels, including a first front panel 115, a second front panel 116, a third front panel 117, a fourth front panel 118, a fifth front panel 119 and a sixth panel 120. The fifth front panel 119 is arranged above the first, second, third, fourth and sixth panels 115, 116, 117, 118, 120. The sixth front panel 120 is arranged between the first and second front panels 115, 116 and the third and fourth front panels 117, 118. The panels 115, 116, 117, 118, 119, 120 can each be comprised, for example, of woven fabric, nonwoven fabric, synthetic fabric, fabric that includes moisture wicking capabilities, webbing and/or fabric that, at least in part, is elastomeric. Additionally, the panels 115, 116, 117, 118, 119, 120 can be coated to increase and/or decrease the modulus of elasticity of one or more of the panels 115, 116, 117, 118, 119, 120. The panels 115, 116, 117, 118, 119, 120 can be connected to each other by, for example, sewing or bonding the panels 115, 116, 117, 118, 119, 120 to each other. The entirety of the support layer 112 can be a single piece of material that is compression molded to form a three-dimensional shape. In an embodiment, at least a portion of a third panel 120 can include elastomeric properties to aid in compressing and stabilizing the breasts of an individual wearing the bra 100. The cup layer 114 includes a first cup 122 and a second cup 124, which is independent of the first cup 122. Alternatively, the cups 122, 124 can be molded from a single piece of material (e.g., foam) and thus connected to each other. The cups 122, 124 can, for example, be sewn, molded or bonded to the external support layer 112 and/or the base 109 and directly contactable with the breasts of an individual upon securing the bra 100 to the individual. In the embodiment where the cups 122, 124 are joined to the base 109, the components would be a single unit. In an embodiment, one or more layers (e.g., cup layer 114) can be eliminated or interchanged. Additionally, the layers

can be independent of each other.

[0019] A first shoulder strap 126 and a second shoulder strap 128 that is spaced from the first shoulder strap 126 each extend between the front portion 102 and the rear portion 104 of the bra 100. The straps 126, 128 can, at least in part, be comprised of a material or blend of materials that include elastomeric properties.

[0020] As shown in FIG. 6, the first shoulder strap 126 includes a first piece of material, or blend of materials, 130 that is not at least substantially comprised of an elastomer to aid in the tensioning of the bra 100 and a second piece of material, or blend of materials, 132 that is comprised at least in part of an elastomer to aid in adjusting the strap 126. The second piece of material 132 is fixed to the first piece of material 130 by a first connection mechanism 134, such as a first loop, and an adjustment mechanism 136, such as a slide, can be arranged on the second piece of material 132 to aid in adjusting the length of the first shoulder strap 126 to ensure a proper, supportive and comfortable fit. Alternatively, the configuration can be reversed such that the second piece of material (elastomeric) 132 is attached to the front panel 102 and the first piece of material (non-stretch) 130 is affixed to a second end of the second piece of material 132 to the back portion 104. In another embodiment the first piece of material 130 can taper in width and attach directly to the first connection mechanism 134 or the second piece of material 132 with the first connection mechanism 134 located at the second end of the second piece of material 132 or webbing can be attached at the second end of the second piece of material 132. In another configuration, the first connection mechanism 134 and the adjustment mechanism 136 can be combined into a single element. In another configuration, a single piece of material can be used to form the first shoulder strap 126.

[0021] Like the first shoulder strap 126, the second shoulder strap 128 includes a first piece of material (or blend of materials) 138 that is not at least substantially comprised of an elastomer to aid in the tensioning of the bra 100 and a second piece of material (or blend of materials) 140 that is comprised at least in part of an elastomer to aid in adjusting the strap 128. The second piece of material 140 is fixed to the first piece of material 138 by a second connection mechanism 142, such as a first loop, and an adjustment mechanism 144, such as a slide, can be arranged on the second piece of material 140 to aid in adjusting the length of the second shoulder strap 128 to ensure a proper, supportive and comfortable fit. Alternatively, the configuration can be reversed such that the second piece of material 140 is attached to the front panel 102 and the first piece of material (non-stretch) 138 is affixed to a second end of the second piece of material 140 to the back portion 104. In another embodiment the first piece of material 138 can taper in width and attach directly to the second connection mechanism 142 or the second piece of material 140 with the second connection mechanism 142 located at the second end of the second piece of material 140 or webbing can be attached at the

second end of the second piece of material 140. In another configuration, the second connection mechanism 142 and the adjustment mechanism 144 can be combined into a single element. In yet another configuration, a single piece of material can be used to form the second shoulder strap 128.

[0022] In an embodiment adjustment mechanisms 136, 144 may be eliminated and adjustment of the straps 126, 128 can be made, for example, by a hook and loop fastening system, hooks, sliders, webbing, buttons, snaps, etc. Although the shoulder straps 126, 128 are independent of each other as shown herein, the straps 126, 128 can cross at the back portion 104 of the bra 100 or merge (e.g., racerback).

[0023] As depicted, for example, in FIGS. 3A-4, the back portion 104 of the bra 100 includes a first back strap system 146 and a second back strap system 148. The first back strap system 146 includes a first leg 150 that is connected to the second end of the first shoulder strap 126, a second leg 152 that extends at a first angle in a first direction from the first leg 150 toward the second side portion 108 and a third leg 154 that extends at a second angle from the first leg 150 in a second direction toward the first side portion 106. The second leg 152 is fixed at a distal end thereof to a slide 166. The third leg 154 extends contiguously at a second end thereof to a first panel 158. The first panel 158, which is part of the base 109, extends from the back portion 104 around the first side portion 106 toward the front portion 102. The first panel 158 is fixed along a bottom edge thereof to the band 110 and to a sidewall 121 of the first cup 122. Alternatively, the first panel 158 and the first cup 122 can be a single-piece construction, eliminating the sidewall 121 connection. The second back strap system 148 is independent of the first back strap system 146 and a mirror opposite configuration of the first back strap system 146. The second back strap system 148 includes a first leg 160 that is connected to the second end of the second shoulder strap 128, a second leg 162 that extends at a first angle in a first direction from the first leg 160 toward the first side portion 106 and a third leg 164 that extends at a second angle from the first leg 160 in a second direction toward the second side portion 108. The second leg 162 is fixed at a distal end thereof to a slide 156. The third leg 164 extends contiguously at a second end thereof to a second panel 168. The second panel 168 extends from the back portion 104 around the second side portion 108 toward the front portion 102. As can be seen in FIGS. 3A-4, the second panel 168 is fixed along a bottom edge thereof to the band 110 and to a sidewall 123 of the second cup 124. Alternatively, the second panel 168 and the second cup 124 can be a single-piece construction, eliminating the sidewall 123 connection.

[0024] The back straps systems 146, 148 can be made of any material that includes, but is not limited to woven fabric, non-woven fabric, synthetic fabric, fabric that includes moisture wicking capabilities and/or fabric that, at least in part, is elastomeric.

[0025] A first side strap 170 and a second side strap 172 are configured to aid in compressing the bra 100. The first side strap 170, which extends through the slide 156, is fixed at a first end 174 to the first and second front panels 115, 116 and includes a fastener 176 fixed to a second end 178 thereof to aid in securing the first side strap 170 to an adjustment panel 180 that is centrally fixed about the front panel to the band 110. The second side strap 172, which extends through the slide 166, is fixed at a first end 175 to the third and fourth front panels 117, 118 and includes the fastener 176 fixed to a second end 184 thereof to aid in securing the second side strap 172 to an adjustment panel 180. As shown, the fastener 176 is a hook that is arranged within an opening in the adjustment panel 180. However, the fastener can be a clip, a snap, a button, a hook and loop fastener, among others. As shown, the panel 180 includes opening in which the fasteners 176 can be received. However, it is noted that the connection can be made using buttons, a hook and eye fastening system, snaps, sliders, hooks, ties or any other means that allows for a secure connection. It is noted that although the side straps 170, 172 are shown as being connected to the center panel 180, the straps 170, 172 can in another embodiment be connected to each other, connected directly to the front panel or connected to another feature of the bra 100.

[0026] As shown in FIGS. 4 and 5, the bra 100 includes a front support system 183 comprised of a first piece of material 185 and a second piece of material 186 that is configured to adjust tension across the front portion 102 of the bra 100. In an embodiment, the front support system 183 can be comprised of multiple separate pieces of material that are joined form the first and second piece of material 185, 186. In an embodiment, the first piece of material 185 and the second piece of material 186 are each comprised of a single piece of elastomeric material. Alternatively, the first piece of material 185 and the second piece of material 186 can be comprised of a blend of non-elastomeric and elastomeric material. In such an embodiment, the approximately a portion of each of the first and second pieces of material 185, 186 can be comprised of elastomeric material and the other portion can be comprised of non-stretch material. In such a system 183, the elastomeric material can encompass the upper or lower portion of each piece of material 185, 186 to aid in compressing the upper portion of the bra 100 and the upper or lower portion of each piece of material 185, 186 can be comprised of non-stretch material to aid in keeping the breasts contained within the 122, 124 cups. The first piece of material 185 and the second piece of material 186 can be independent of each other such that one sides over or under the other. Alternatively, the first piece of material 185 and the second piece of material 186 can be independent of each other and connectable directly to each other (e.g., hook and loop system) or the first piece of material 185 and the second piece of material 186 can be fixed to each other. As shown in FIGS. 4 and 5, a first end 188 of the first piece of material 185 can be

directly or indirectly fixed to the first shoulder strap 126 and a first end 190 of the second piece of material 186 can be directly or indirectly fixed to the second shoulder strap 128. The front support system 183 can be integrated into a layer of material of the bra 100. The front support system 183 can be adjusted for example, by tensioning the shoulder straps 126, 128 or an adjustment mechanism (not shown) can be included to adjust the length of the first and/or second pieces of material 185, 186. Exemplary adjustment mechanism can include elastics, textiles, webbing, seamless knitting (single integrated piece of material), three-dimensionally printed material, etc. and such components can be comprised of elastomeric material, non-elastomeric material or combination thereof. Adjustment components can be nested or can extend through layers of the bra 100 (e.g., straps of back panels can extend through holes in fabric that hide mechanism) or rest completely exterior the bra 100 or inside the bra 100. Although the front support system 183 is shown as forming an "X" shape, the configuration of components of the front support system 183 should not be limited to such a shape.

[0027] Prior to wearing the athletic bra, an initial, one-time setup is required to adjust the bra 100 to fit properly. First, the first side strap 170 and the second side strap 172 are loosened completely to allow the first back strap system 146 and the second back strap system 148 to be spaced apart from each other and create an opening at the rear of the bra 100. The bra 100 is then slipped over an individual's head. Next, the first end of the band 110 is releasably connected to the second end of the band 110. As noted above, there are a plurality of settings that can be selected to ensure a snug, but comfortable fit. Once the band 110 is secured, the first side strap 170 and the second side strap 172 are pulled from the rear portion 104 across the first side 106 of the bra 100 and the second side 108 of the bra 100, respectively, until the straps 170, 172 are each snug. The straps 170, 172 are then each releasably fixed to the band 110 at the front portion 102 of the bra 100. The tension of the first shoulder strap 126 and the second shoulder strap 128 are then checked. There should be no slack and the tension of each strap 126, 128 should be snug, but not uncomfortably tight. If the shoulder straps 126, 128 are too tight to allow the first side strap 170 and the second side strap 172 to be releasably fixed easily and comfortably, the bra 100 should be removed and the shoulder straps 126, 128 should be adjusted/loosened to increase the length of the straps 126, 128. If there is too much slack to allow the first side strap 170 and the second side strap 172 to be releasably fixed to the band 110 at the front portion 102 of the bra 100, the first side strap 170 and the second side strap 172 are too loose. The bra 100 should be removed and the shoulder straps 126, 128 should be adjusted/tightened as needed to shorten the length of the straps 126, 128. Once the initial set-up is complete, the bra 100 can be worn without the need to make adjustments for each use.

[0028] As shown generally in FIGS. 7A-7D, once the bra 100 has been initially adjusted, to wear the bra 100, an individual first places the bra 100 over their head and extends their arms in openings created by the shoulder straps 126, 128 and side portions 106, 108. The individual then connects the first end 107 of the band 110 is connected to the second end 111 of the band 110 via the fastening system 113. Next, the first side strap 170 and the second side strap 172 are grasped and pulled toward the adjustment panel 180 at the front portion 102 of the bra 100 and the side straps 170, 172 are connected via the fastener 176 at a desired position thereto.

[0029] As the first side strap 170 is being pulled toward the adjustment panel 180, the first end 174 of the first side strap 170 pulls the second back strap system 148 with in turn the first and second front panels 115, 116 outwardly toward the first side portion 106 and inwardly toward the individual's chest (e.g., toward the back portion 104) along with at least a portion of the front support system 183. Similarly, when the second side strap 172 is being pulled toward the adjustment panel 180, the first end 175 of the second side strap 172 pulls the first back strap system 146 with in turn the third and fourth front panels 117, 118 outwardly toward the second side portion 108 and inwardly toward the individual's chest (e.g., toward the back portion 104) along with at least a portion of the front support system 183.

[0030] The connection of the side straps 170, 172 and the legs 148, 152 of the back straps 148, 150/side portions 106, 108 results in the front panels 115-120 uniformly pulled in all three axes of movement, ensuring that the center of gravity of the breasts are unmoved from their natural position, but rather compressed evenly to an individual's body. That is, when the side straps 170, 172 are pulled, movement of the breasts is restricted laterally and in and out by the side panels 115-120 and vertically by the first shoulder strap 126 and the second shoulder strap 128 and by the front support system 183. Although the bra 100 includes a plurality of interconnected elements, it is noted that elements can be eliminated and or separated from each other to act independent of each other.

[0031] Although the bra 100 is shown as being fastened at the rear and front thereof, the bra 100 may be complete closed or the connections may be made at a side, just at the front or just at the rear.

[0032] FIGS. 8A-10 illustrate another embodiment of an athletic bra 200. The bra 200 includes a front portion 202, a back portion 204, a first side portion 206 that extends between the front portion 202 and the back portion 204 and a second side portion 208 that extends between the front portion 202 and the back portion 204. A band 210 is fixed to a lower end of the front portion 202, the back portion 204 and the side portions 206, 208.

[0033] The front portion 202 includes a first front panel 212 and a second front panel 214 that is independent of the first front panel 212 to allow the bra 200 to open at the front thereof (i.e., front entry). The first front panel

212 and the second front panel 214 can each be comprised of a single panel or piece of material or multiple panels or pieces of material that are connected together to form the respective first front panel 212 and second front panel 214. The material can include woven fabric, nonwoven fabric, fabric having moisture wicking capabilities, fabric that at least in part is elastomeric, etc. The pieces of material can be connected to each other by, for example, sewing or bonding the pieces of material to each other. In an embodiment, at least a portion of a piece of material 216, 218 of each of the front panels 212, 214, respectively, includes elastomeric properties to aid in compressing and stabilizing the breasts of an individual wearing the bra 200. Alternatively, the front panels 212, 214 can be comprised of non-stretch material.

[0034] As shown in FIG. 9, the front portion 202 can include a first cup 220 that is associated with the first front panel 212 and a second cup 222 that is associated with the second front panel 214. The first and second cups 220, 222 can be molded and fixed to the respective first front panel 212 and the second front panel 214. In an embodiment, the cups 220, 222 can be independent of the first front panel 212 and the second front panel 214. In another embodiment, the cups 220, 222 can be included as part of a modular system whereby the first and second cups 220, 222 are arranged between the respective first and second front panels 212, 214 and a layer of material affixed to an surface of the first and second front panels 212, 214 that is contactable with the breasts and upon securing the bra 200 to a user's body, the modular cups aid in evenly compressing the breasts.

[0035] A first shoulder strap 226 and a second shoulder strap 228 that is spaced from the first shoulder strap 226 each extend between the front portion 202 and the back portion 204 of the bra 200. The straps 226, 228 can each be comprised of a single piece of material or segments of material where at least one of the segments that form the straps 226, 228 can at least in part be comprised of a material or blend of materials that include(s) elastomeric or non-elastomeric properties.

[0036] In an embodiment, the first shoulder strap 226 includes a first piece of material (or blend of materials) 230 that is not at least substantially comprised of an elastomer to aid in the tensioning of the bra 200 and a second piece of material (or blend of materials) 232 that is comprised at least in part of an elastomer to aid in adjusting the strap 226. The second piece of material 232 is fixed to the first piece of material 230 by a first connection mechanism 234, such as a first loop, and an adjustment mechanism 236, such as a slide, can be arranged on the second piece of material 232 to aid in adjusting the length of the first shoulder strap 226 to ensure a proper, supportive and comfortable fit. Alternatively, the two pieces of material 230, 232 can be directly connected to each other. Like the first shoulder strap 226, the second shoulder strap 228 includes a first piece of material (or blend of materials) 240 that is not at least substantially com-

prised of an elastomer to aid in the tensioning of the bra 200 and a second piece of material (or blend of materials) 242 that is comprised at least in part of an elastomer to aid in adjusting the strap 228. The second piece of material 242 is fixed to the first piece of material 240 by a second connection mechanism 244, such as a first loop, and an adjustment mechanism 246, such as a slide, can be arranged on the second piece of material 242 to aid in adjusting the length of the second shoulder strap 228 to ensure a proper, supportive and comfortable fit. In another configuration, the connection mechanism 234 and 244 and the adjustment mechanisms 236, 246 can be combined into a single element. In yet another configuration, a single piece of material can be used to form the shoulder straps 226, 228.

[0037] The back portion 204 of the bra 200 includes a first back strap system 248 and a second back strap system 250. The first back strap system 248 includes a first leg 252 that is connected to the second end of the first shoulder strap 226, a second leg 254 that extends at a first angle in a first direction from the first leg 252 toward the second side portion 208 and is fixed at a distal end thereof to a slide 260 and a third leg 256 that extends at a second angle from the first leg 252 in a second direction toward the first side portion 206. The third leg 256 extends contiguously at a second end thereof to a first panel 258. The first panel 258 extends from the back portion 204 around the first side portion 206 toward the front portion 202. As can be seen, for example, in FIGS. 8A-8C, the first panel 258 is fixed along a bottom edge thereof to the band 210 and to a sidewall 221 of the first cup 220, but can be connected directly to the cup 220 with the sidewall eliminated from the design. The second back strap system 250 is independent of the first back strap system 248 and a mirror opposite configuration of the first back strap system 248. The second back strap system 250 includes a first leg 262 that is connected to the second end of the second shoulder strap 228, a second leg 264 that extends at a first angle in a first direction from the first leg 262 toward the first side portion 206 and is fixed at a distal end thereof to a slide 270 and a third leg 266 that extends at a second angle from the first leg 262 in a second direction toward the second side portion 208. The third leg 266 extends contiguously at a second end thereof to a second panel 268. The second panel 268 extends from the back portion 204 around the second side portion 208 toward the front portion 202. As can be seen in FIG. 9, the second panel 268 is fixed along a bottom edge thereof to the band 210 and to a sidewall 225 of the second cup 222, but can be connected directly to the cup 222 with the sidewall eliminated from the design. Alternatively, the first back strap system 248 can be connected to the second shoulder strap 228 and the second back system 250 can be connected to the first shoulder strap 226.

[0038] The first back strap system 248 and the second back strap system 250 can be made of any material that includes, but is not limited to woven fabric, non-woven fabric, fabric having moisture wicking capabilities, fabric

that comprises elastomeric properties, etc.

[0039] As depicted in FIGS. 8A-9, the bra 200 includes a first side strap 272 that extends from the first side portion 206 toward the front portion 202 and a second side strap 274 that extends from the second side portion 208 toward the front portion 202. The first side strap 272 is fixed at a first end 276 to the first front panel 212, extends through a slide 278 to connect the first side strap 272 to the second back strap system 250 and is fixed at second end 280 between the band 210 and the first front panel 212. Similarly, the second side strap 274 is fixed at a first end (not shown) to the second front panel 214, extends through a slide 286 to connect the second side strap 274 to the first back strap system 248 and is fixed at second end (not shown) between the band 210 and the second front panel 214. The first side strap 272 and the second side strap 274 can each include a second slide 288, 289, respectively, to aid in adjusting the tension of the bra 200.

[0040] FIG. 10 is a front view of the bra 200 that illustrates a front support system 294, which is comprised of a first piece of material 296 and a second piece of material 298 that is configured to adjust tension across the front portion 202 of the bra 200. The first piece of material 296 and the second piece of material 298 can be independent of each other. In an embodiment, the front support system 294 can be comprised of multiple separate pieces of material that are joined form the first and second piece of material 296, 298. In an embodiment, the first piece of material 296 and the second piece of material 298 are each independently comprised of a single piece of non-elastomeric material, elastomeric material or a blend of non-elastomeric and elastomeric material. In an embodiment where the pieces of material 296, 298 are a blend of elastomeric and non-elastomeric material, the approximately half of each of the first and second pieces of material 296, 298 can be comprised of elastomeric material and the other half can be comprised of non-stretch material. In such a system, the elastomeric material can encompass the upper or lower half of each piece of material 296, 298 to aid in compressing the upper or lower portion of the bra 200 and the upper or lower half of each piece of material 296, 298 can be comprised of non-stretch material to aid in keeping the breasts contained within the 220, 222 cups. As shown in FIG. 10, a first end 297 of the first piece of material 296 can be directly or indirectly fixed to the first shoulder strap 226 and a first end 299 of the second piece of material 298 can be directly or indirectly fixed to the second shoulder strap 228. The front support system 294 can be integrated into a layer of material of the bra 200 or can separate from the bra 200.

[0041] The front support system 294 can be adjusted by adjusting the side straps 272, 274. For example, when the first side strap 272 is adjusted (shortened) via the slider 288, the second leg 264 of the second back panel 250 is pulled, tensioning the second shoulder strap 228 and in turn the second piece of material 298 or second side of the front support system 294. Similarly, when the

second side strap 274 is adjusted (shortened) via the slider 289, the second leg 254 of the first back panel 248 is pulled, tensioning the first shoulder strap 226 and in turn the first piece of material 296 or first side of the front support system 294.

[0042] In order to secure the bra 200 in place and stabilize breast laterally, vertically and in and out (across three axes of movement), the bra 200 includes a front closure mechanism 292 to releasably fix the first front panel 212 to the second front panel 214. As shown in FIGS. 8A and 8B, the front closure mechanism 292 can be a zipper. Although a zipper is shown, the front closure mechanism 292 can be another fastener or fastening system, such as hook and loop fasteners, snaps, buttons, an adhesive or a hook and eye connection, etc. additionally, it is possible for the bra 200 to be rear entry with the front closure mechanism 292 eliminated from the design.

[0043] FIGS. 11-14 illustrate a third non-claimed embodiment of an athletic bra 300. The bra 300 includes a front portion 302, a back portion 304, a first side portion 306 that extends between the front portion 302 and the back portion 304 and a second side portion 308 that extends between the front portion 302 and the back portion 304. A band 310 is fixed to a lower end of the front portion 302, the back portion 304 and the side portions 306, 308.

[0044] The front portion 302 includes a first front panel 312 and a second front panel 314 that is independent of the first front panel 312 to allow the bra 300 to open at the front thereof (i.e., front entry). The first front panel 312 and the second front panel 314 can each be comprised of a single piece or multiple pieces of material that are connected together to form the respective first front panel 312 and second front panel 314. The material can include woven fabric, nonwoven fabric, fabric that includes moisture wicking material, fabric that at least in part is elastomeric, etc. The pieces of material can be connected to each other by, for example, sewing or bonding the pieces of material to each other. In an embodiment, at least a portion of a piece of the material 316, 318 of each of the front panels 312, 314, respectively, includes elastomeric properties to aid in compressing and stabilizing the breasts of an individual wearing the bra 300. In another embodiment, approximately a portion of each of the pieces of the material 316, 318 includes elastomeric properties to aid in compressing and stabilizing the breasts of an individual wearing the bra 300 and another portion of the pieces of the material 316, 318 do not comprise an elastomer to ensure the breasts are contained within the respective front panels 312, 314. Alternatively, the front panels 312, 314 are comprised of non-elastomeric material.

[0045] As illustrated in FIG. 12, the front portion 302 can include a first cup 320 that is associated with the first front panel 312 and a second cup 322 that is associated with the second front panel 314. The first and second cups 320, 322 can be molded to the respective first front panel 312 and the second front panel 314, independent of the first front panel 312 and the second front panel 314

or included as part of a modular system whereby the first and second cups 320, 322 are arranged between the respective first and second front panels 312, 314 and a layer of material affixed to an surface of the first and second front panels 312, 314 that is contactable with the breasts and upon securing the bra 300 to a user's body, the modular cups aid in evenly compressing the breasts. However, in an embodiment, the cups 320, 322 can be removed from the design, can be removable whereby an individual can choose to temporarily remove the cups 320, 322, cannot be included as part of the design or an aftermarket purchase.

[0046] A first shoulder strap 324 and a second shoulder strap 326 that is spaced from the first shoulder strap 324 each extend between the front portion 302 and the back portion 304 of the bra 300. The straps 324, 326 can be comprised of a single piece of material or segments of material where at least one of the segments that form the straps 324, 326 can at least in part be comprised of a material or blend of materials that include(s) elastomeric properties.

[0047] As shown, for example, in FIG. 12, the first shoulder strap 324 includes a first piece of material (or blend of materials) 328 that is not at least substantially comprised of an elastomer to aid in the tensioning of the bra 300 and a second piece of material (or blend of materials) 330 that is comprised at least in part of an elastomer to aid in adjusting the strap 324. The second piece of material 330 is fixed to the first piece of material 326 by a first connection mechanism 332, such as a first loop, and an adjustment mechanism 334, such as a slide, can be arranged on the second piece of material 330 to aid in adjusting the length of the first shoulder strap 324 to ensure a proper, supportive and comfortable fit. Alternatively, second piece of material 330 can be non-elastomeric and the first piece of material 328 can be elastomeric. In an embodiment, the connection mechanism 332 can be eliminated. Like the first shoulder strap 324, the second shoulder strap 326 includes a first piece of material (or blend of materials) 336 that is not at least substantially comprised of an elastomer to aid in the tensioning of the bra 300 and a second piece of material (or blend of materials) 338 that is comprised at least in part of an elastomer to aid in adjusting the strap 326. The second piece of material 338 is fixed to the first piece of material 336 by a first connection mechanism 340, such as a first loop, and an adjustment mechanism 342, such as a slide, can be arranged on the second piece of material 338 to aid in adjusting the length of the second shoulder strap 326 to ensure a proper, supportive and comfortable fit. Alternatively, second piece of material 338 can be non-elastomeric and the first piece of material 336 can be elastomeric. In another configuration, the connection mechanism 332, 340 and the adjustment mechanisms 334, 342 can be combined into a single element. In an embodiment, the connection mechanism 340 can be eliminated and a single piece of material or blend of materials can be used to form the shoulder straps

324, 326.

[0048] The back portion 304 of the bra 300 includes a first back panel 344 and a second back panel 346. The first back panel 344 includes a body 348 that extends substantially across the back portion 304, is contiguous to the second side portion 308, is fixed at a lower end thereof to the band 310 and includes a leg 350 that extends from the body 344 and that is contiguous to the second shoulder strap 326. The second back panel 346 includes a body 352 that extends substantially across the back portion 304, is contiguous to the first side portion 306, is fixed at a lower end thereof to the band 310 and includes a leg 354 that extends from the body 352 and that is contiguous to the first shoulder strap 324. As can be seen, for example, in FIG. 12, the back panels 344, 346 are mirror opposite configurations of each other and, with the exception of being fixed to the band 310, not connected such that the panels 344, 346 can move, at least in part, independent of each other.

[0049] As shown in FIG. 13, in order to secure the bra 300 in place and stabilize breast laterally, vertically and in and out (across three axes of movement), the bra includes a fastener 356 to first secure the first front panel 312 at a desired position by releaseably connecting the first and second ends of the band 310 to each other and a fastening system 358 to secure the second front panel 314 at a desired position, overlapping in part the first front panel 312. The fastening system 358 includes a first fastener element 360 that is fixed to a portion of material 362 that extends from the second front panel 314 and a second fastener element 364 that is fixed to a tab 366 which extends from the band 310.

[0050] FIG. 14 is a front view of the bra 300 that illustrates a front support system 368, which is comprised of a first piece of material 370 and a second piece of material 372 that is configured to adjust tension across the front portion 302 of the bra 300. The first piece of material 370 and the second piece of material 372 can be independent of each other. In an embodiment, the front support system 368 can be comprised of multiple separate pieces of material that are joined from the first and second piece of material 370, 372. In an embodiment, the first piece of material 370 and the second piece of material 372 are each independently comprised of a single piece of non-elastomeric material, elastomeric material or a blend of non-elastomeric and elastomeric material. In an embodiment where the pieces of material 370, 372 are a blend of elastomeric and non-elastomeric material, the approximately half of each of the first and second pieces of material 370, 372 can be comprised of elastomeric material and the other half can be comprised of non-stretch material. In such a system, the elastomeric material can encompass the upper or lower half of each piece of material 370, 372 to aid in compressing the upper portion of the bra 300 and the upper or lower half of each piece of material 370, 372 can be comprised of non-stretch material to aid in keeping the breasts contained within the 320, 322 cups. As shown in FIG. 14, the first piece of material

370 extends between a first end 374 and a second end 376 and the second piece of material 372 extends between a first end 378 and a second end 380. The first end 374 of the first piece of material 370 can be directly or indirectly fixed to the first shoulder strap 324 and the second end 376 of the first piece of material 370 can be directly or indirectly fixed to the band 310. The first end 378 of the second piece of material 372 can be directly or indirectly fixed to the second shoulder strap 326 and the second end 380 of the second piece of material 372 can be directly or indirectly fixed to the band 310. The front support system 368 can be integrated into a layer of material of the bra 300 or can separate from the bra 300.

[0051] The foregoing description and associated images illustrate several embodiments of the invention and its respective constituent parts. Thus, although the description above and accompanying images contain much specificity, the details provided should not be construed as limiting the scope of the invention, which is defined by the claims.

Claims

1. A bra (100,200), comprising:

a body including a front portion (102, 202), a rear portion (104, 204), a first side portion (106, 206) extending between a first end of the front portion (101, 102) and a first end of the rear portion (104, 204), a second side portion (108, 208) extending between a second end of the front portion (102, 202) and a second end of the rear portion (104, 204), a first shoulder strap (126, 226) fixed to and extending between the front portion (102, 202) and the rear portion (104, 204) and a second shoulder strap (128, 228) fixed to and extending between the front portion (102, 202) and the rear portion (104, 204), the rear portion (104, 204) includes a first back strap system (146, 248) and a second back strap system (148, 250) that are independent of each other; and a front support system (183, 294) affixable to the front portion (102, 202) and that includes a first piece of material (185, 296) and a second piece of material (186, 298) and that is configured to adjust tension across the front portion (102, 202) of the bra (100, 200); a band (110, 210) that extends about a periphery of the bra (100, 200) at the bottom end of the front portion (102, 202), the rear portion (104, 204) and the first side portion (106, 206) and second side portion (108, 208); **characterized in that** the first back strap system (146, 248) includes a first leg (150, 252), a second leg (152, 254) that extends at a first angle in a first direction from the first leg (150, 252)

toward the second side portion (108, 208) and a third leg (154, 256) extending at a second angle from the first leg (150, 252) in a second direction toward the first side portion (106, 206) and a first panel (158, 258) extending contiguously from the third leg (154, 256) and the second back strap system (148, 250), which is independent of the first back strap system (146, 248) and a mirror opposite configuration of the first back strap system (146, 248) includes a first leg (150, 252), a second leg (152, 254) that extends at a first angle in a first direction from the first leg (150, 252) toward the first side portion (106, 206) and a third leg (154, 256) that extends at a second angle from the first leg (150, 252) in a second direction toward the second side portion (108, 208) and a second panel (168, 268) extending contiguously from the third leg (154, 256);

wherein the first panel (158, 258) extends from the back portion around the first side portion (106, 206) toward the front portion (102, 202) and is fixed along a bottom edge thereof to the band (110, 210);

wherein the second panel (168, 268) extends from the back portion around the second side portion (108, 208) toward the front portion (102, 202) and is fixed along a bottom edge thereof to the band (110, 210).

2. The bra of claim 1, wherein the first shoulder strap (126, 226) is comprised of one or more pieces of material that are connected to each other with one piece of material including elastomeric properties and the other piece of material including non-elastomeric properties and the second shoulder strap (128, 228) is comprised of one or more pieces of material that are connected to each other with one piece of material including elastomeric properties and the other piece of material including non-elastomeric properties.

3. The bra of claim 1, wherein the band (110, 210) is comprised of an elastomeric material to allow for adaptability and to aid in compression of the bra (100, 200).

4. The bra of claim 1, wherein the band (110, 210) includes a fastening system (113) (110, to fix to a first end and a second end thereof to each other.

5. The bra of claim 1, wherein the front portion (102, 202) comprises at least one layer of material including an external support layer (112) and a cup layer (114).

6. The bra of claim 5, wherein the support layer (112) includes at least one panel (115, 116, 117, 118, 119,

120) whereby at least a portion of the panel includes elastomeric properties.

7. The bra of any one of claims 5 or 6, wherein the cup layer (114) includes at least one of a first cup (122, 220) and a second cup (124, 222), which is independent of the first cup (122, 220) and a single unit wherein a first cup (122, 220) is connected to the second cup (124, 222). 5
8. The bra of claim 1, wherein the first piece of material (185, 296) and the second piece of material (186, 298) are each comprised of a single piece of elastomeric material. 10
9. The bra of claim 1, wherein the first piece of material (185, 296) and the second piece of material (186, 298) are each comprised of a blend of non-elastomeric and elastomeric material. 15
10. The bra of claim 1, wherein the first piece of material (185, 296) and the second piece of material (186, 298) are at least one of independent elements of each other such that one of the first piece of material (185, 296) and the second piece of material (186, 298) slides over or under the other of the first piece of material (185, 296) and the second piece of material (186, 298) and fixed to each other. 20 25
11. The bra of claim 1, wherein at least one of a first end of the first piece of material (185, 296) is fixed to the first shoulder strap (126, 226) and a first end of the second piece of material (186, 298) is fixed to the second shoulder strap (128, 228) and the first end of the first piece of material (185, 296) is fixed adjacent to the first shoulder strap (126, 226) and the first end of the second piece of material (186, 298) is fixed adjacent to the second shoulder strap (128, 228). 30 35
12. A method of securing an athletic bra according to any one of claims 1 to 11, the method comprising the steps of: 40
placing the bra (100, 200) on an individual; 45
connecting a first end of the band (110, 210) to a second end of the band (110, 210);
grasping and pulling a first side strap (170, 272) such that the second shoulder strap (128, 228) is tensioned, the second piece of material (186, 298) that is part of the front support system (183, 294) compresses a respective first half of the front portion (102, 202) toward the user and the first back strap system (146, 248) is tensioned toward the first side portion (106, 206); 50
connecting the first side strap (170, 272) to the band (110, 210) at the front portion (102, 202);
grasping and pulling a second side strap (172, 274) such that the first shoulder strap (126, 226) is tensioned, the first piece of material (185, 296) that is part of the front support system (183, 294) compresses a respective second half of the front portion (102, 202) toward the individual and the second back strap system (148, 250) is tensioned toward the second side portion (108, 208); and
connecting the second side strap (172, 274) to the band (110, 210) at the front portion (102, 202). 55

274) such that the first shoulder strap (126, 226) is tensioned, the first piece of material (185, 296) that is part of the front support system (183, 294) compresses a respective second half of the front portion (102, 202) toward the individual and the second back strap system (148, 250) is tensioned toward the second side portion (108, 208); and
connecting the second side strap (172, 274) to the band (110, 210) at the front portion (102, 202).

Patentansprüche

1. Büstenhalter (100, 200), umfassend:

einen Körper, enthaltend einen vorderen Abschnitt (102, 202), einen hinteren Abschnitt (104, 204), einen ersten Seitenabschnitt (106, 206), der sich zwischen einem ersten Ende des vorderen Abschnitts (101, 102) und einem ersten Ende des hinteren Abschnitts (104, 204) erstreckt, einen zweiten Seitenabschnitt (108, 208), der sich zwischen einem zweiten Ende des vorderen Abschnitts (102, 202) und einem zweiten Ende des hinteren Abschnitts (104, 204) erstreckt, einen ersten Schulterriemen (126, 226), der an dem vorderen Abschnitt (102, 202) und dem hinteren Abschnitt (104, 204) fixiert ist und sich zwischen diesen erstreckt, und einen zweiten Schulterriemen (128, 228), der an dem vorderen Abschnitt (102, 202) und dem hinteren Abschnitt (104, 204) fixiert ist und sich zwischen diesen erstreckt, wobei der hintere Abschnitt (104, 204) ein erstes Rückenriemensystem (146, 248) und ein zweites Rückenriemensystem (148, 250) enthält, die voneinander unabhängig sind; und
ein vorderes Stützsysteem (183, 294), das an dem vorderen Abschnitt (102, 202) fixierbar ist und ein erstes Stück Material (185, 296) und ein zweites Stück Material (186, 298) enthält und das dazu konfiguriert ist, die Spannung über den vorderen Abschnitt (102, 202) des Büstenhalters (100, 200) einzustellen;
ein Band (110, 210), das sich um einen Umfang des Büstenhalters (100, 200) am unteren Ende des vorderen Abschnitts (102, 202), des hinteren Abschnitts (104, 204) und des ersten Seitenabschnitts (106, 206) und des zweiten Seitenabschnitts (108, 208) erstreckt;
dadurch gekennzeichnet, dass das erste Rückenriemensystem (146, 248) einen ersten Schenkel (150, 252), einen zweiten Schenkel (152, 254), der sich in einem ersten Winkel in einer ersten Richtung von dem ersten Schenkel (150, 252) zum zweiten Seitenabschnitt (108, 208) erstreckt, und

- 208) hin erstreckt, und einen dritten Schenkel (154, 256), der sich in einem zweiten Winkel von dem ersten Schenkel (150, 252) in einer zweiten Richtung zum ersten Seitenabschnitt (106, 206) hin erstreckt, und eine erste Platte (158, 258), die sich zusammenhängend von dem dritten Schenkel (154, 256) erstreckt und das zweite Rückenriemensystem (148, 250), das von dem ersten Rückenriemensystem (146, 248) unabhängig ist, enthält und eine spiegelbildliche entgegengesetzte Konfiguration des ersten Rückenriemensystems (146, 248) einen ersten Schenkel (150, 252), einen zweiten Schenkel (152, 254), der sich in einem ersten Winkel in einer ersten Richtung von dem ersten Schenkel (150, 252) zum ersten Seitenabschnitt (106, 206) hin erstreckt, und einen dritten Schenkel (154, 256), der sich in einem zweiten Winkel von dem ersten Schenkel (150, 252) in eine zweite Richtung zum zweiten Seitenabschnitt (108, 208) hin erstreckt und eine zweite Platte (168, 268), die sich zusammenhängend von dem dritten Schenkel (154, 256) erstreckt, enthält; wobei sich die erste Platte (158, 258) von dem Rückenabschnitt um den ersten Seitenabschnitt (106, 206) zum vorderen Abschnitt (102, 202) hin erstreckt und entlang einer unteren Kante davon an dem Band (110, 210) fixiert ist; wobei sich die zweite Platte (168, 268) von dem Rückenabschnitt um den zweiten Seitenabschnitt (108, 208) zum vorderen Abschnitt (102, 202) hin erstreckt und entlang einer unteren Kante davon an dem Band (110, 210) fixiert ist.
2. Büstenhalter nach Anspruch 1, wobei der erste Schulterriemen (126, 226) aus einem oder mehreren Stücken Material besteht, die mit einem Stück Material, das elastomere Eigenschaften enthält, und mit dem anderen Stück Material, das nicht-elastomere Eigenschaften enthält, miteinander verbunden sind und der zweite Schulterriemen (128, 228) aus einem oder mehreren Stücken Material besteht, die mit einem Stück Material, das elastomere Eigenschaften enthält, und dem anderen Stück Material, das nicht-elastomere Eigenschaften enthält, miteinander verbunden sind.
 3. Büstenhalter nach Anspruch 1, wobei das Band (110, 210) aus einem elastomeren Material besteht, um Anpassungsfähigkeit zu ermöglichen und das Komprimieren des Büstenhalters (100, 200) zu unterstützen.
 4. Büstenhalter nach Anspruch 1, wobei das Band (110, 210) ein Befestigungssystem (113) enthält, um an einem ersten Ende und einem zweiten Ende davon aneinander zu fixieren.
 5. Büstenhalter nach Anspruch 1, wobei der vordere Abschnitt (102, 202) mindestens eine Materialschicht umfasst, die eine äußere Stützschiicht (112) und eine Schalenschicht (114) enthält.
 6. Büstenhalter nach Anspruch 5, wobei die Stützschiicht (112) mindestens eine Platte (115, 116, 117, 118, 119, 120) enthält, wobei mindestens ein Abschnitt der Platte elastomere Eigenschaften enthält.
 7. Büstenhalter nach einem der Ansprüche 5 oder 6, wobei die Schalenschicht (114) mindestens eine zwischen einer ersten Schale (122, 220) und einer zweiten Schale (124, 222), die unabhängig von der ersten Schale (122, 220) ist, und eine einzelne Einheit enthält, wobei eine erste Schale (122, 220) mit der zweiten Schale (124, 222) verbunden ist.
 8. Büstenhalter nach Anspruch 1, wobei das erste Stück Material (185, 296) und das zweite Stück Material (186, 298) jeweils aus einem einzigen Stück eines elastomeren Materials bestehen.
 9. Büstenhalter nach Anspruch 1, wobei das erste Stück Material (185, 296) und das zweite Stück Material (186, 298) jeweils aus einer Mischung aus nicht-elastomerem und elastomerem Material bestehen.
 10. Büstenhalter nach Anspruch 1, wobei das erste Stück Material (185, 296) und das zweite Stück Material (186, 298) mindestens eines von voneinander unabhängigen Elementen sind, sodass eines zwischen dem ersten Stück Material (185, 296) und dem zweiten Stück Material (186, 298) über oder unter das andere zwischen dem ersten Stück Material (185, 296) und dem zweiten Stück Material (186, 298) gleitet und aneinander fixiert ist.
 11. Büstenhalter nach Anspruch 1, wobei mindestens eines von einem ersten Ende des ersten Stücks Material (185, 296) an dem ersten Schulterriemen (126, 226) fixiert ist und ein erstes Ende des zweiten Stücks Material (186, 298) an dem zweiten Schulterriemen (128, 228) fixiert ist und das erste Ende des ersten Stücks Material (185, 296) benachbart zu dem ersten Schulterriemen (126, 226) fixiert ist und das erste Ende des zweiten Stücks Material (186, 298) benachbart zu dem zweiten Schulterriemen (128, 228) fixiert ist.
 12. Verfahren zum Herstellen eines Sport-Büstenhalters nach einem der Ansprüche 1 bis 11, wobei das Verfahren folgende Schritte umfasst:
 - Platzieren des Büstenhalters (100, 200) auf einem Subjekt;
 - Verbinden eines ersten Endes des Bandes

(110, 210) mit einem zweiten Ende des Bandes (110, 210);
 Greifen und Ziehen eines ersten Seitenriemens (170, 272), sodass der zweite Schulterriemen (128, 228) gespannt wird, das zweite Stück Material (186, 298), das Teil des vorderen Stützs-
 systems (183, 294) ist, eine jeweilige erste Hälfte des vorderen Abschnitts (102, 202) zum Be-
 nutzer hin komprimiert und das erste Rücken-
 riemensystem (146, 248) zum ersten Seitenab-
 schnitt (106, 206) hin gespannt wird;
 Verbinden des ersten Seitenriemens (170, 272)
 mit dem Band (110, 210) an dem vorderen Ab-
 schnitt (102, 202);
 Greifen und Ziehen eines zweiten Seitenrie-
 mens (172, 274), sodass der erste Schulterrie-
 men (126, 226) gespannt wird, das erste Stück
 Material (185, 296), das Teil des vorderen Stützs-
 systems (183, 294) ist, eine jeweilige zweite
 Hälfte des vorderen Abschnitts (102, 202) zum
 Subjekt hin komprimiert und das zweite Rücken-
 riemensystem (148, 250) zum zweiten Seiten-
 abschnitt (108, 208) hin gespannt wird; und
 Verbinden des zweiten Seitenriemens (172,
 274) mit dem Band (110, 210) an dem vorderen
 Abschnitt (102, 202).

Revendications

1. Brassière (100, 200), comprenant :

un corps incluant une partie antérieure (102, 202), un partie postérieure (104, 204), une pre-
 mière partie latérale (106, 206) s'étendant entre
 une première extrémité de la partie antérieure
 (101, 102) et une première extrémité de la partie
 postérieure (104, 204), une deuxième partie la-
 térale (108, 208) s'étendant entre une deuxième
 extrémité de la partie antérieure (102, 202) et
 une deuxième extrémité de la partie postérieure
 (104, 204), une première bretelle d'épaule (126,
 226) fixée à et s'étendant entre la partie anté-
 rieure (102, 202) et la partie postérieure (104,
 204) et une deuxième bretelle d'épaule (128,
 228) fixée à et s'étendant entre la partie anté-
 rieure (102, 202) et la partie postérieure (104,
 204), la partie postérieure (104, 204) inclut un
 premier système de bretelles de dos (146, 248)
 et un deuxième système de bretelles de dos
 (148, 250) qui sont indépendants l'un de l'autre ;
 et
 un système de soutien antérieur (183, 294) pou-
 vant être fixé à la partie antérieure (102, 202) et
 qui inclut une première pièce de matériau (185,
 296) et une deuxième pièce de matériau (186,
 298) et qui est configuré pour régler une tension
 à travers la partie antérieure (102, 202) de la

brassière (100, 200) ;
 une bande (110, 210) qui s'étend autour d'une
 périphérie de la brassière (100, 200) à l'extré-
 mité inférieure de la partie antérieure (102, 202),
 de la partie postérieure (104, 204) et de la pre-
 mière partie latérale (106, 206) et de la deuxiè-
 me partie latérale (108, 208) ;

caractérisée en ce que le premier système de
 bretelles de dos (146, 248) inclut une première
 patte (150, 252), une deuxième patte (152, 254)
 qui s'étend à un premier angle dans une pre-
 mière direction depuis la première patte (150,
 252) vers la deuxième partie latérale (108, 208)
 et une troisième patte (154, 256) s'étendant à
 un deuxième angle depuis la première patte
 (150, 252) dans une deuxième direction vers la
 première partie latérale (106, 206) et un premier
 panneau (158, 258) s'étendant de manière con-
 tiguë depuis la troisième patte (154, 256), et le
 deuxième système de bretelles de dos (148,
 250), qui est indépendant du premier système
 de bretelles de dos (146, 248) et une configura-
 tion spéculairement opposée du premier systè-
 me de bretelles de dos (146, 248), inclut une
 première patte (150, 252), une deuxième patte
 (152, 254) qui s'étend à un premier angle dans
 une première direction depuis la première patte
 (150, 252) vers la première partie latérale (106,
 206) et une troisième patte (154, 256) qui
 s'étend à un deuxième angle depuis la première
 patte (150, 252) dans une deuxième direction
 vers la deuxième partie latérale (108, 208) et un
 deuxième panneau (168, 268) s'étendant de
 manière contiguë depuis la troisième patte (154,
 256) ;

dans laquelle le troisième panneau (158, 258)
 s'étend depuis la partie postérieure autour de la
 première partie latérale (106, 206) vers la partie
 antérieure (102, 202) et est fixé le long de son
 bord inférieur à la bande (110, 210) ;

dans laquelle le deuxième panneau (168, 268)
 s'étend depuis la partie postérieure autour de la
 deuxième partie latérale (108, 208) vers la partie
 antérieure (102, 202) et est fixé le long de son
 bord inférieur à la bande (110, 210).

2. Brassière de la revendication 1, dans laquelle la pre-
 mière bretelle d'épaule (126, 226) est constituée
 d'une ou de plusieurs pièces de matériau qui sont
 reliées entre elles, une pièce de matériau incluant
 des propriétés élastomères et l'autre pièce de ma-
 tériel incluant des propriétés non élastomères, et la
 deuxième bretelle d'épaule (128, 228) est constituée
 d'une ou de plusieurs pièces de matériau qui sont
 reliées entre elles, une pièce de matériau incluant
 des propriétés élastomères et l'autre pièce de ma-
 tériel incluant des propriétés non élastomères.

3. Brassière de la revendication 1, dans laquelle la bande (110, 210) est constituée d'un matériau élastomère pour permettre l'adaptabilité et pour contribuer à la compression de la brassière (100, 200). 5
4. Brassière de la revendication 1, dans laquelle la bande (110, 210) inclut un système de fermeture (113) pour fixer l'une à l'autre une première extrémité et une deuxième extrémité de celle-ci. 10
5. Brassière de la revendication 1, dans laquelle la partie antérieure (102, 202) comprend au moins une couche de matériau incluant une couche de soutien extérieure (112) et une couche de bonnet (114) . 15
6. Brassière de la revendication 5, dans laquelle la couche de soutien (112) inclut au moins un panneau (115, 116, 117, 118, 119, 120) dans laquelle au moins une partie du panneau inclut des propriétés élastomères. 20
7. Brassière de l'une quelconque des revendications 5 ou 6, dans laquelle la couche de bonnet (114) inclut au moins l'un d'un premier bonnet (122, 220) et d'un deuxième bonnet (124, 222), qui est indépendant du premier bonnet (122, 220), et une seule unité dans laquelle un premier bonnet (122, 220) est relié au deuxième bonnet (124, 222). 25
8. Brassière de la revendication 1, dans laquelle la première pièce de matériau (185, 296) et la deuxième pièce de matériau (186, 298) sont constituées chacune d'une seule pièce de matériau élastomère. 30
9. Brassière de la revendication 1, dans laquelle la première pièce de matériau (185, 296) et la deuxième pièce de matériau (186, 298) sont constituées chacune d'un mélange de matériaux élastomère et non élastomère. 35
10. Brassière de la revendication 1, dans laquelle la première pièce de matériau (185, 296) et la deuxième pièce de matériau (186, 298) sont au moins l'un d'éléments indépendants l'un de l'autre de telle sorte que l'une de la première pièce de matériau (185, 296) et de la deuxième pièce de matériau (186, 298) glisse au-dessus ou au-dessous de l'autre de la première pièce de matériau (185, 296) et de la deuxième pièce de matériau (186, 298) et fixées l'une à l'autre. 40
11. Brassière de la revendication 1, dans laquelle au moins l'une d'une première extrémité de la première pièce de matériau (185, 296) est fixée à la première bretelle d'épaule (126, 226) et une première extrémité de la deuxième pièce de matériau (186, 298) est fixée à la deuxième bretelle d'épaule (128, 228) et la première extrémité de la première pièce de matériau (185, 296) est fixée adjacente à la première 55
12. Procédé d'attachement d'une brassière de sport selon l'une quelconque des revendications 1 à 11, le procédé comprenant les étapes de :
 positionner la brassière (100, 200) sur un individu ;
 relier une première extrémité de la bande (110, 210) à une deuxième extrémité de la bande (110, 210) ;
 saisir et tirer une première bretelle latérale (170, 272) de telle sorte que la deuxième bretelle d'épaule (128, 228) est mise en tension, la deuxième pièce de matériau (186, 298) qui fait partie du système de soutien antérieur (183, 294) comprime une première moitié respective de la partie antérieure (102, 202) vers l'utilisateur et le premier système de bretelles de dos (146, 248) est mis en tension vers la première partie latérale (106, 206) ;
 relier la première bretelle latérale (170, 272) à la bande (110, 210) au niveau de la partie antérieure (102, 202) ;
 saisir et tirer une deuxième bretelle latérale (172, 274) de telle sorte que la première bretelle d'épaule (126, 226) est mise en tension, la première pièce de matériau (185, 296) qui fait partie du système de soutien antérieur (183, 294) comprime une deuxième moitié respective de la partie antérieure (102, 202) vers l'individu et le deuxième système de bretelles de dos (148, 250) est mis en tension vers la deuxième partie latérale (108, 208) ; et
 relier la deuxième bretelle latérale (172, 274) à la bande (110, 210) au niveau de la partie antérieure (102, 202).

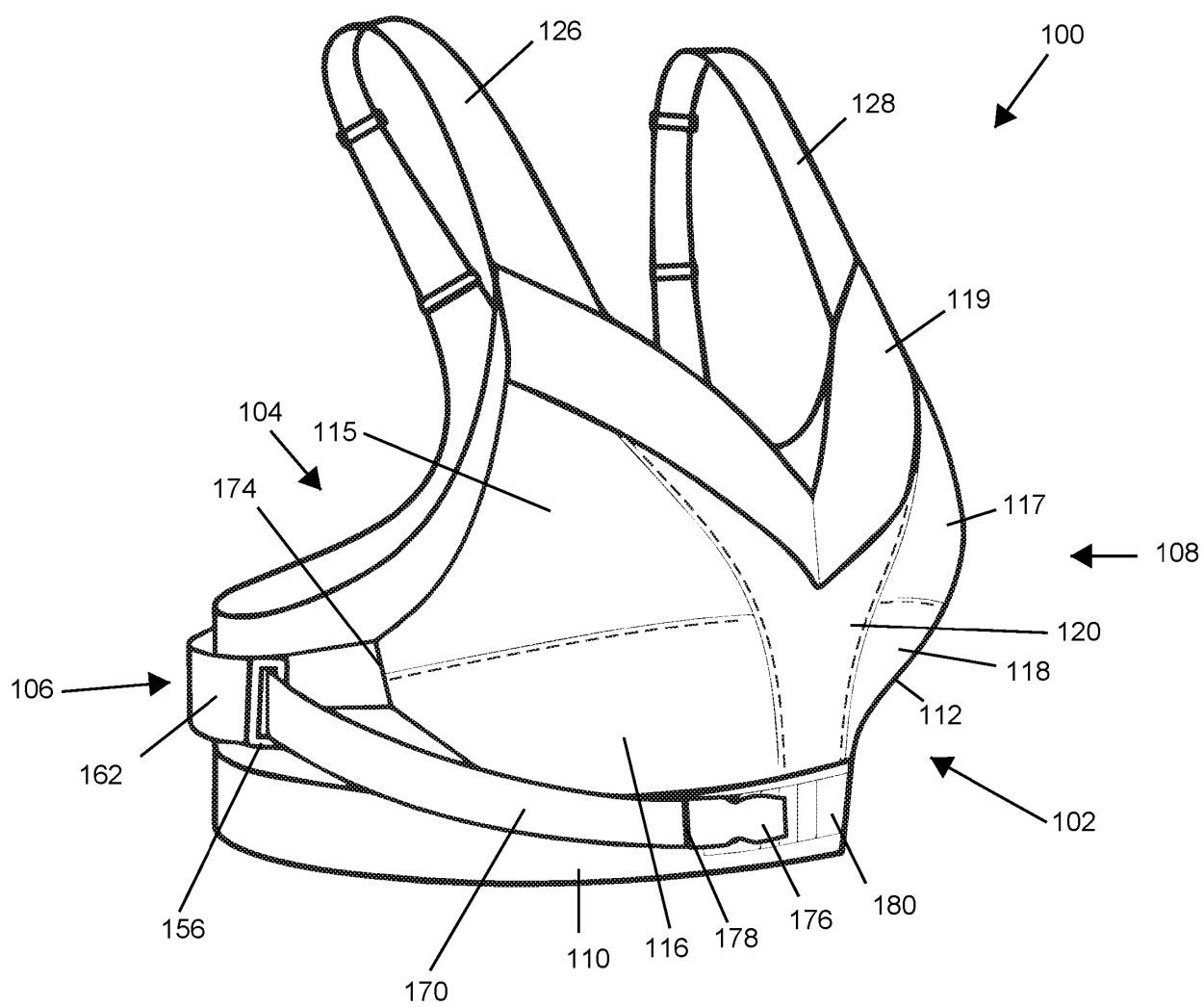


FIG. 1

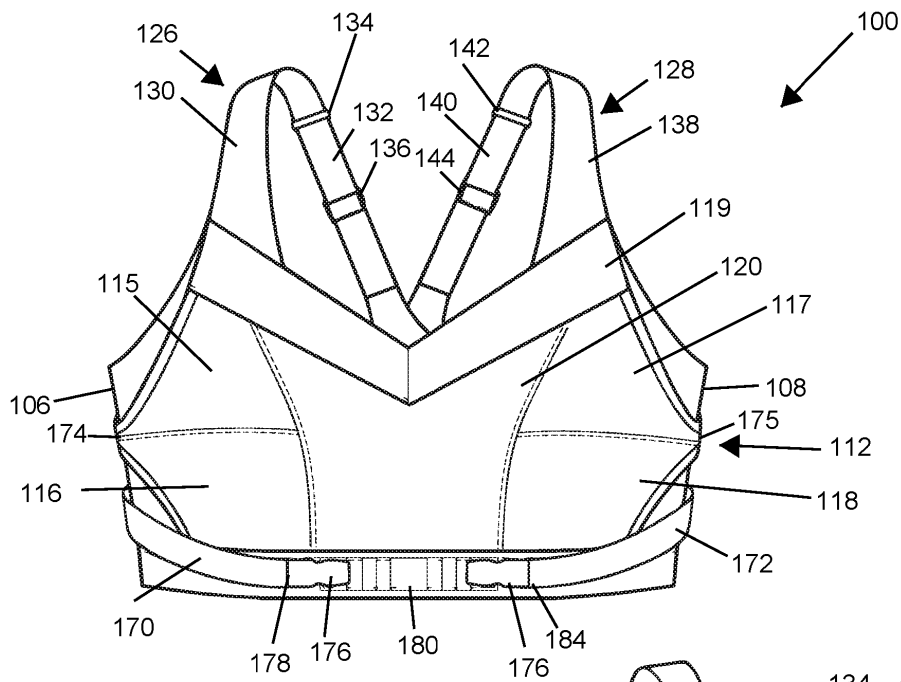


FIG. 2

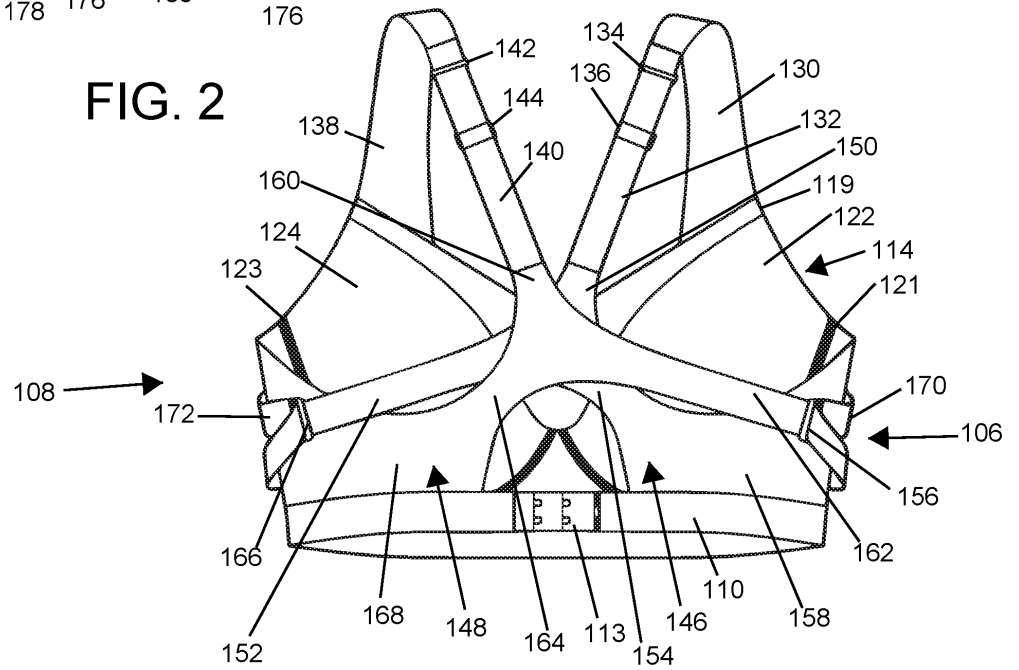


FIG. 3A

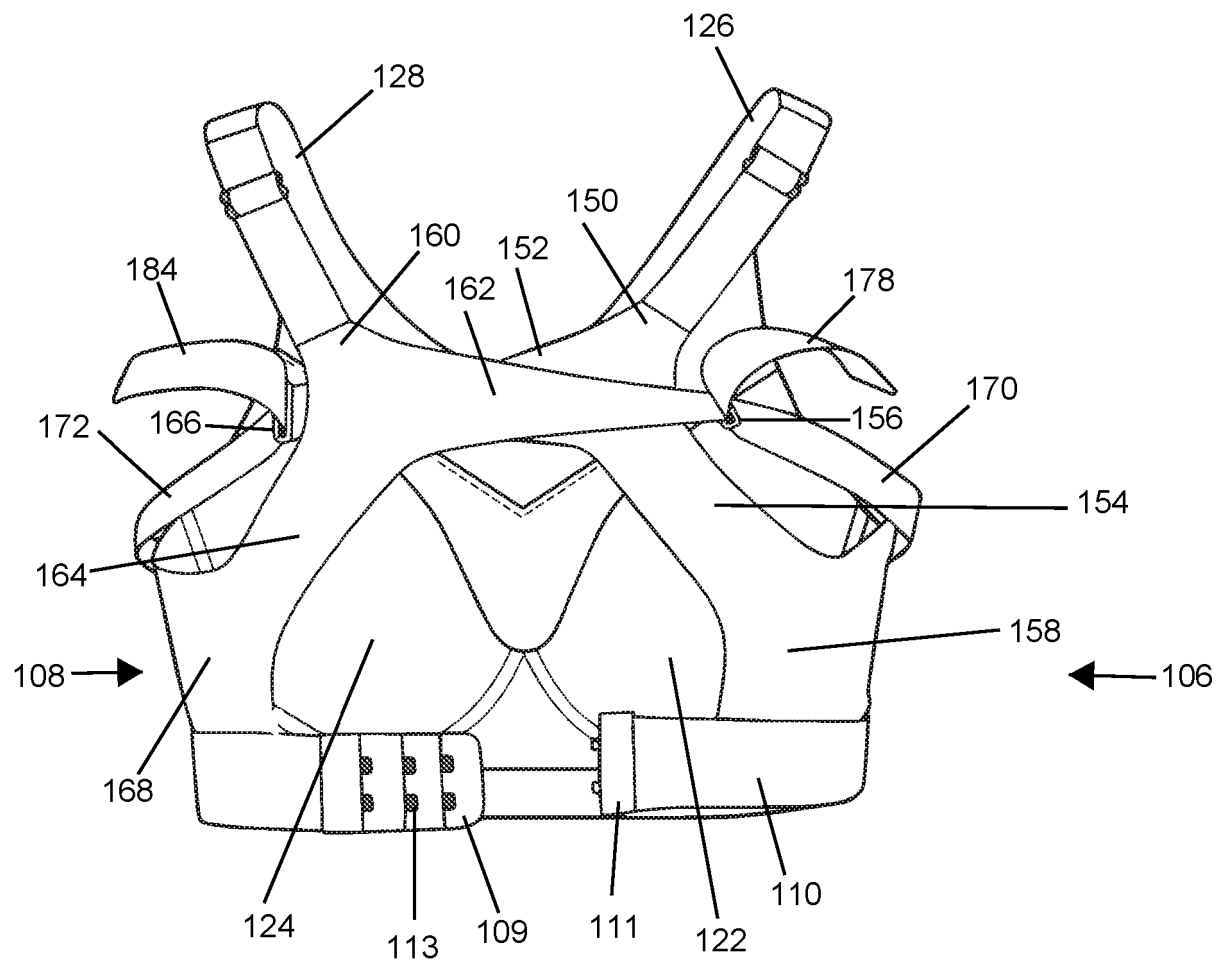


FIG. 3B

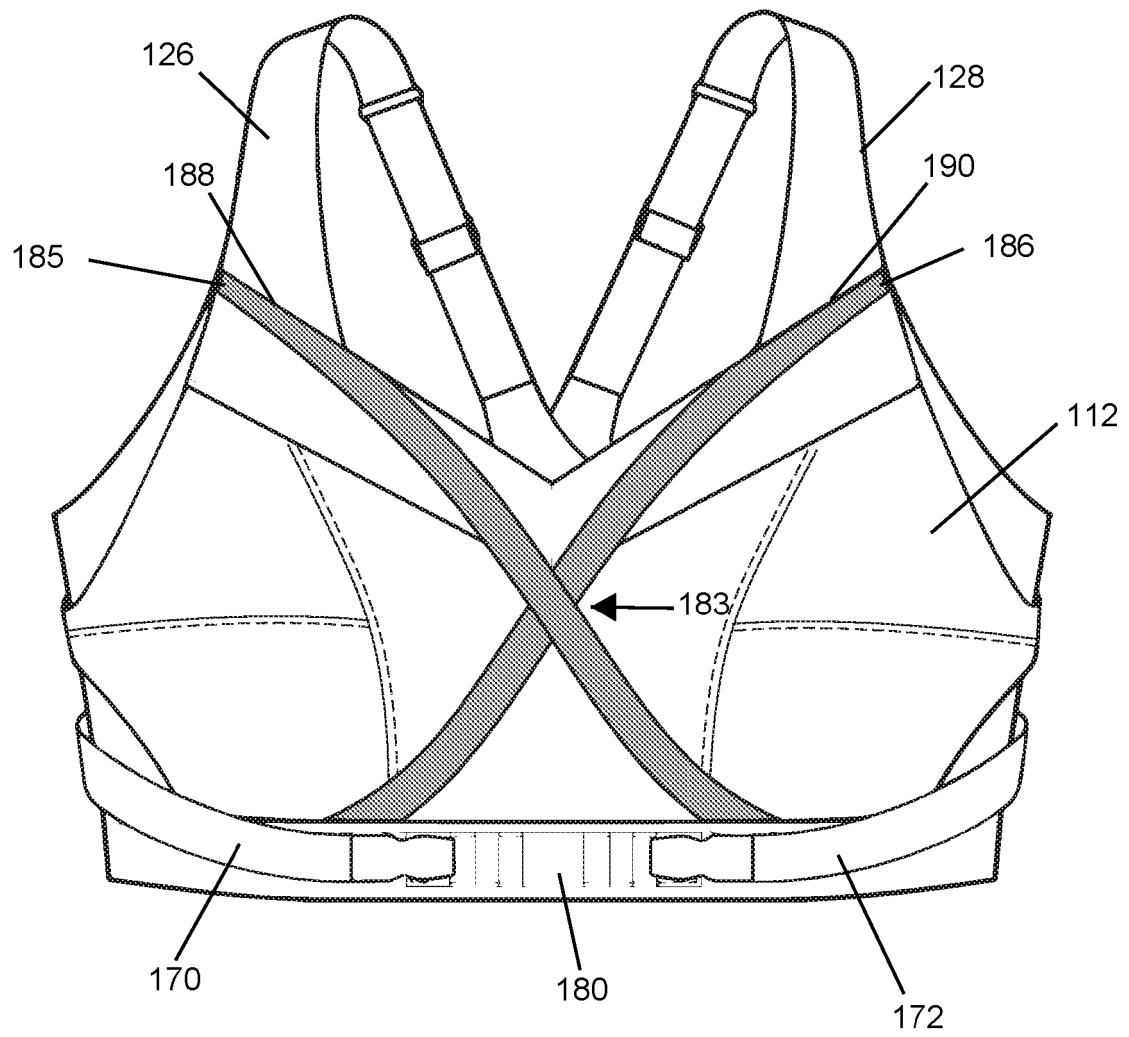


FIG. 4

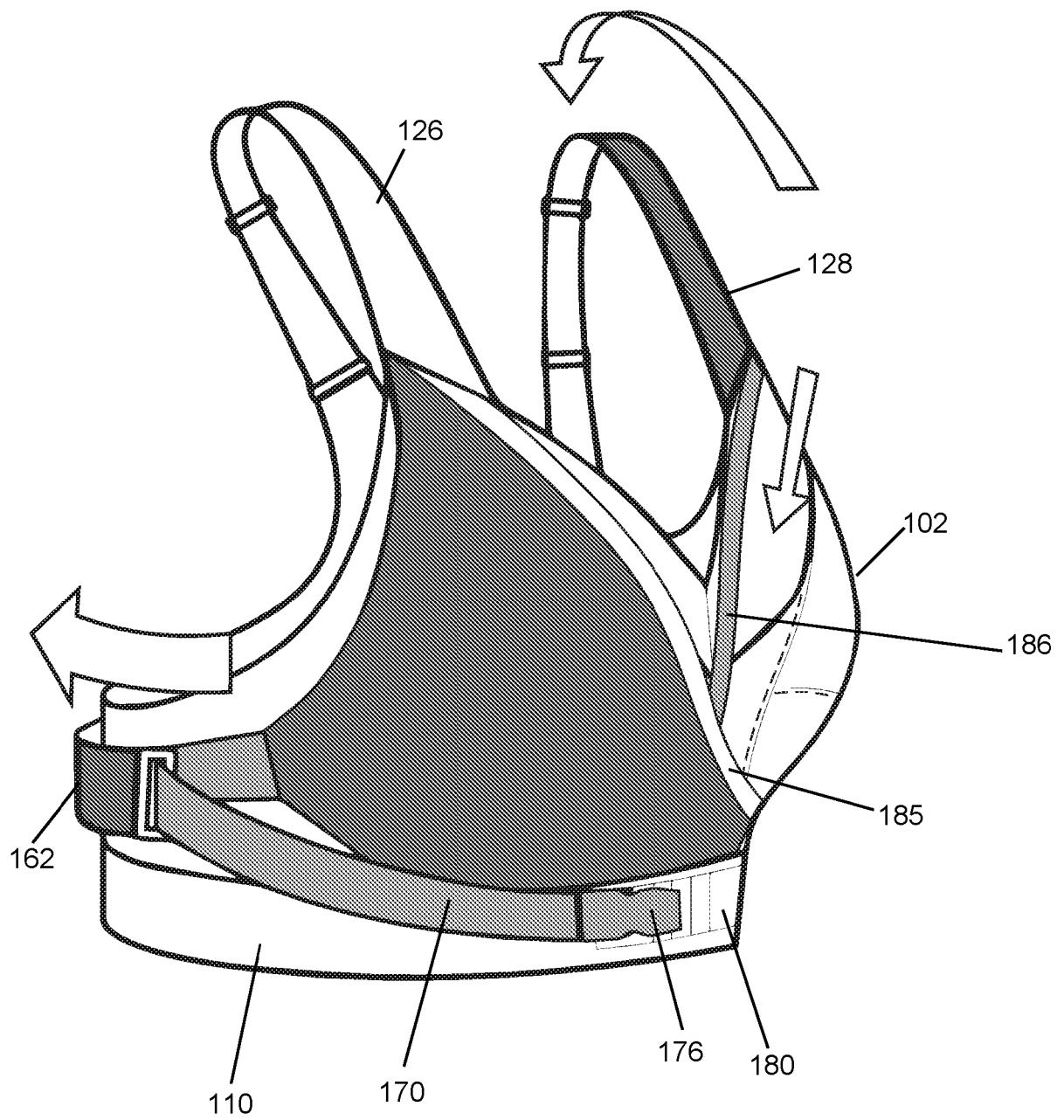


FIG. 5

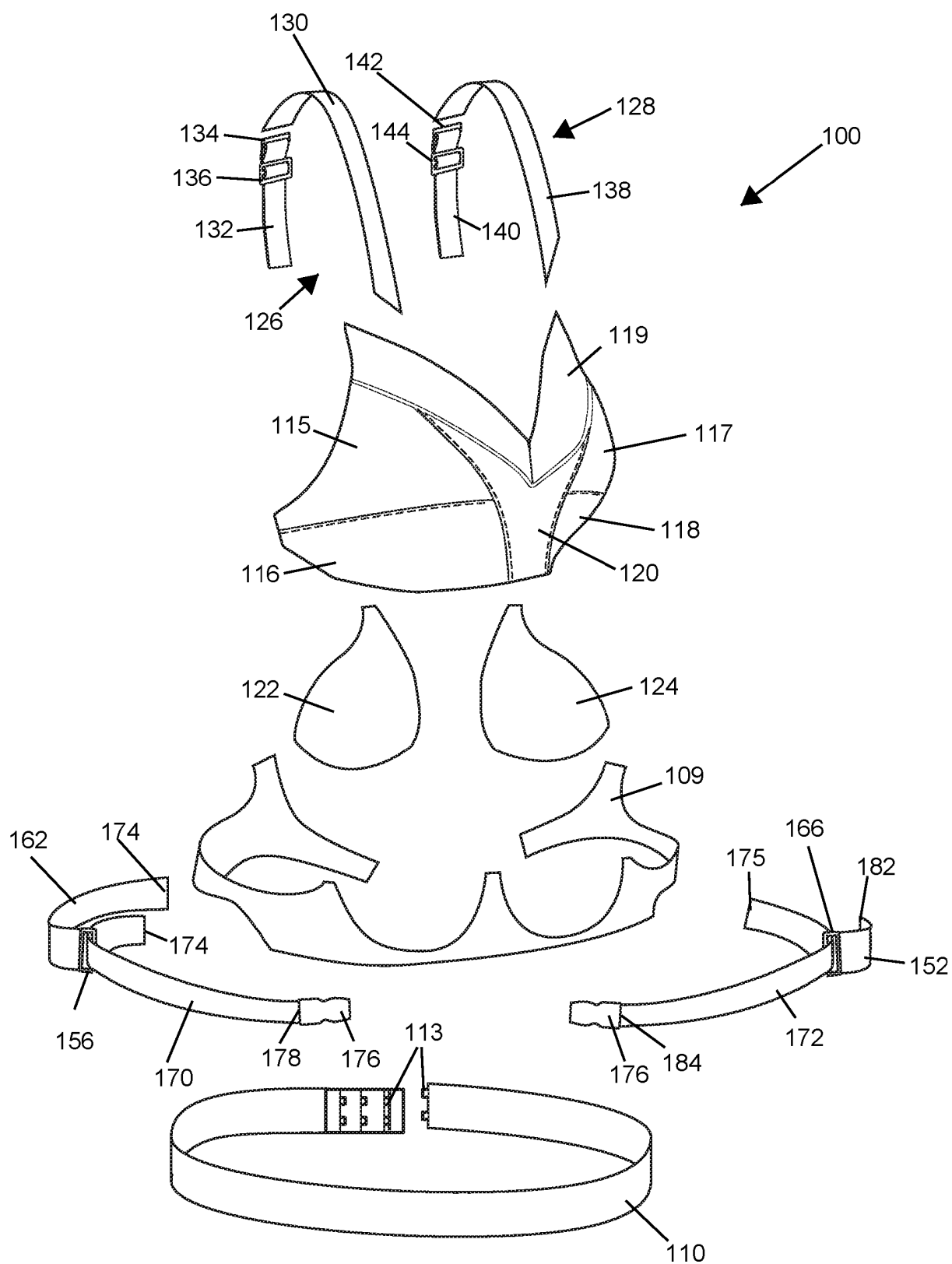


FIG. 6

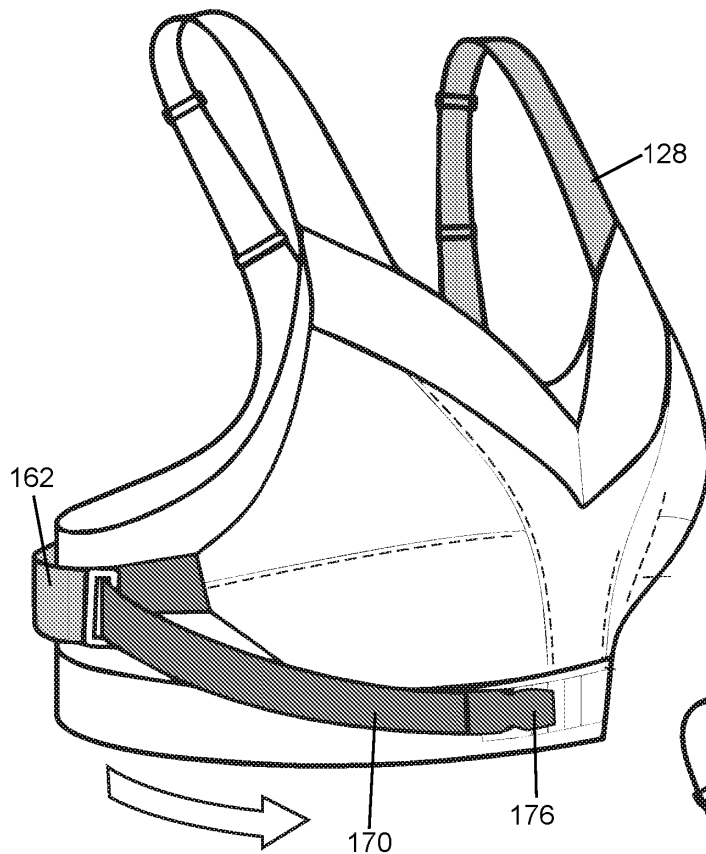


FIG. 7A

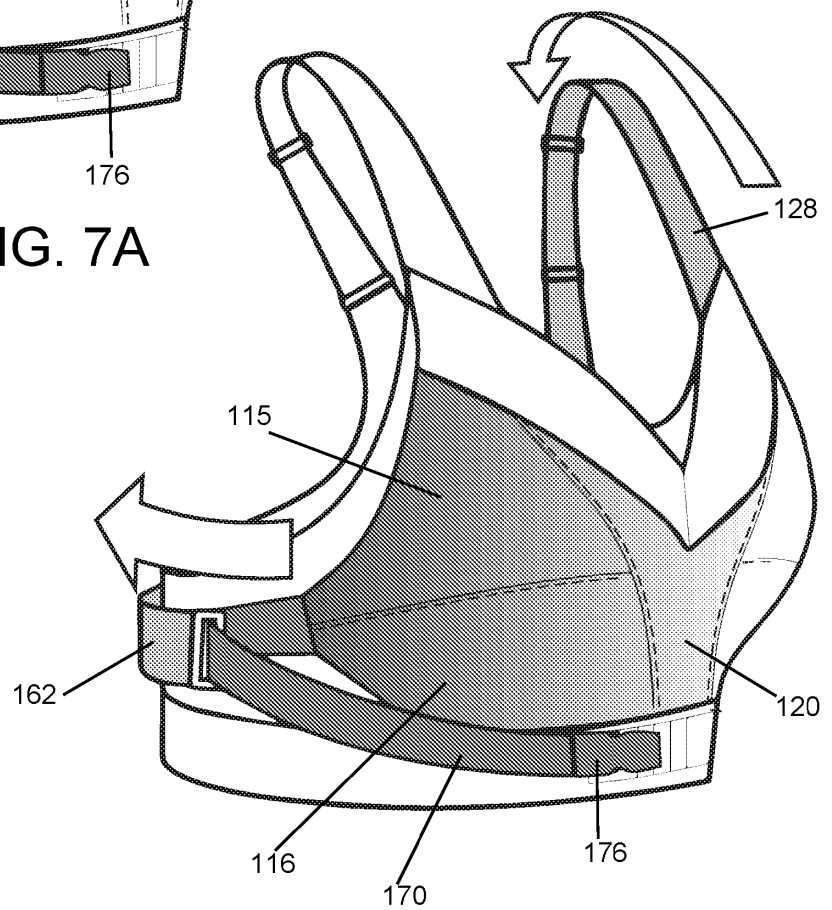


FIG. 7B

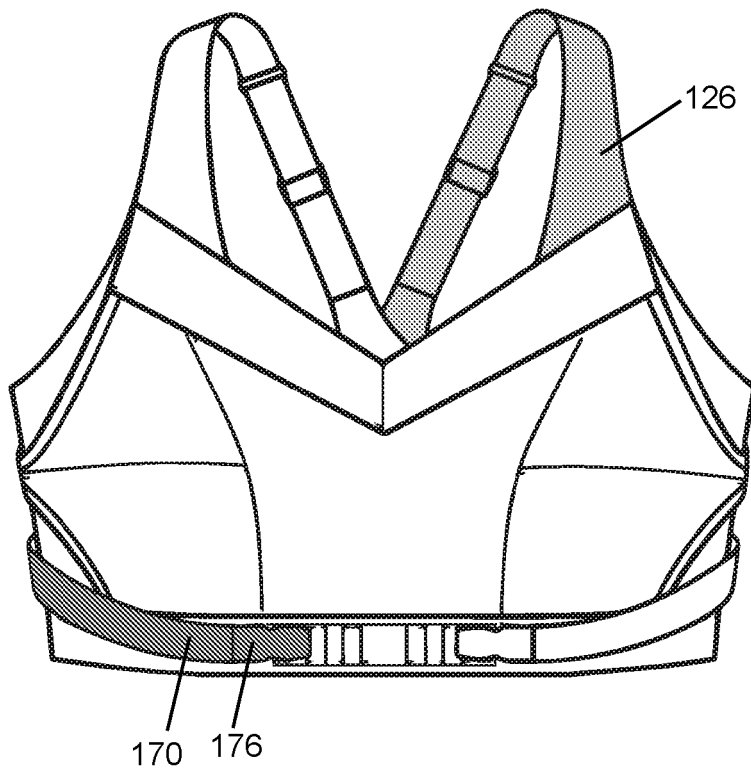


FIG. 7C

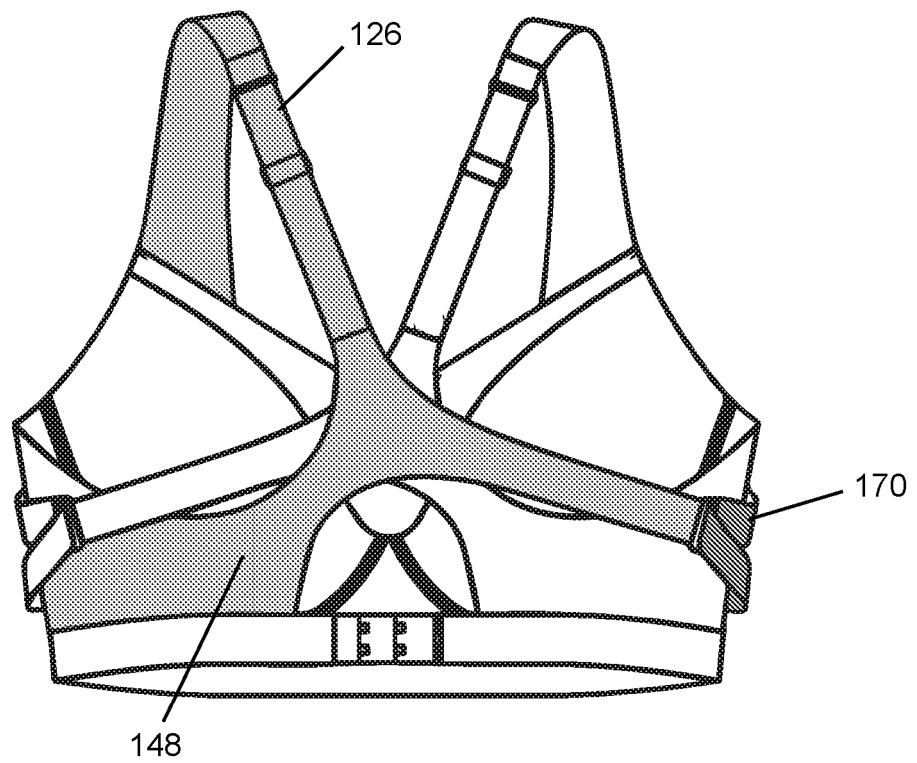
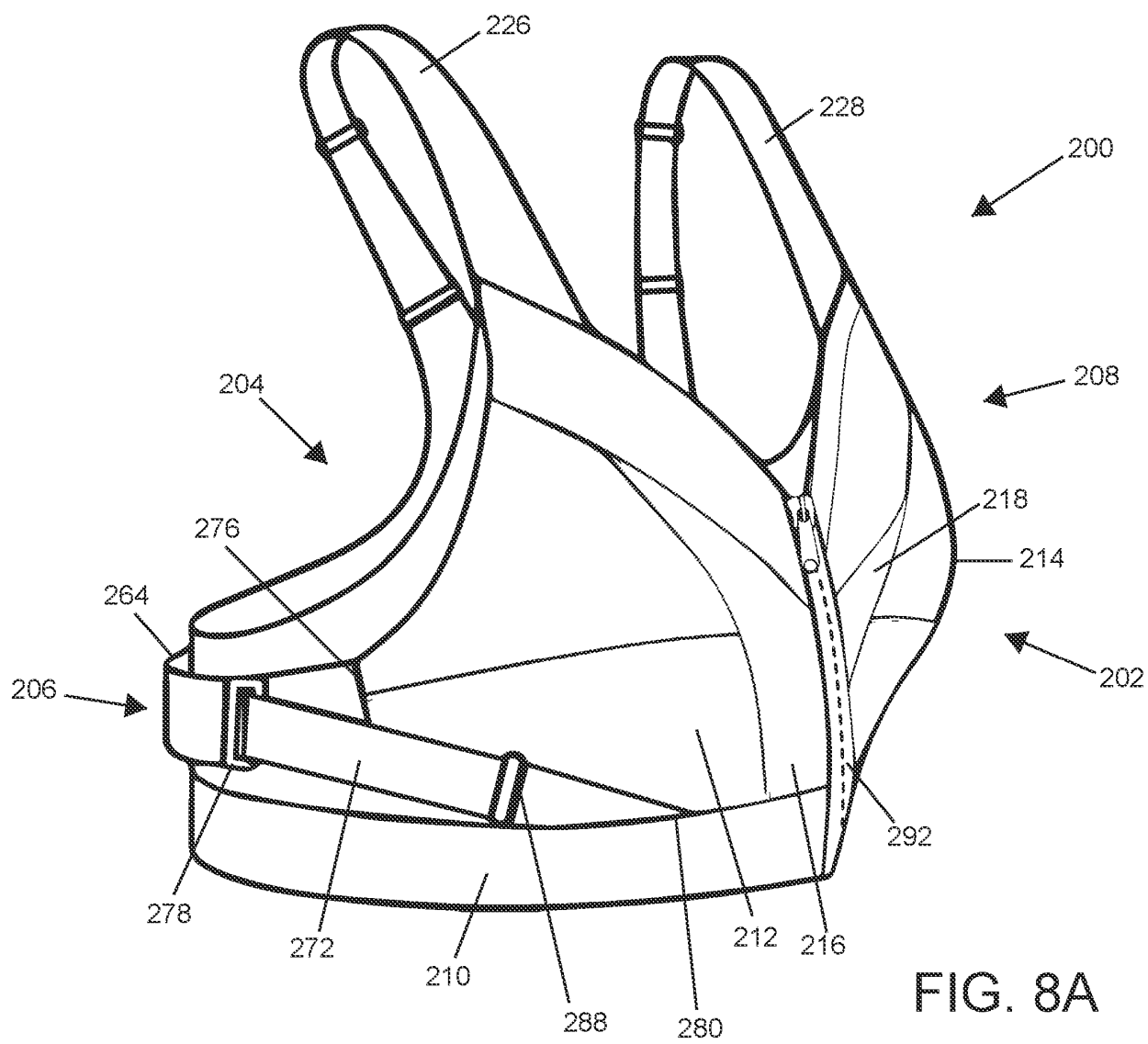
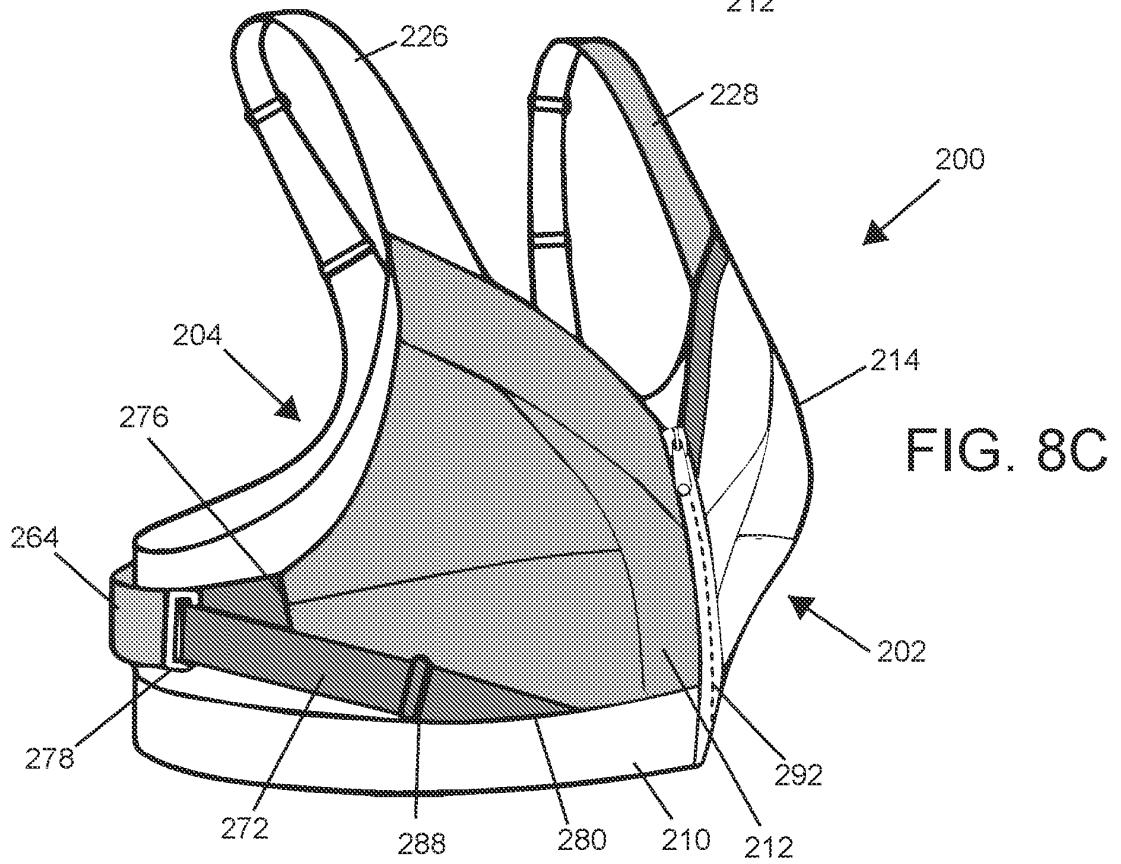
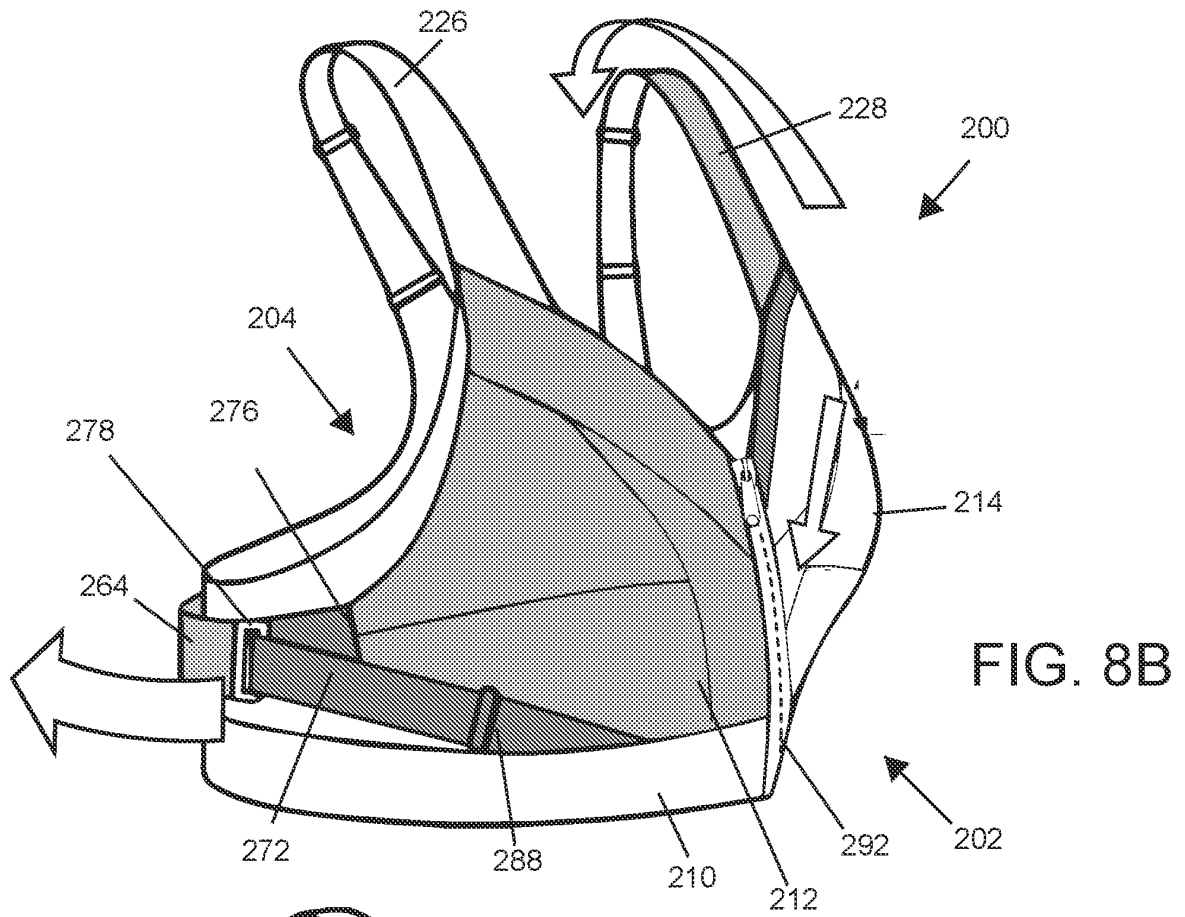


FIG. 7D





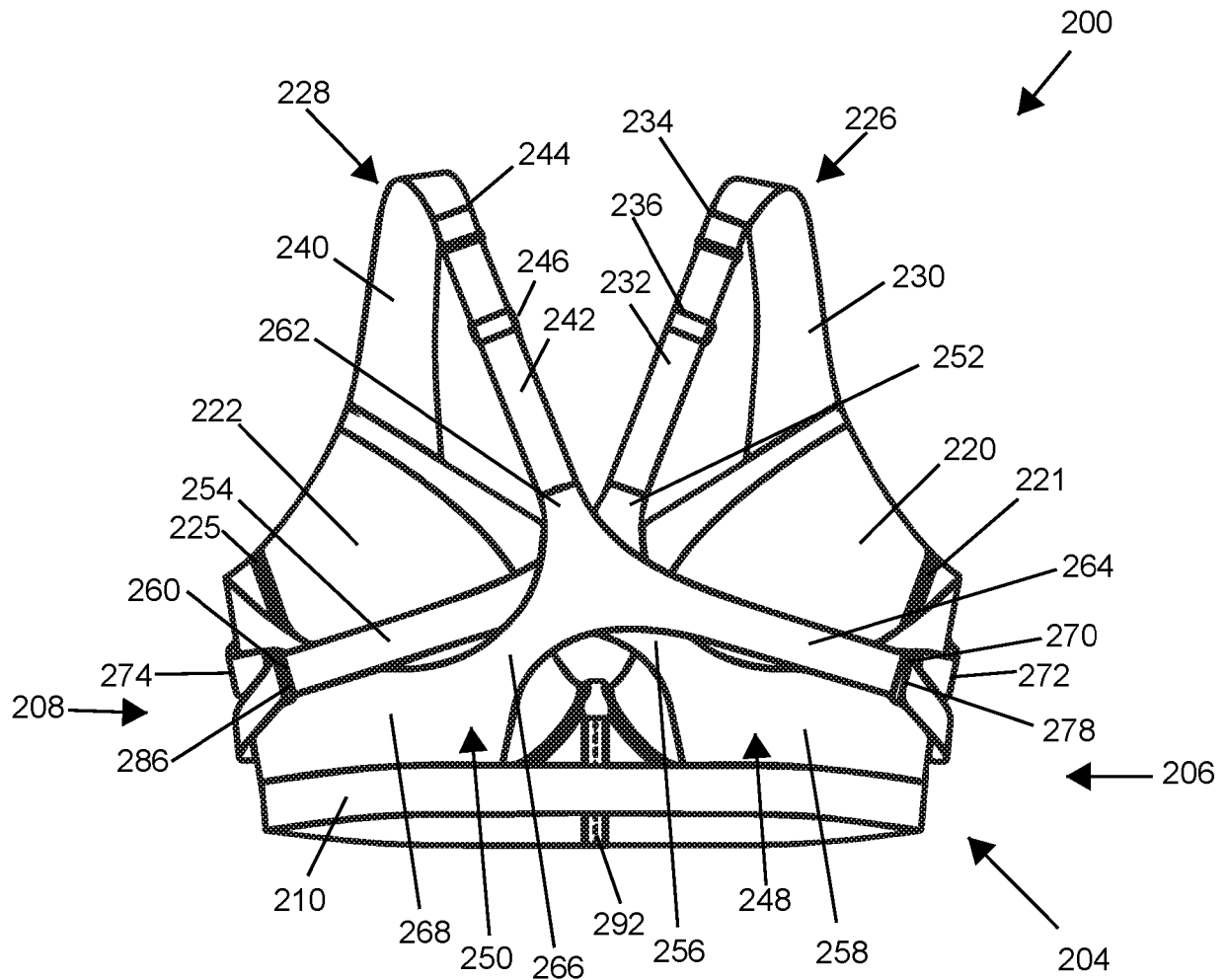


FIG. 9

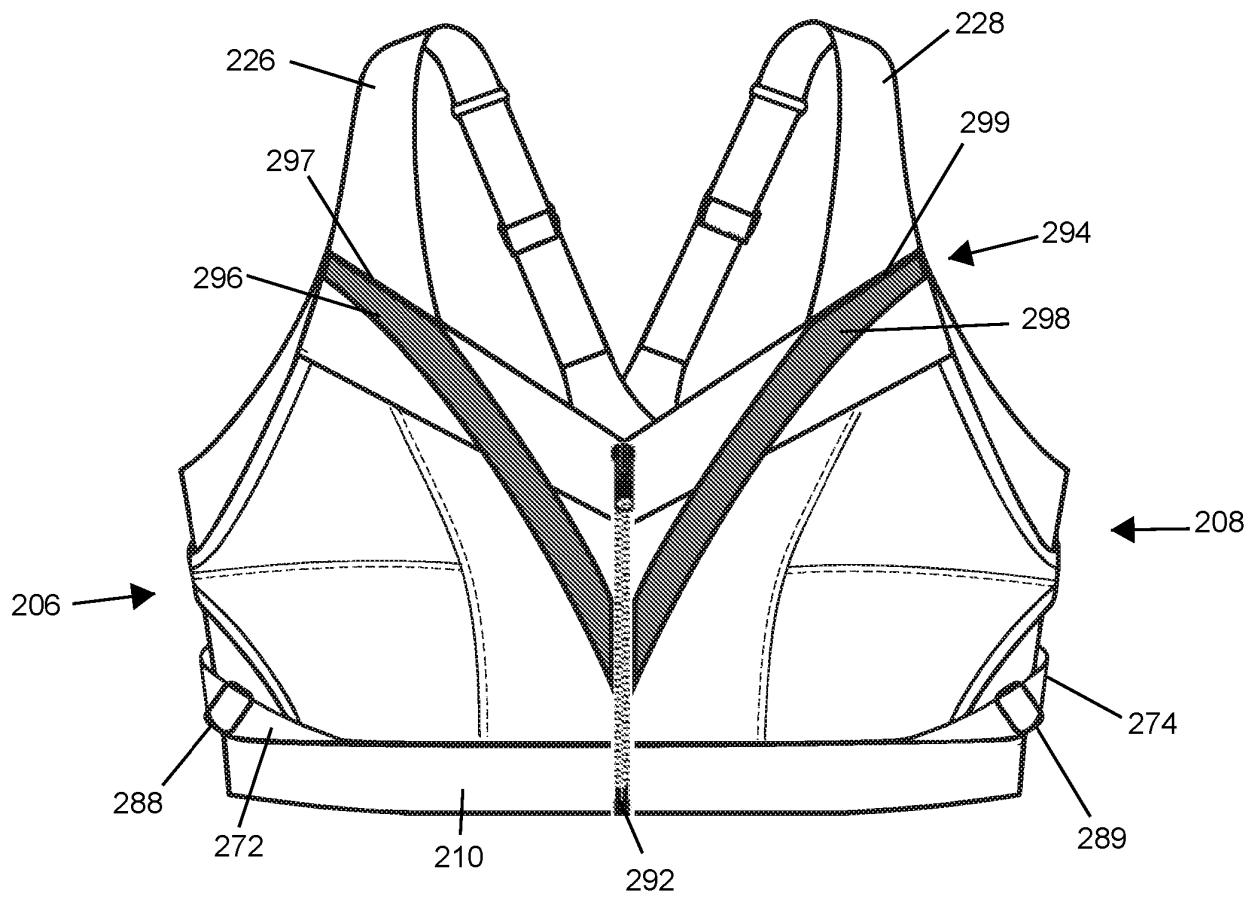


FIG. 10

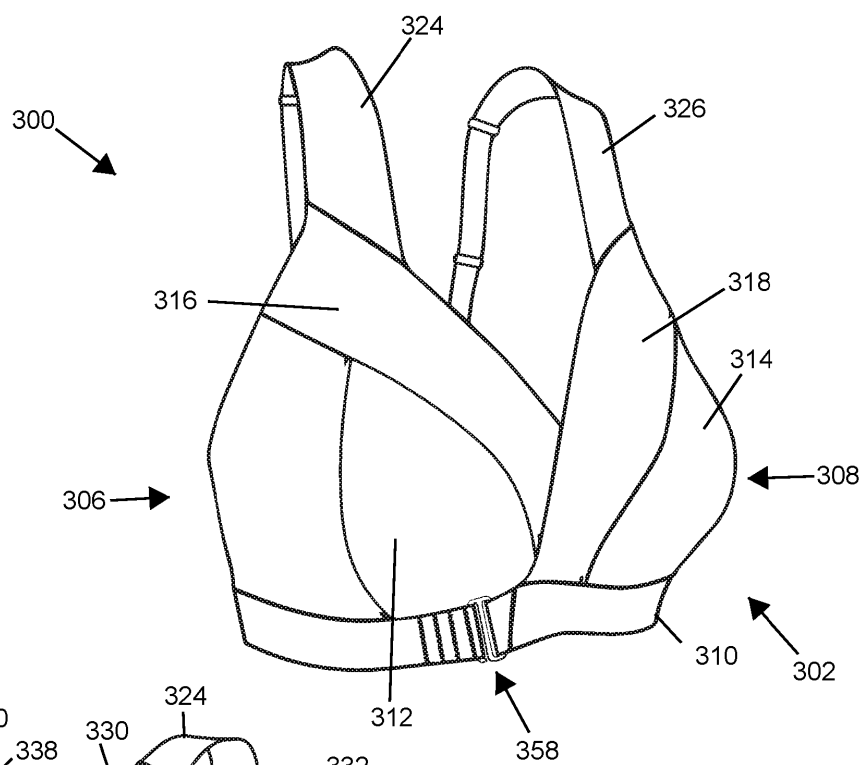


FIG. 11

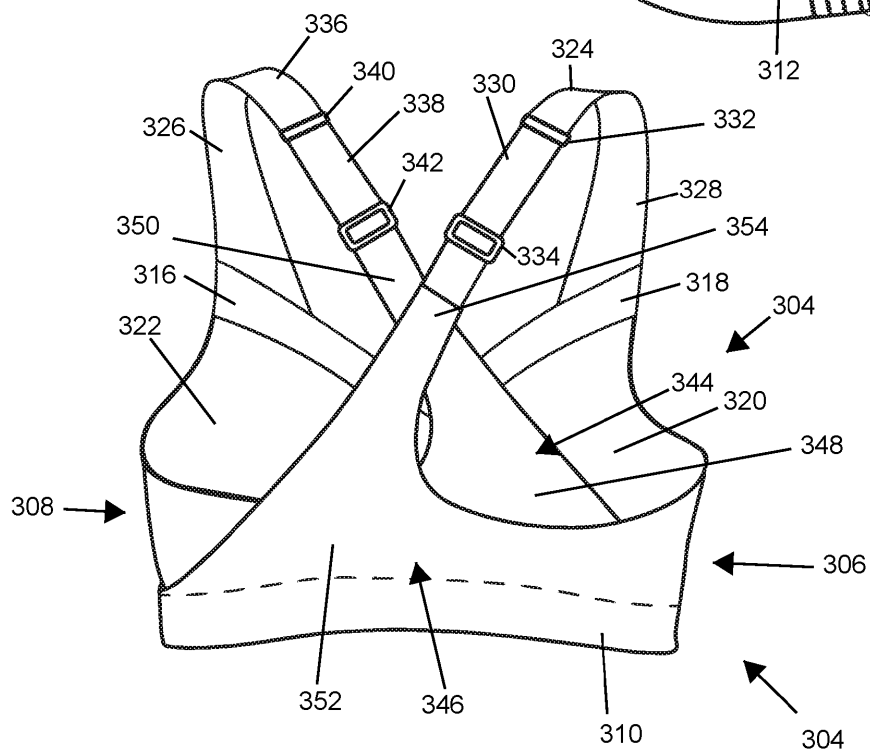
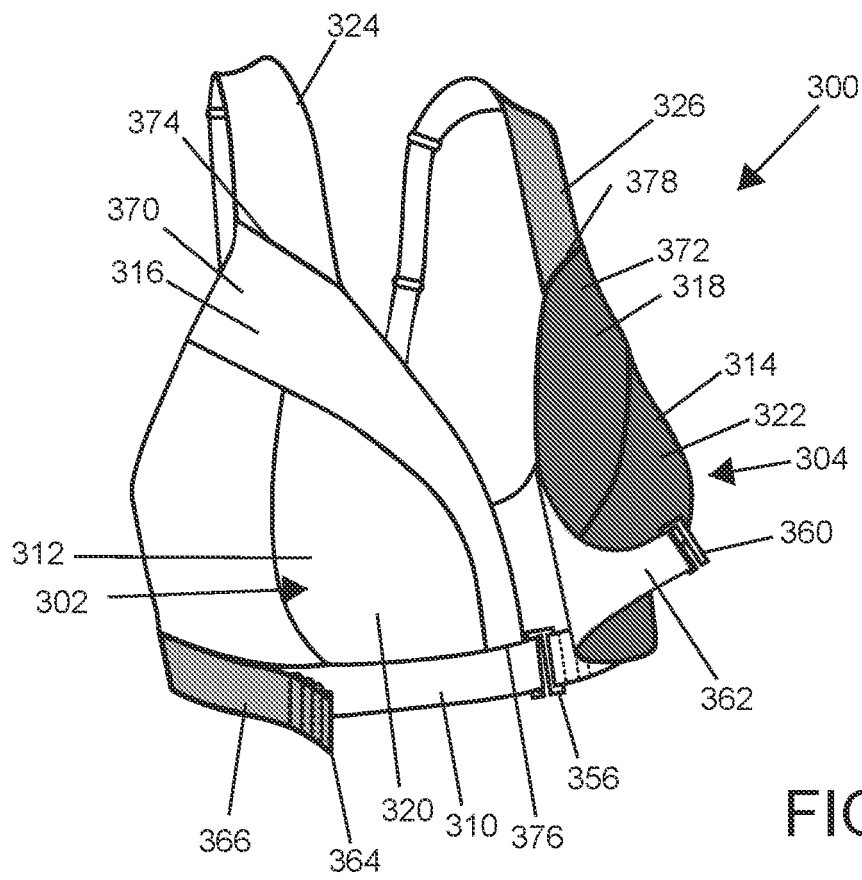


FIG. 12



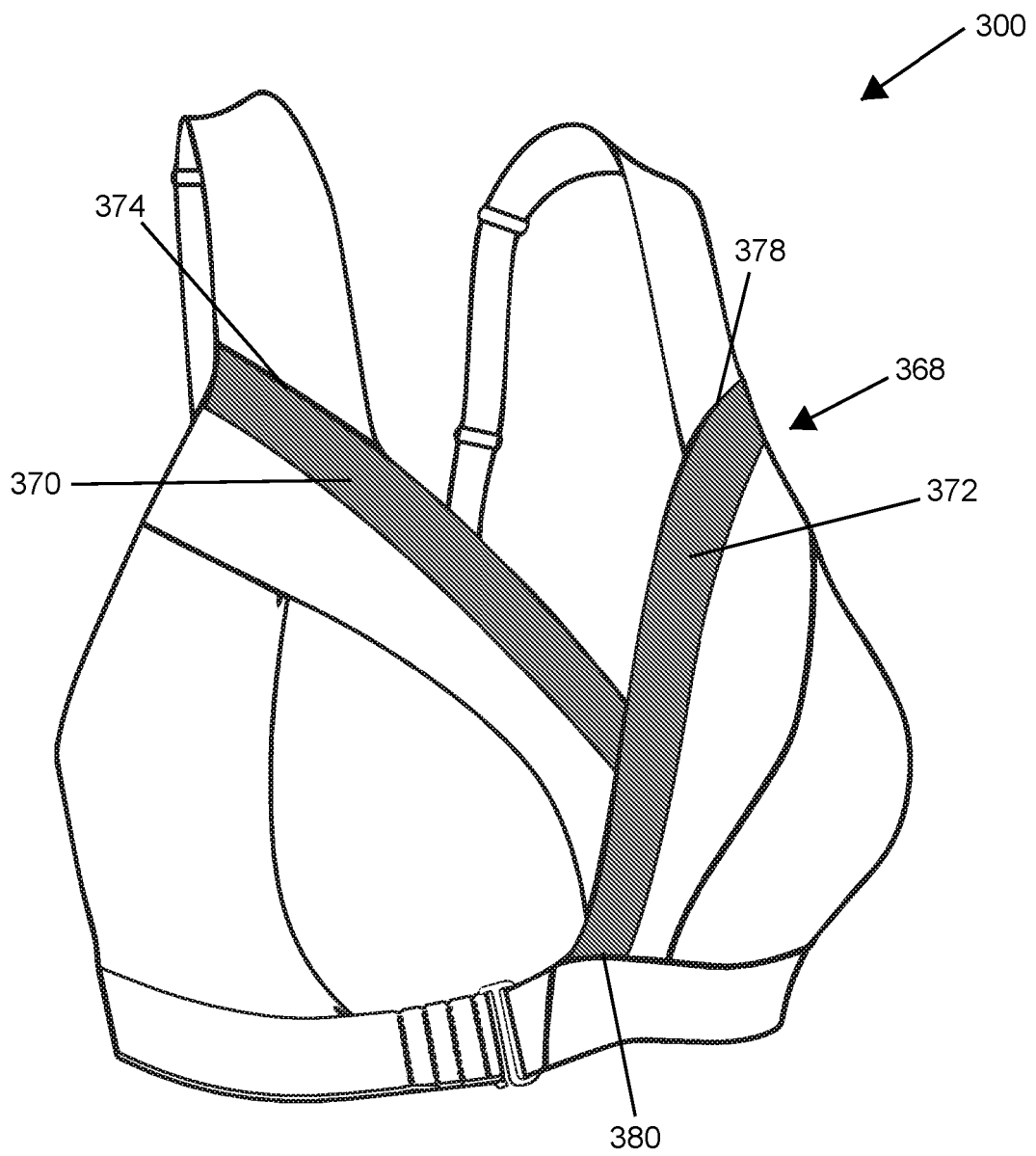


FIG. 14

REFERENCES CITED IN THE DESCRIPTION

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- US 62637063 [0001]
- WO 2008017707 A1 [0004]