US 20240130447A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2024/0130447 A1**

Reynolds (43) **Pub. Date: Apr. 25, 2024**

(54) **AEROBIC GARMENT**

(71) Applicant: **Ruby Reynolds**, Paola, KS (US)

(72) Inventor: **Ruby Reynolds**, Paola, KS (US)

(21) Appl. No.: **18/101,096**

(22) Filed: **Jan. 24, 2023**

Related U.S. Application Data

(60) Provisional application No. 63/419,323, filed on Oct. 25, 2022.

Publication Classification

(51) **Int. Cl.**
A41D 13/00 (2006.01)
A63B 21/065 (2006.01)

(52) **U.S. Cl.**
CPC ***A41D 13/0015*** (2013.01); ***A63B 21/065*** (2013.01); *A41D 2400/10* (2013.01)

(57) **ABSTRACT**

An exercise garment having attachments that can selectively positioned about it in order to urge certain body parts along paths of aerobic exercise movement or to provide resistance to them moving along those paths.

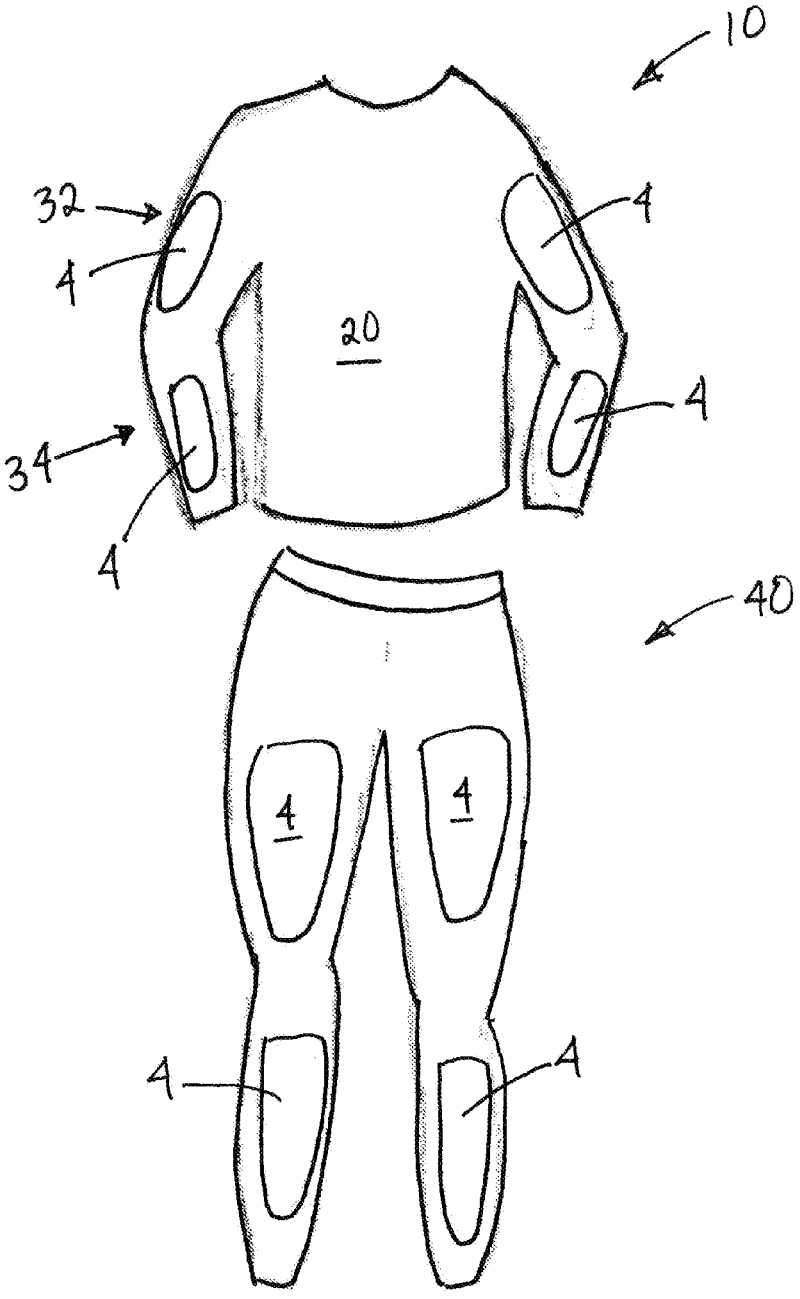


FIG. 1

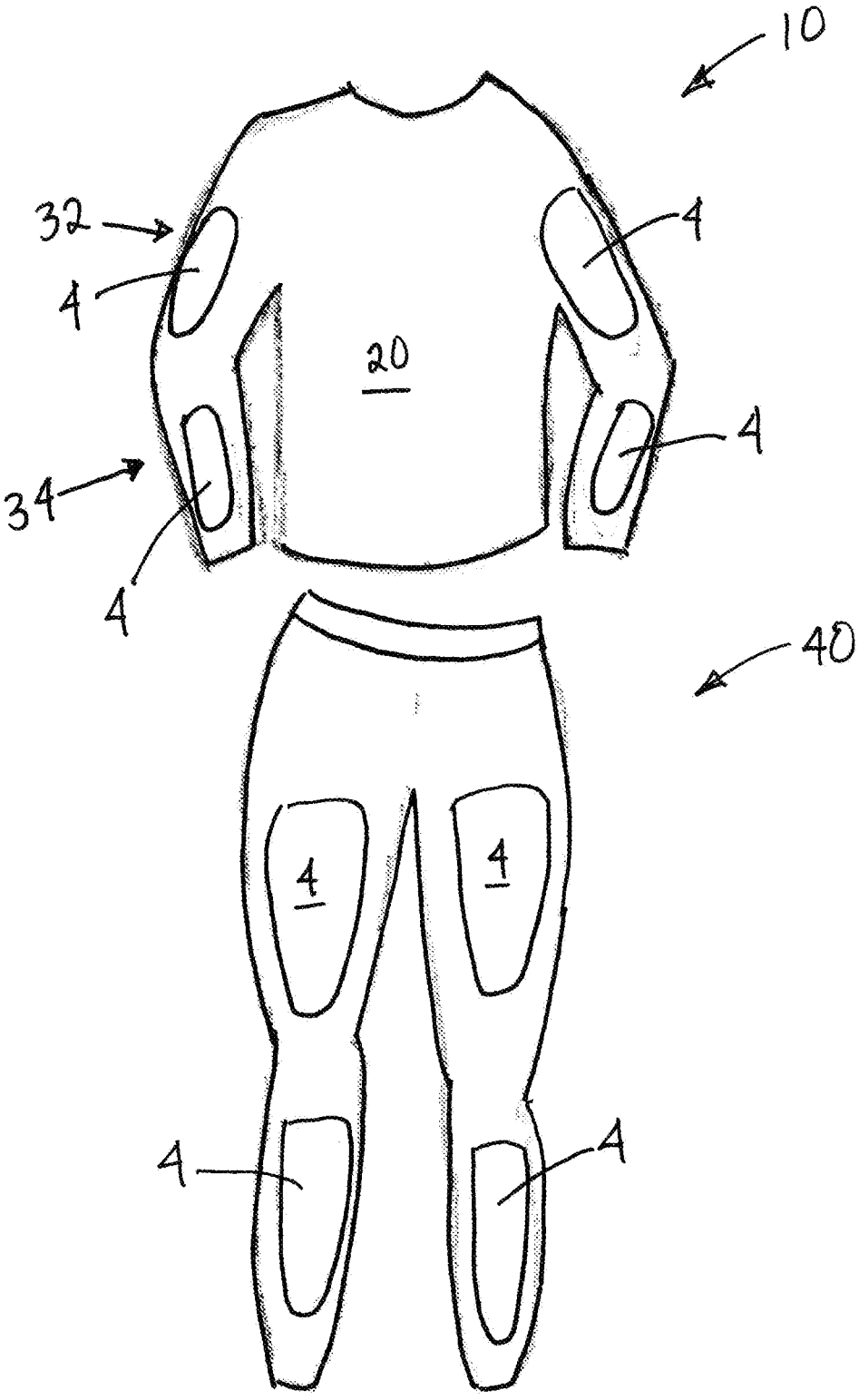
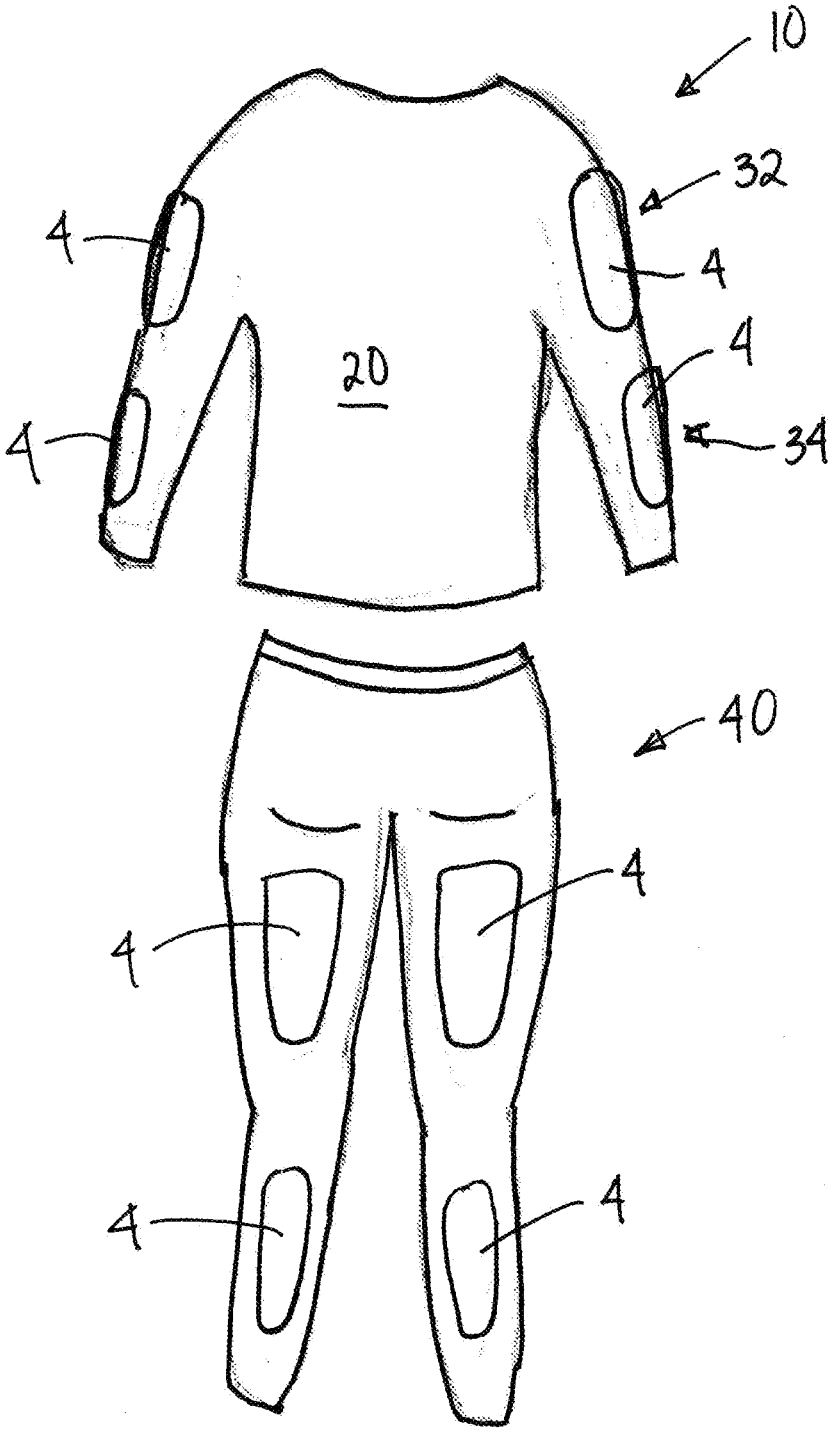


FIG. 2



AEROBIC GARMENT

[0001] This non-provisional application claims the benefit of provisional application No. 63/419,323 filed Oct. 25, 2022.

BACKGROUND OF THE INVENTION

[0002] For decades, water sports garment design has evolved with respect to garment characteristics apart from stylishness. Great advancements have taken place in qualities such as thermal insulation, buoyancy, and flexibility of garments that are to be worn on or in water (e.g., surfing, swimming, or snorkeling). Similarly, land exercise garment design has improved with respect to characteristics like ability to reflect heat and to wick sweat.

[0003] With specific regard to the buoyancy qualities of certain watersports clothing, what is typically seen in the prior art are either: (a) garments fabricated entirely of buoyant material such that they, when worn in water, will moderately assist in urging wearers up toward the water's surface, but are not quite buoyant enough to be relied upon to function as life preservers (e.g., surfing wetsuits); or (b) garments that feature inflatable portions designed to keep wearers afloat in water too deep for them to stand in. What is generally not seen is a middle ground in that regard: garments featuring discrete buoyant sections spots that are strategically positioned, not to keep a wearer afloat, but rather to exert buoyant forces on isolated parts of a wearer's' body to facilitate their performing certain water aerobic exercises.

[0004] Concerning land sport clothing, the construction and selection of materials used in those garments are matters of design choice in service of athletic performance, as those design choices bear on ability to regulate body temperature, freedom of body movement, and overall comfort. What is generally not seen in land exercise clothing, however, are garments designed to function, essentially, as exercise equipment by way of providing weighted resistance to various of the wearer's muscle groups.

[0005] Consequently, the present inventor recognizes a need for sports clothing that, itself, functions as exercise equipment. More specifically, in the swimming pool use context, the inventor has identified a need to create garments having buoyant [or non-buoyant, weighted] points along the sleeve, pant, or other sections that will urge certain sections of the wearer's body either up toward the pool water surface or down toward the pool bottom. And in the non-aquatic exercise context, the present inventor identifies a need for clothing to feature weighted areas that can provide resistance training for the wearer's muscles. Moreover, because the force needed to provide ideal buoyancy or weighted resistance may vary from person-to-person, the present inventor recognizes a need for the same garment to be adjustable in the magnitude of its buoyant or weighted areas. The present invention for an aerobic garment substantially fulfills these needs.

SUMMARY OF THE INVENTION

[0006] It is an object of the present invention to provide an exercise garment fashioned and constructed to facilitate either water aerobic exercise by way of having buoyant attachments or land exercise by way of having weighted attachments—in either case, with those attachments being strategically positioned about the garment in order to induce certain body movements and provide resistance to corresponding return movements.

[0007] In one aspect of the inventive garment, its fabric covers various parts of a wearer's anatomy (such as the torso and/or the arms and/or the hands and/or the waist area and/or the legs and/or the feet), and it features connecting elements by which the buoyant or weighted attachments are attached—typically, removably attached—to the garment fabric. In the case of a version of garment designed for water aerobics, the connecting elements are positioned and constructed such that the buoyant pieces can be attached at positions which will urge the water submerged limbs of the garment wearer up toward the water surface and require muscle exertion against those buoyant forces to return those limbs to their submerged positions. Similarly, in the case of a land aerobics version, weighted attachments increase the physical exertion required to motion any limb further from the ground.

[0008] Furthermore, in the is aspect of the invention, separate connecting elements can be discretely positioned, or a single connecting element can be configured to support alternative placement of one floating or weighted attachment at different points along the same limb so as to support different exercise motions. For example, the connecting element(s) could be configured to allow the same buoyant pad to, in one instance, be positioned along the front thigh (quadricep) to create forward pull on the water-submerged leg and, in another instance, be placed along the rear thing (hamstring) of that leg to create an opposing rearward pull.

[0009] Finally, in yet another aspect of the invention, the connecting elements can vary with respect to the type of fastener that they are, their binding force (which, in the case of some fastener types, may be a function of fastening surface area), and their positioning along the garment.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. **1** is a front elevational view of an aerobic garment in accordance with the present invention, the garment featuring an upper piece for covering the torso and arms and a lower piece for covering the waist and legs—both garment pieces having exercise attachments attached thereto; and

[0011] FIG. **2** is a rear elevational view of the same.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] The present invention generally relates to exercise garments, and it is specifically directed to a garment configured to have muscle training elements removably attached to it—be those training elements buoyant attachments for aquatic use or weighted attachments. In the descriptions that follow and accompanying illustrations, the invention will be described in its preferred form as a two-piece aquatic garment that is anticipated to be worn while performing water aerobic exercises in a swimming pool. This preferred garment features an upper body piece that covers the torso and arms and a lower body piece that covers the waist and legs, and both pieces have buoyant pads attached to them. However, a variety of alternative embodiments of the garment are contemplated within the scope of the invention. Not only may those alternate embodiments differ with respect to their being adapted for non-aquatic use and

employing non-buoyant, weighted attachments designed to place load on certain muscle groups, they can vary with respect to the specific body parts that they cover, the ways in which exercise attachment attach to the body covering(s), and in other respects.

[0013] For instance, another version of garment within the scope of the invention could be arm-covering sleeves or hand-covering gloves or a combination of both that host exercise attachments against the arms and/or hands. In another example, the garment could cover the lower body only—with or without a feet-covering bootees for mounting attachments at the feet. Or the garment could be in the form of a pair of leg sleeves that each cover portions of the upper and/or lower legs, but not the waist area. There is a wide range of possibilities in terms of what sections of the anatomy the present exercise garment covers.

[0014] Nevertheless, referring to the preferred embodiment depicted in FIGS. **1** & **2**, the present invention is an aquatic exercise garment featuring: (1) upper body and lower body coverings **10**, **40** that have connecting elements **8** positioned at different locations along each of them; and (2) "exercise attachments" **4** (buoyant pads **4**, in this case) that are attached to the body coverings **10**, **40** at those connecting elements **8**. The garment upper body **10** has a torso section and arm sleeves, while the lower body **40** is a pant formed by a waist section and legs. In this embodiment, the garment is fabricated of a nylon or polyester blend commonly used in swimwear. Alternatively, it could be constructed of neoprene to provide more thermal insulation in cold water.

[0015] In this preferred embodiment designed for aquatic use, each exercise attachment **4** is a foam pad that is contoured for comfortable placement flush against a specific part of the anatomy. For instance, FIG. **1** shows such pads **4** positioned along the outer part of the garment upper arm (between biceps and triceps) **32**, the front part of the lower arm (forearm) **34**, the front of the upper leg (quadriceps) **42**, and the front of the lower leg (shin) **46**, while FIG. **2** reveals additional pads **4** positioned along the back of the upper leg (hamstring) **44**, and the back of the lower leg (calf) **48**.

[0016] When a user is standing in chest or neck high water, the positioning and buoyancy of the upper arm foam pad attachments **32** will urge her arms away from her torso and toward the water surface along what can be considered a fly exercise path, thus, requiring some degree of physical exertion against those buoyant forces to bring her arms down toward her torso along a return path. Similar phenomena—that is, buoyant pad-forced limb motions and muscle-driven countermotions that, together, constitute aerobic exercises—are created by each of the other pads at their respective limb positions. Furthermore, for a given exercise, a garment user would choose to wear one foam attachment **4** that urges an arm or leg to move in one direction (given the wearer's anatomy), but not wear another exercise attachment that would tend to pull the limb in the opposing direction. For example, one might elect to not wear a pad **4** over the calf **48** when wearing one over the shin **46**, and vice versa.

[0017] As mentioned, the exercise attachments **4** are, preferably, foam pads. Within the scope of the invention, though, they can each be formed of any floating device that either is made of buoyant material or is an air-inflatable enclosure. Whatever their configuration, the attachments **4** features some mechanism for engaging connecting members **8** positioned along the body coverings **10**, **40**.

[0018] In a preferred embodiment, these connecting members **8** are strips of the loop portions of hook and loop fastener systems (i.e., VELCRO) which are either adhered or stitched to the garment fabric, and they engage with corresponding hook strips which are adhered to the inner surfaces of the foam pad attachments **4**. The surface areas of these strips can vary in accordance with the corresponding foam pad's surface area and, thus, the detachment force that they will experience due to a pad's buoyancy. The larger the surface areas of the fastener strips **8**, the more broadly distributed will be that detachment force over the engaged areas of male and female connecting strips **4**. This can mitigate the possibility of foam pads **4** inadvertently detaching from the body coverings **10**, **40** or even creating wearer discomfort caused by a high magnitude of buoyant force being concentrated on too small an area of the body. In addition, the body covering-mounted connector strips **4** may completely encircle an arm or leg, or at least be considerably longer than the pad-mounted strips to which they are engage, so as to enable a floating pad **4** to be attached at a wide range of discrete positions about that limb and, thereby, create resistance to different muscle groups based on the pad's exact positioning.

[0019] Although hook and loop fasteners may be preferred, it is certainly the case that entirely different fastening mechanisms can be utilized within the scope of the invention. For example, snap fasteners (e.g., press-buttons), various types of buckles, and other fasteners are contemplated as being employable.

What is claimed is:

1. An aerobic garment comprising:

a body covering for fitting over at least a section of a user's body;

a connecting element disposed along the body covering; and

an exercise attachment configured to attach to the body covering by way of engaging the connecting element.

2. The aerobic garment of claim **1**, wherein said exercise attachment is a buoyant object, and wherein said connecting element is positioned along said body covering to enable said exercise attachment to operate as a water aerobic exercise aid when attached to said body covering.

3. The aerobic garment of claim **1**, wherein said exercise attachment is a non-buoyant, weighted object, and wherein said connecting element is positioned along said body covering to enable said exercise attachment to operate as a resistance training exercise aid when attached to said body covering.

4. The aerobic garment of claim **1**, wherein said connecting element is a component of at least one of: snap fastener, hook and loop fasteners, or buckle fasteners.

5. The aerobic garment of claim **1**, wherein said connecting element is configured such that said exercise attachment may selectively engage said connecting element at discretely different positions along a user's body.

6. The aerobic garment of claim **1**, wherein said body covering is fabricated of thermally insulative material.

7. The aerobic garment of claim **1**, wherein said body covering is fabricated of buoyant material.

8. The aerobic garment of claim **1**, wherein said body covering comprises a torso section and an arm sleeve.

9. The aerobic garment of claim **8**, wherein said connecting element is disposed along said arm sleeve.

10. The aerobic garment of claim **1**, wherein said body covering comprises an arm sleeve.

11. The aerobic garment of claim **10**, wherein said connecting element is disposed along said arm sleeve.

12. The aerobic garment of claim **1**, wherein said body covering comprises a glove.

13. The aerobic garment of claim **12**, wherein said connecting element is disposed along said glove.

14. The aerobic garment of claim **1**, wherein said body covering comprises a pant.

15. The aerobic garment of claim **14**, wherein said connecting element is disposed along said pant.

16. The aerobic garment of claim **1**, wherein said body covering comprises a bootee.

17. The aerobic garment of claim **16**, wherein said connecting element is disposed along said bootee.

* * * * *