EXERCISE PANTS WITH INTEGRAL UNDERGARMENT

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Appl. No.: 12/694,940
Filed: Jan. 27, 2010

Publication Classification

International Classification
A41B 9/04 (2006.01)
A41F 9/00 (2006.01)
A41D 27/00 (2006.01)

U.S. Classification 2/406; 2/236; 2/243.1

ABSTRACT

A pair of workout pants having an integral undergarment tacked or fastened to the outer garment at a number of tacking or fastening points spaced along an upper periphery or upper margin of the underwear. In various embodiments, the outer garment may comprise full length, Capri style, or biking shorts length exercise pants preferably made out of moisture wicking material, cotton/spandex, or cotton/lycra, and having thong or brief style underwear built into the pants. The underwear is preferably tacked, buttoned, snapped, or otherwise fastened into the pants in five (5) locations—two (2) points in the front and three (3) in the rear. During exercise, the underwear is held in place relative to the outwardly visible upper edges of the garment so that the underwear remains substantially covered by the outer garment.
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BACKGROUND OF THE INVENTION

[0001] This disclosure relates generally to exercise or workout pants and, more particularly, in various embodiments, a pair of women's workout pants having an integral undergarment flexibly attached therein.

[0002] Various attempts have been made to provide apparel designs having integral undergarments therewith. For example, US 2007/0285484 A1 (Male underwear garment) by Wright and U.S. Pat. No. 5,978,971 A (Male boxer shorts with integrated male briefs) by Wald both disclose a pair of men's underwear consisting of a pair boxer style underwear having a pair of brief style underwear therein, with the two sewn together about the waistline of each.

[0003] U.S. Pat. No. 7,124,448 B2 (Pants construction stabilized by integral undergarment) by Davenport discloses a pants construction whereby the pants are worn far below the waist, exposing the undergarment, with the undergarment holding the pants from falling down.

[0004] U.S. Pat. No. 6,789,270 B1 (Combined surfing shorts and wet suit undergarment) and U.S. Pat. No. 6,656,882 B1 (Surfing shorts with wetsuit undergarment) by Pedrick disclose a wet suit undergarment and surfing shorts combination made of Neoprene or similarly insulated wet suit material.

[0005] U.S. Pat. No. 6,108,823 A (Interconnected undergarment and diaper combination) by Danes discloses an incontinence system consisting of a reusable undergarment and a disposable diaper which is removably fastened within the undergarment.

[0006] U.S. Pat. No. 2,593,769 A (Sport shorts) by MacRae et al. discloses a pair of shorts having brief style underwear fastened therein along the rear half of the waistlines of the shorts and underwear.

[0007] U.S. Pat. No. 2,034,312 A (Garment for boys) by Rubin discloses a pair of shorts having underwear fastened therein with elastic band material on each side of the waistbands of the shorts and underwear.

[0008] CH 645,520 (Article of underwear in the form of long-legged undertrousers) by Amberg discloses undertrousers detachably fitted in a pair of trousers using loops of material which vertically wrap around a band fastened along the waistband of the undertrousers.

[0009] U.S. Pat. No. 6,243,880 B1 (Athletic shorts having an inner liner), U.S. D463,091 S (Women's underwear/inner liner for athletic shorts), U.S. D461,622 (Men's underwear/inner liner for athletic shorts), and by U.S. Pat. No. 6,353,940 B1 (Underwear design for men) by Lyden disclose a pair of shorts having a particularly shaped brief style inner liner.

[0010] U.S. Pat. No. 5,598,586 (Athletic shorts with inner and outer layers) by Munjone discloses a pair of shorts having inner and outer layers affixed together at the waistband of the outer layer.


None of the prior attempts, however, provide suitable designs for a pair of women's workout pants with integral undergarment.

BRIEF DESCRIPTION OF THE SEVERAL DRAWINGS

[0013] For a more complete understanding of the present invention, the drawings herein illustrate examples of the invention. The drawings, however, do not limit the scope of the invention. Similar references in the drawings indicate similar elements.

[0014] FIG. 1 is an exemplary front view of a pair of women's workout pants with integral undergarment.

[0015] FIG. 2 is an exemplary downward view of a pair of women's workout pants with integral undergarment, shown stretched open to expose tacking points where the undergarment is flexibly affixed to a lower margin of a waistband of the workout pants.

[0016] FIG. 3 is an exemplary detail view of an area about one of the tacking points shown in FIG. 2.

[0017] FIG. 4 is an exemplary downward view of a pair of women's workout pants with removable integral undergarment, shown stretched open to expose fastening points where the undergarment is removably affixed to a lower margin of a waistband of the workout pants.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0018] In the following detailed description, numerous specific details are set forth in order to provide a thorough understanding of the preferred embodiments. However, those skilled in the art will understand that the present invention may be practiced without these specific details, that the present invention is not limited to the depicted embodiments, and that the present invention may be practiced in a variety of alternate embodiments. In other instances, well known methods, procedures, components, and systems have not been described in detail.

[0019] As an overview, designs are provided for a pair of workout pants having integral or built-in underwear, such as the workout pants with integral undergarment shown as 100 in FIG. 1, having the undergarment 106 tucked to the outer garment at a number of tacking points 112, 114, 116, 118, 120 spaced along an upper periphery or upper margin of the underwear 106. In various embodiments, the outer garment may comprise full length, Capri style, or hiking shorts length exercise pants preferably made out of moisture wicking material, cotton/spandex, or cotton/lycra, and having underwear (thong or brief style) built into the pants. The underwear may be permanently tucked into the pants, buttoned into the pants, snapped into the pants, or removably fastened using hooks or some other fastening means. The underwear are preferably tucked, buttoned, snapped, or otherwise fastened into the pants in five (5) locations—two (2) points in the front and three (3) in the rear as shown in FIG. 1.

[0020] Preferably the undergarment 106 is tucked or fastened to the outer garment so that the wearer has freedom to exercise (run, star step, weight-lift, Pilates, aerobics, stretching, etc.) without having to worry about “peek-a-boo” underwear. That is, during exercise the, for example, tucked-in underwear is held in place relative to the outwardly visible upper edges of the garment so that the underwear remains substantially covered by the outer garment. As will be
described in greater detail below, the present inventor discovered that strategic placement of a minimal number of tacking points for fastening the undergarment to the outer pants provides desirable retention (i.e., hiding) of the undergarment material with minimal restriction to the range of relative motion between the outer pants and the undergarment as the wearer exercises.

[0021] As indicated, FIG. 1 is an exemplary front view of a pair of women's workout pants with integral undergarment 100. Although the workout pants with integral undergarment 100, as shown, is designed as workout pants preferably for women, the workout pants with integral undergarment 100 may be used for designs of workout pants for either gender or for children. The pant leg 102 between the upper margin 110 of the waistband portion 108 of the pants and the end 104 of the pant leg 102 is preferably full length or the length of Capri style pants, which are both styles extending below the wearer's knee. The undergarment 106 is shown in FIG. 1 as a brief style underwear and is shown fastenably tacked to the lower margin or seam 122 of the waistband 108 at five (5) tacking points 112, 114, 116, 118, 120. The present inventor discovered that strategic positioning of the tacking points 112, 114, 116, 118, 120 substantially spaced as shown in FIG. 1 achieves the desired retention or hiding of the undergarment 106 material to within areas below the upper edge 110 of the pants waistline 108 during exercising movement by the wearer while minimizing restriction to the wearer's range of leg, pelvis, and body motion. As shown, the only points where the undergarment and outer pants are interconnected are the tacking points 112, 114, 116, 118, 120. The undergarment 106 is otherwise completely independent of the outer pants and can move substantially independent therefrom, restricted only at the tacking or fastening points 112, 114, 116, 118, 120, which, as will be discussed below, preferably comprise loose stitching so as to minimize restrictions in the relative motion of undergarment and outer pants material proximate to the tacking or fastening points 112, 114, 116, 118, 120.

[0022] Preferably, the pair of workout pants with integral undergarment as in FIG. 1 is flexibly wearable during exercise involving full range movement of one or both of the wearer's legs in relation to one another and in relation to the wearer's pelvis and lower torso.

[0023] The present inventor determined that two tacking points, shown as tacking points 118 and 120, should preferably be positioned in the front, substantially aligned with pant leg 102 centerlines 132 and 130, respectively, which are substantially aligned with forward leg rotation about the pelvic area. Extensive forward leg rotation about the pelvic area (i.e., extending the leg forward and backward with repetition or when stretching so as to move the leg in relation to the pelvis in extreme positions forward and aft) tends to cause the undergarment 106 and outer pants material to move in relation to one another so as to result in undergarment material becoming visible from beneath the pants waistband 108. The present inventor discovered that positioning the front two tacking points 118 and 120 substantially aligned as shown in FIG. 1 achieves the desired retention of undergarment material with the least restriction in relative movement between material of the undergarment and outer pants with the least restriction in forward (and backward) leg motion.

[0024] The front two tacking or fastening points 118 and 120 may be spaced differently in lesser preferred embodiments. Or a different number of front tacking or fastening points may be used in lesser preferred embodiments. However, the present inventor discovered that fewer front tacking points or more than two front tacking points are less preferred for the workout pants with integral undergarment 100 designs disclosed herein.

[0025] The general proportional width of the waistband 108 between the upper margin 110 and lower margin 122 is preferably fairly wide, substantially as shown in FIG. 1 or at least an inch so as to provide separation from the upper margin of the undergarment 106 and the outer margin 110 of the outer pants waistband 108. In lesser preferred embodiments the width between lower waistband margin 122 and the upper margin 110 is less than an inch.

[0026] The present inventor determined that three (3) tacking points, shown as tacking points 112, 114, and 120, should preferably be positioned in the rear, spaced substantially as shown in FIG. 1. Tacking or fastening points 112 and 116 are shown rearwardly positioned from the front half of the waistband 108, and tacking or fastening point 114 is shown substantially centered at the rear (and lower margin 122) of the waistband 108. As shown in FIG. 1, rear tacking points 112 and 116 are positioned rearward of the sides of the waistband 108. The present inventor discovered that the relative positioning of the rearward tacking points 112, 114, 116 as shown is preferable in view of a typical wearer's anatomical disposition during exercise and the wide range of relative motion between leg and pelvic areas.

[0027] The rear three tacking or fastening points 112, 114, and 116 may be spaced differently in lesser preferred embodiments. Or a different number of rear tacking or fastening points may be used in lesser preferred embodiments. Or the substantially centrally positioned rear tacking point 114 may be eliminated in lesser preferred embodiments, with one such embodiment having only two tacking points positioned more closely toward one another than as shown in FIG. 1. However, the present inventor discovered that fewer rear tacking points or more than three rear tacking points are less preferred for the workout pants with integral undergarment 100 designs disclosed herein.

[0028] The present inventor realized that additional stitching or seams interconnecting or sewing together the waistline portions of an outer garment and undergarment unnecessarily and disadvantageously restricts both the relative movement between the outer garment and the undergarment and the range of motion for the wearer of such garment. Further, designs for apparel incorporating built-in undergarments having interconnected or circumferentially seamed waistline material do not provide the wearer with the comfort, style or look, and flexibility of garments which function more closely to separate and independent outer and inner garments.

[0029] As indicated, FIG. 2 is an exemplary downward view of a pair of women's workout pants with integral undergarment 200, shown stretched open to expose tacking points 210, 212, 214, 216, 218 where the undergarment is flexibly affixed to a lower margin 244 of a waistband 246 of the workout pants. As shown in FIG. 2, the waistband 246 is shown having an upper margin 202 and being stretched by hands or fingers 224 and 220 along one side of the garment 200. The upper margin or upper edge 236 of the undergarment between tacking points 218 and 212 is shown stretched such that the upper margin 236 of the undergarment is held even by hand/fingers 220 with the lower margin 242 of ridge/stitching 204. The stitching 204 has an upper margin 244 and a lower margin 242 and forms a ridge of material defining the lower margin 242 of the waistband 246.
The lower margin 242 of the waistband 246, however, is only tucked or fastened to the upper margin 236 of the undergarment at the tacking points 212, 210, 214, 216, and 218 (and not along any upper margin portions 236, 238, 240, and 226 of the undergarment). To further illustrate the separation of the undergarment from the outer pants material except for attachment at the tacking points, hand or fingers 224 are shown in FIG. 2 stretching the waistband 246 from just forward of the forward tacking point 218. The upper margin of the undergarment 226 is thus shown uneven and separated from the lower margin 242 of the pants waistband 246.

In a similar manner, hands or fingers 220 and 222 are shown stretching the waistband 246 such that the upper margin 238 of the undergarment is shown tucked or fastened to the lower margin 242 of the waistband 246 at the three rear tacking or fastening points 212, 210, and 214. Likewise, the upper margin 240 of the undergarment is shown tucked or fastened at tacking or fastening point 216.

Also shown in FIG. 2, according to various embodiments, are pants label 206 positioned in the center of the rear area of the waistband 246, undergarment label 206 positioned in the center of the rear area of the undergarment, leg openings 228 and 232 formed with associated stitching 230 and 232, respectively, and illustration of a rear material area 248 intended to depict that of a thong style undergarment.

Preferably the undergarment is permanently tucked into the outer pants. FIG. 3 is an exemplary detail view of an area 300 about the tacking point 214 shown in FIG. 2. As shown, the stitching 204 forming the lower margin 242 of the waistband 246 forms a ridge of material extending from the waistband 246 material and pants material 302 (preferably, of a stretchy type) extending downward below waistband 246. The waistband 246 is preferably made of stretchy material as depicted at 304. The stitching forming the lower margin 242 is preferably of a zigzag type surgically constructed. As shown near the tacking point 214, the lower margin 308 of the waistband 246 is constructed so as to form a ridge that is able to stretch and pull away from the waistband 246 material and the pants material 302 extending downward. Preferably, as the upper margin material 312 and 310 of the undergarment pulls away from the tacking point 214, movement of the undergarment material is restricted minimally and only immediately proximate to the tacking point 214.

The tacking used, for example at tacking point 214, preferably comprises a minimal number and thickness of stitches, preferably only enough to securely retain the undergarment upper margin 238 to the lower margin 242 of the pants waistband 246. The tacking preferably is confined or limited to a small area or tacking point as shown in FIG. 3 so as to provide greater relative movement between the outer pants and the tacked-in undergarment.

Turning now to FIG. 4, an exemplary downward view of a pair of women’s workout pants with removable integral undergarment 400 is shown stretched open to expose fastening points 416, 418, 420, 422, and 424 where the undergarment is removably affixed to a lower margin 406 of the pants waistband. In the embodiment shown in FIG. 4, button fasteners are affixed to the lower margin 406 of the waistband and removably fasten the outward upper margin or edge 410 of the undergarment to the lower margin 406 of the pants waistband at the fastening points 416, 418, 420, 422, and 424 substantially as shown. The button fasteners are preferably affixed, as described for the tacking in FIG. 3, on the lower margin and edge of the ridge material 406 so as to maximize the relative movement possible between the undergarment and the outer pants. Button holes extending between the inner upper edge 408 of the undergarment and the outer upper edge 410 of the undergarment are preferably positioned just below the upper most margin 408, 410 of the undergarment.

The workout pants with removable integral undergarment 400 are shown in FIG. 4 being stretched in an open position by hands or fingers 430, 432, 440, and 434. The waistband upper margin or edge 402 is preferably formed with ziggag 404 or other stitching allowing for stretching the waistband as shown. As illustrated, the undergarment removably fastened within the outer pants is able to move independently and separately from the outer pants except at the fastening points 416, 418, 420, 422, and 424.

Contrast to the thong style undergarment depicted in FIG. 2, a brief style undergarment is depicted in FIG. 4. The brief style undergarment in FIG. 4, as shown, includes leg openings 412 and 414 and rear material 436 configured as in typical brief style underwear.

Also shown in FIG. 4 is a rear pants label 438 preferably positioned centrally within the rear of the pants waistband.

The outer garment and undergarment are preferably constructed of materials suited for exercise and working out. Preferably the outer garment and undergarment are constructed of moisture wicking material, cotton/spandex, or cotton/lycra designed for exercise and workout apparel. The outer garment and undergarment need not, however, be made of the same or similar materials. For example, the outer pants garment may be constructed of a moisture wicking and highly stretchable (flexible) material, and the undergarment may be made of materials having a higher cotton content. Other variations may be used. Preferably, both the outer pants garment and integral undergarment are constructed of materials and of suitable arrangement and design to permit a wide range of relative motion between the outer pants and the tacked or fastened in undergarment when worn during exercise.

The terms and expressions which have been employed in the foregoing specification are used therein as terms of description and not of limitation, and there is no intention in the use of such terms and expressions of excluding equivalence of the features shown and described or portions thereof, it being recognized that the scope of the invention is defined and limited only by the claims which follow.

1 claim:

1. A pair of workout pants flexibly wearable during exercise involving full range motion of one or both of the wearer’s legs in relation to one another and in relation to the wearer’s pelvis and lower torso, said workout pants comprising:

(a) a waistband having an upper margin and a lower margin opposite said upper margin;

(b) leg covering material extending downwardly away from said waistband lower margin and said waistband upper margin, said leg material extending to a length below the wearer’s knee;

(c) an undergarment having an upper margin circumferentially sized to fit within said waistband lower margin and having leg openings for the wearer’s legs,
(d) two front tacking points spaced laterally apart from one another along a front portion of said undergarment upper margin; and
(e) three rear tacking points spaced laterally apart from one another along a rear portion of said undergarment upper margin, each of said two front tacking points and said three rear tacking points flexibly retaining said undergarment upper margin to said waistband lower margin so as to prevent said undergarment upper margin from extending upward beyond said waistband upper margin during periods of exercise and flexibly permitting independent movement of said undergarment within said pair of workout pants except proximate each of said two front tacking points and said three rear tacking points.

2. The workout pants of claim 1, wherein each of said two front tacking points is aligned with a centerline of a leg of said workout pants.

3. The workout pants of claim 1, wherein said three rear tacking points are evenly spaced along said rear portion of said undergarment upper margin.

4. The workout pants of claim 1, wherein said undergarment is permanently tacked in said workout pants at each of said two front and said three rear tacking points.

5. The workout pants of claim 1, wherein said undergarment is removably tacked in said workout pants at each of said two front and said three rear tacking points using removable fasteners.

6. The workout pants of claim 5, wherein said removable fasteners are buttons.

7. The workout pants of claim 5, wherein said removable fasteners are snaps.

8. The workout pants of claim 1, wherein said undergarment comprises thong style underwear.

9. The workout pants of claim 1, wherein said undergarment comprises brief style underwear.

10. The workout pants of claim 1, wherein a width between said waistband upper margin and said waistband lower margin is at least one inch.

11. The workout pants of claim 1, wherein said waistband lower margin includes a ridge of material flexibly extending away from said waistband and flexibly extending away from said leg material.

12. The workout pants of claim 11, wherein said two front and said three rear tacking points are positioned on said ridge of material.