



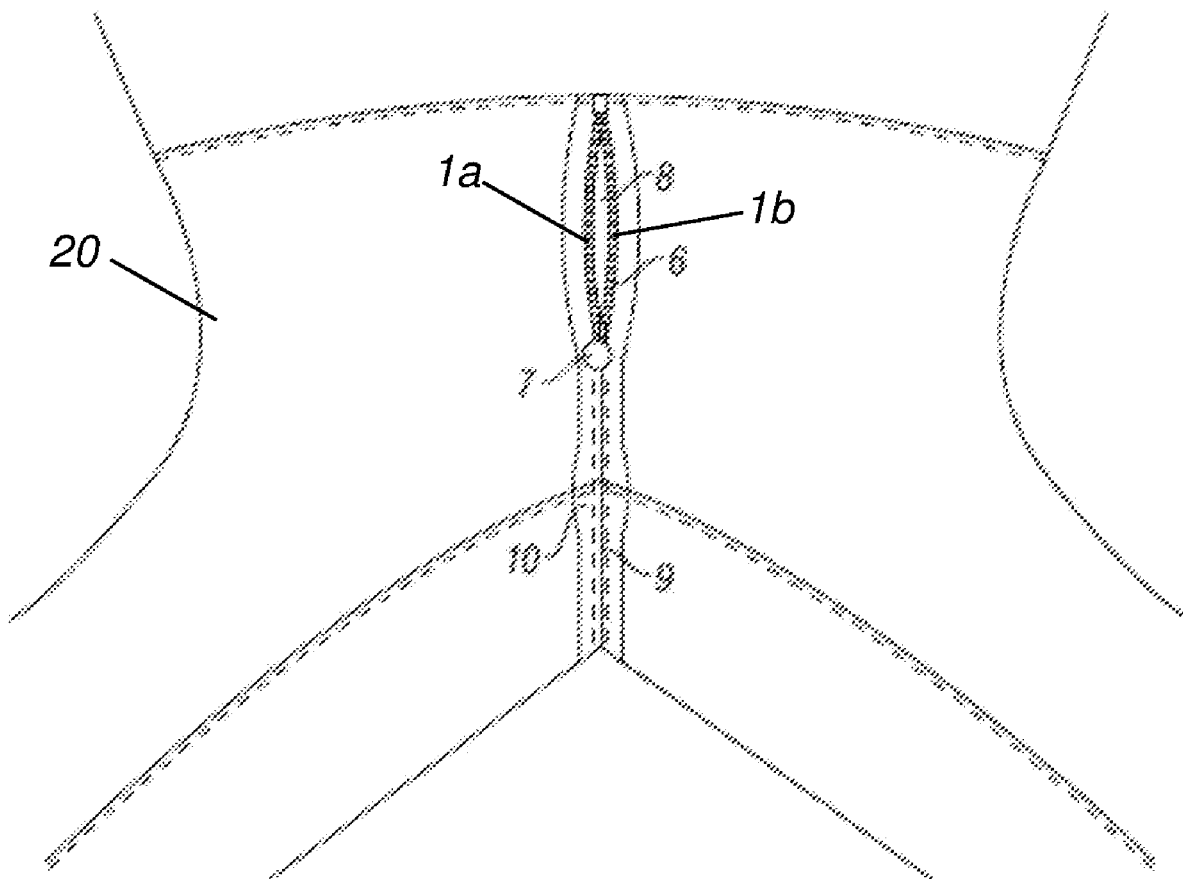
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(19) **United States**(12) **Patent Application Publication**
Mercer(10) **Pub. No.: US 2021/0037896 A1**(43) **Pub. Date: Feb. 11, 2021**(54) **ACTIVEWEAR AND METHODS OF USE AND
MANUFACTURE THEREOF****Publication Classification**(51) **Int. Cl.****A41B 9/00** (2006.01)(52) **U.S. Cl.**CPC **A41B 9/005** (2013.01)(71) Applicant: **Deborah G. Mercer**, Houston, TX
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(US)(21) Appl. No.: **17/079,153**(22) Filed: **Oct. 23, 2020****Related U.S. Application Data**(63) Continuation-in-part of application No. 16/054,275,
filed on Aug. 3, 2018.(60) Provisional application No. 62/541,092, filed on Aug.
4, 2017.

(57)

ABSTRACT

An article of clothing having a zipper attached or extending to the waistband on a front portion of to a rear portion of, wherein the zipper traverses a crotch of the pants and provides an opening in the pants. Internal to the clothing is a movable panel, sewn on one side, and not connected on another, that covers the zipper when it is fully zipped, and provides freedom of movement. External to the clothing, the zipper is hidden from view via an invisible zipper configuration. An oversized zipper pull is attached therewith.



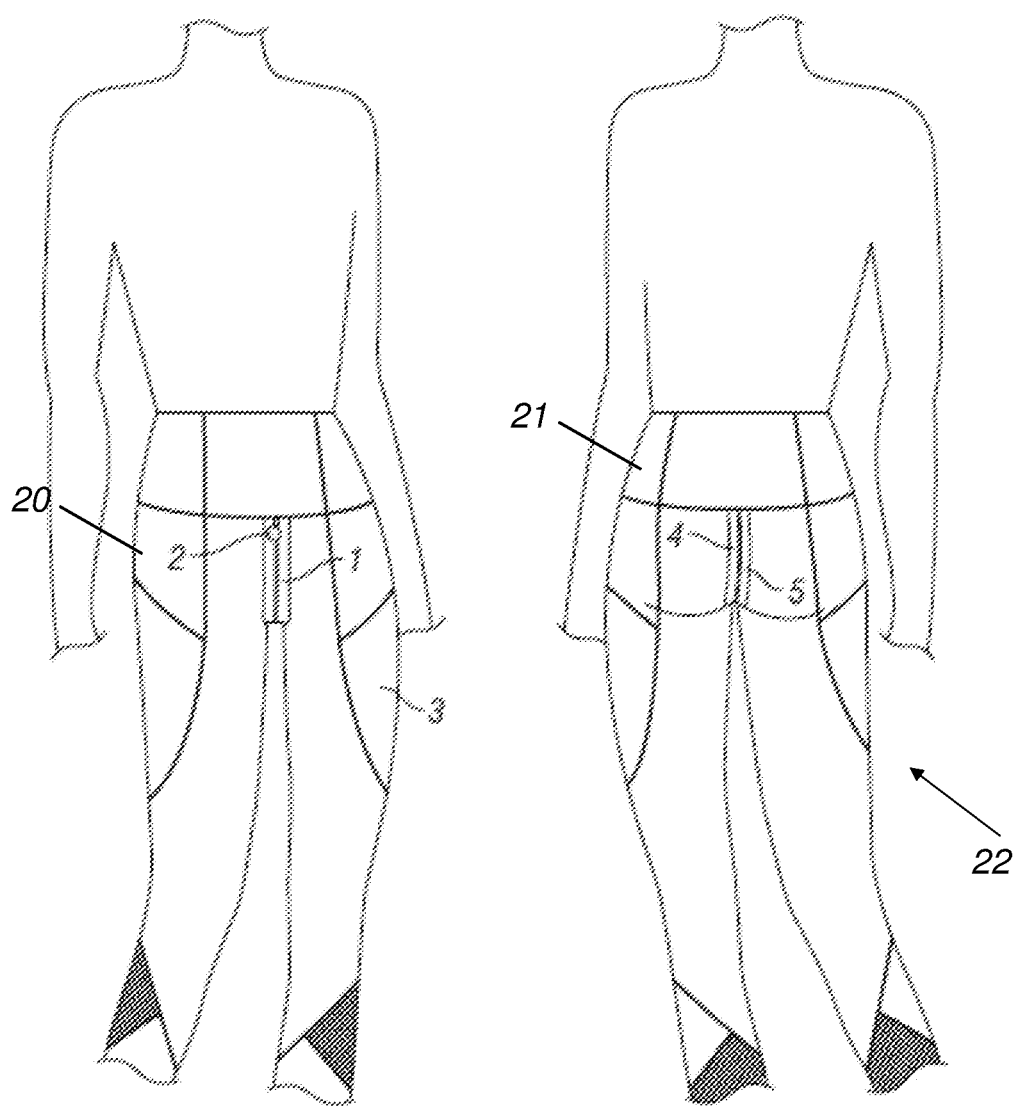


FIG. 1

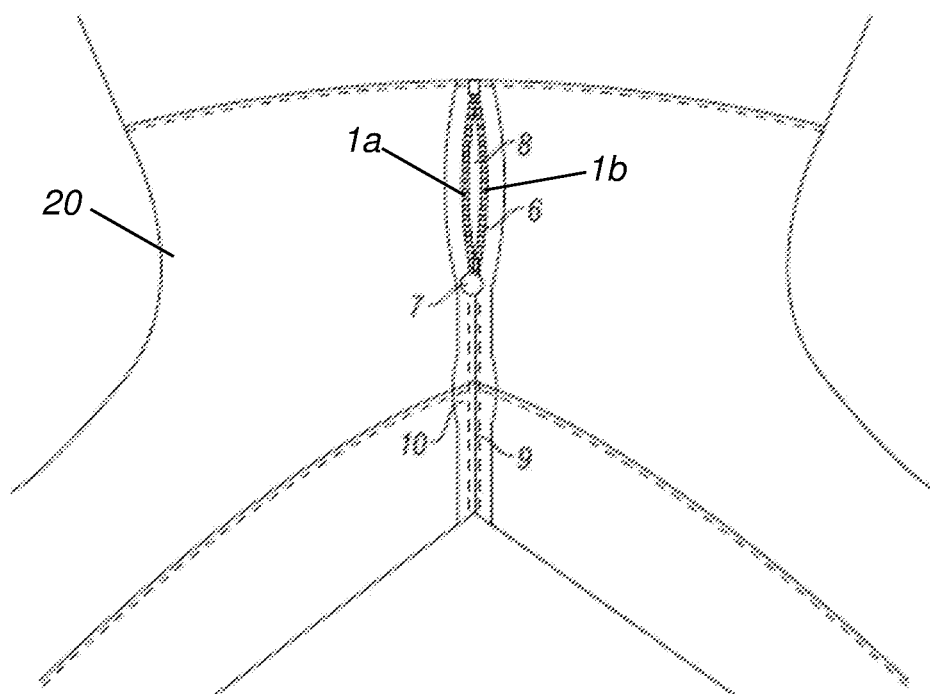


FIG. 2

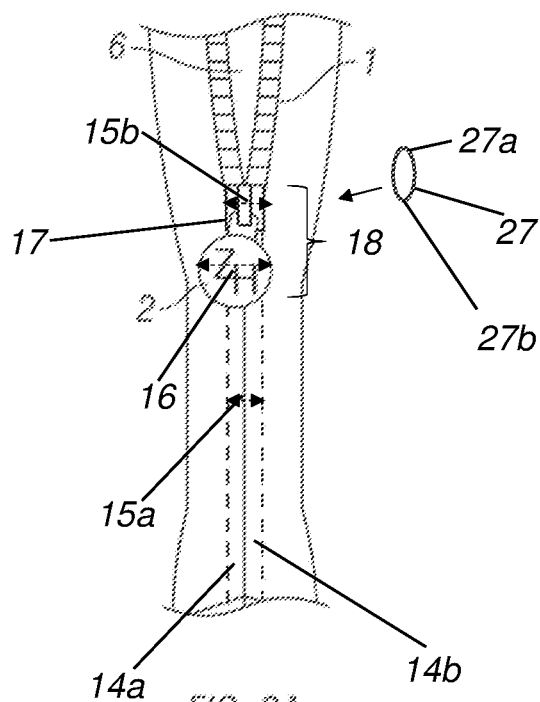
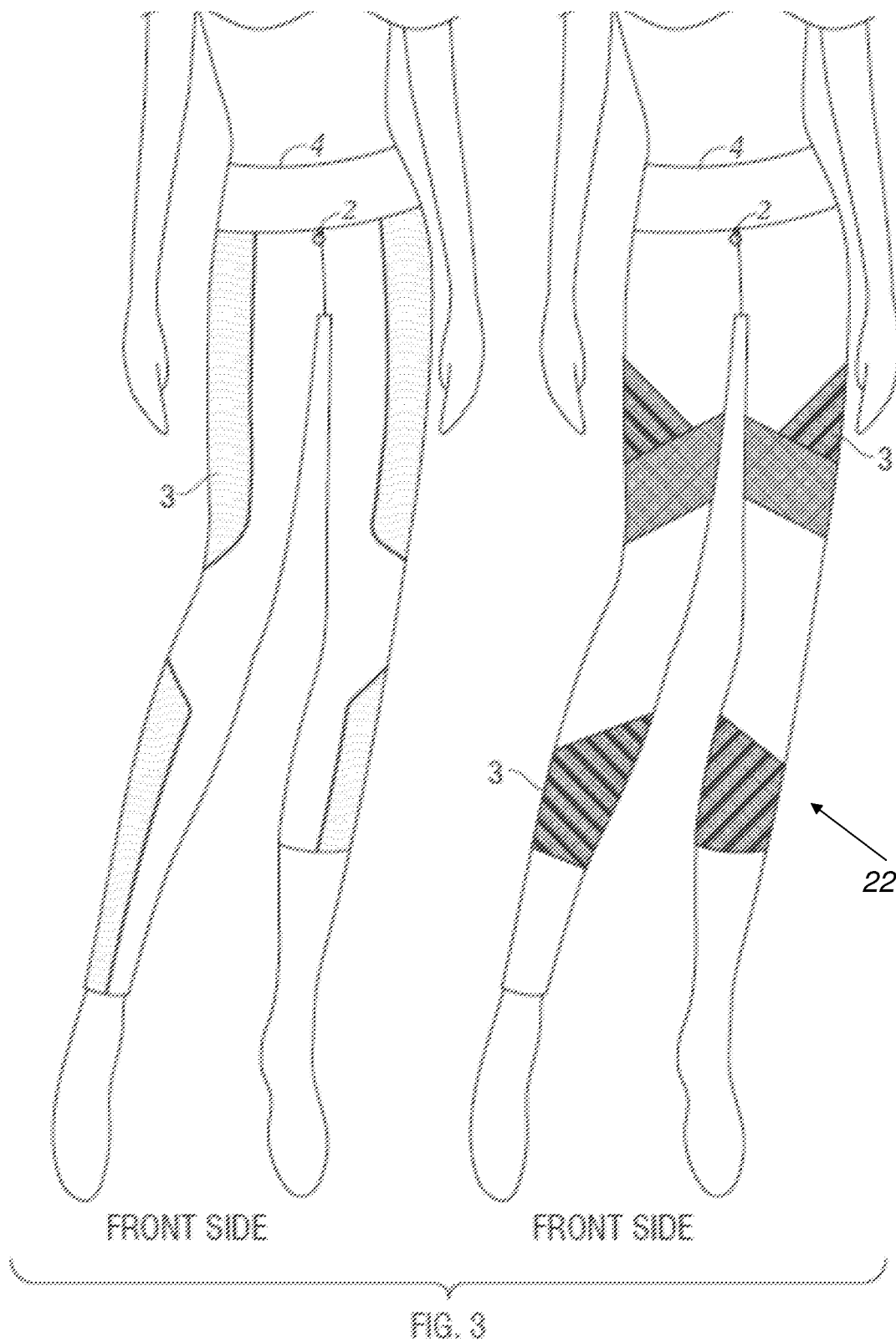


FIG. 2A



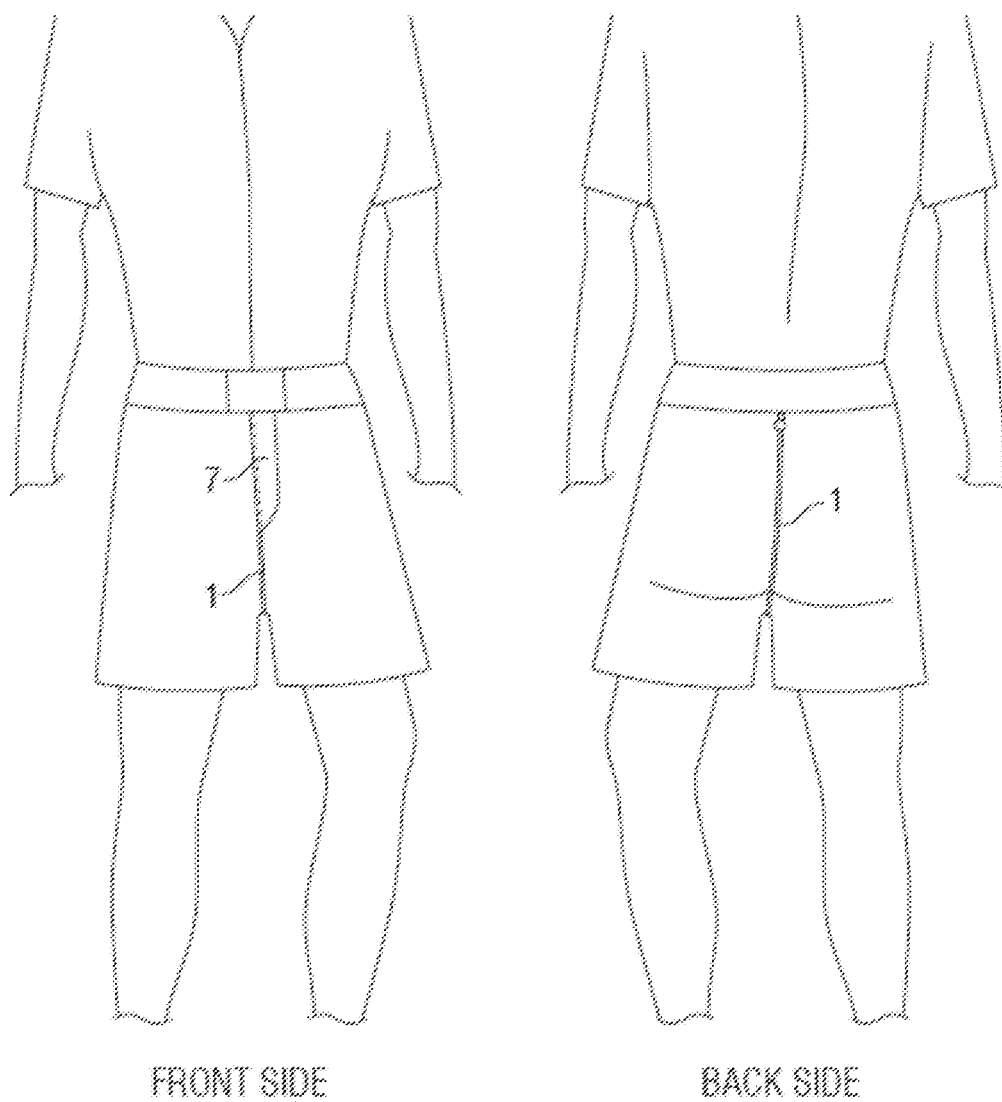
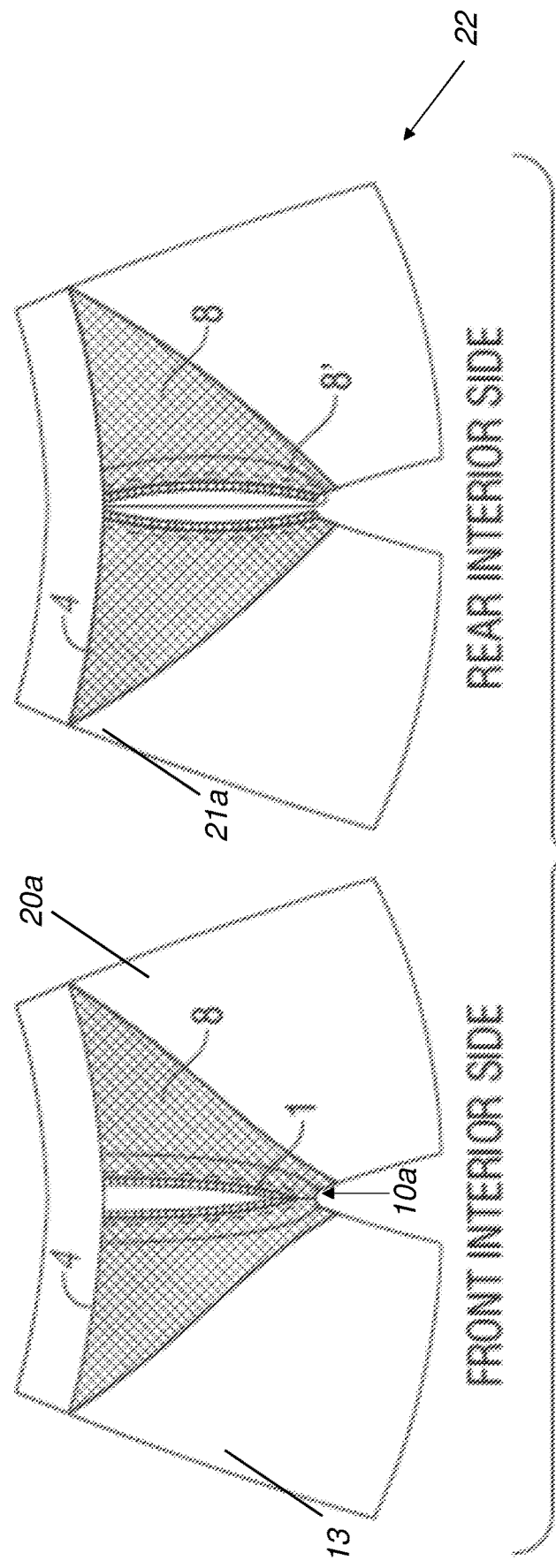


FIG. 4



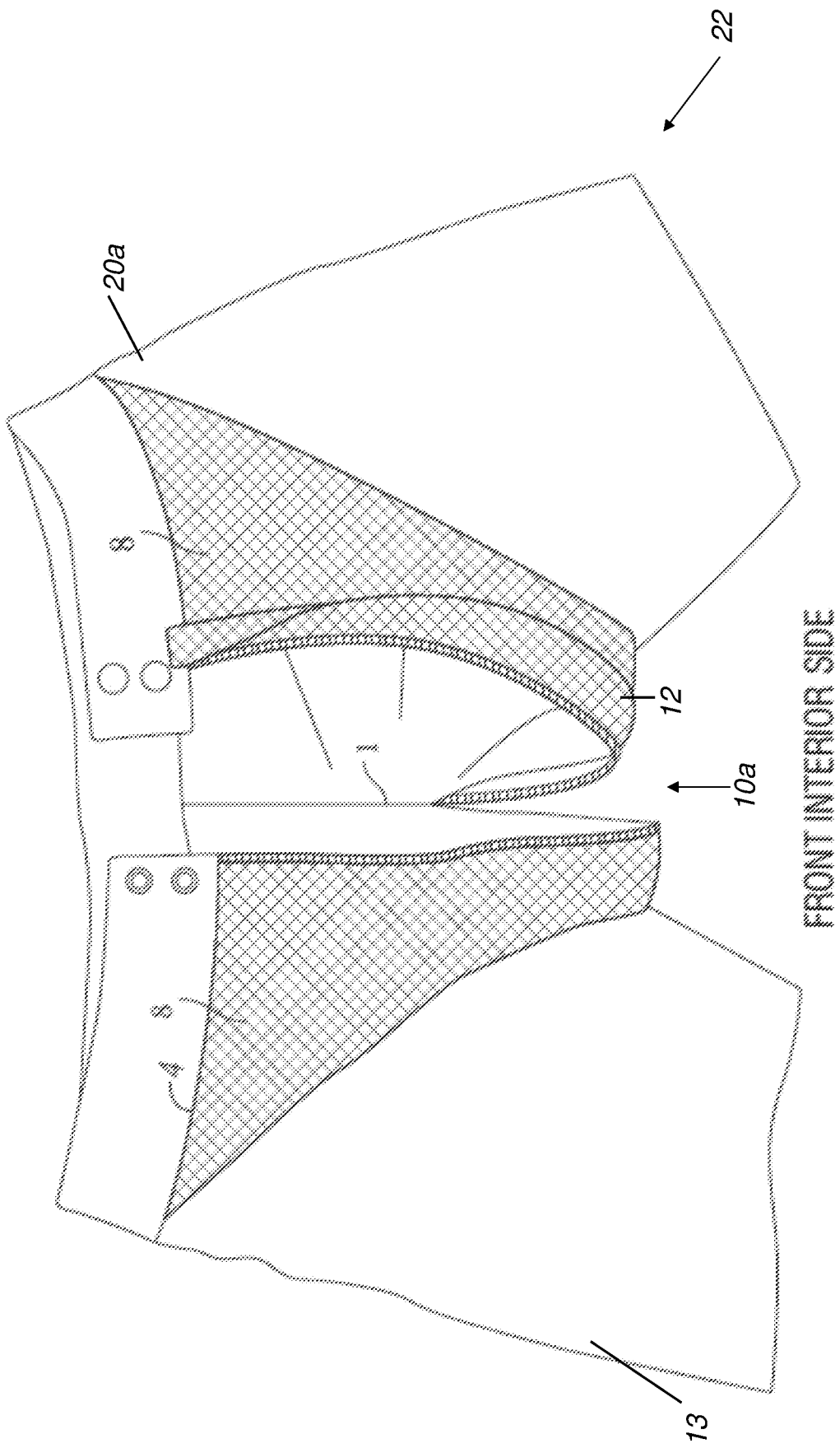


FIG. 6

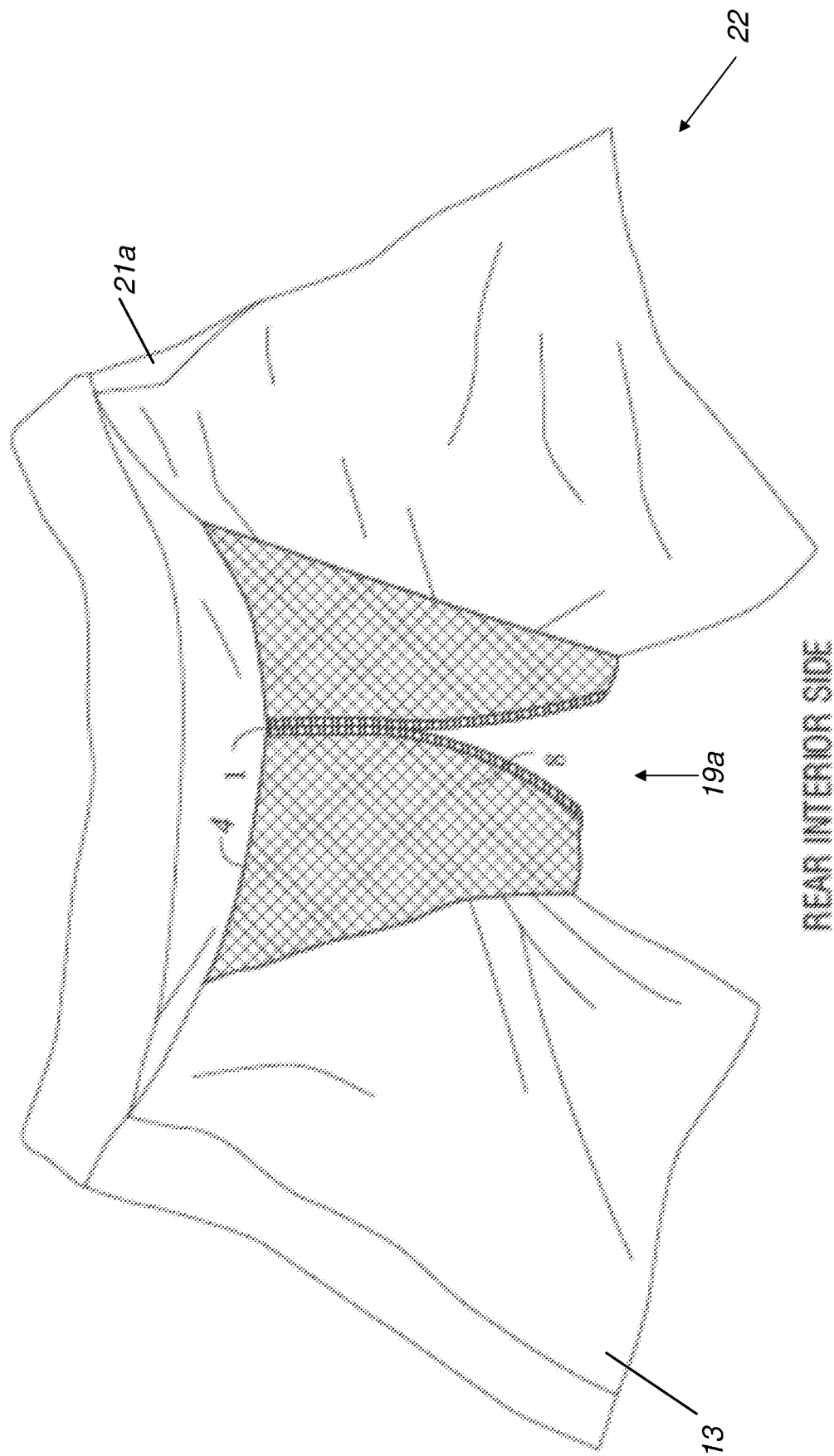


FIG. 7

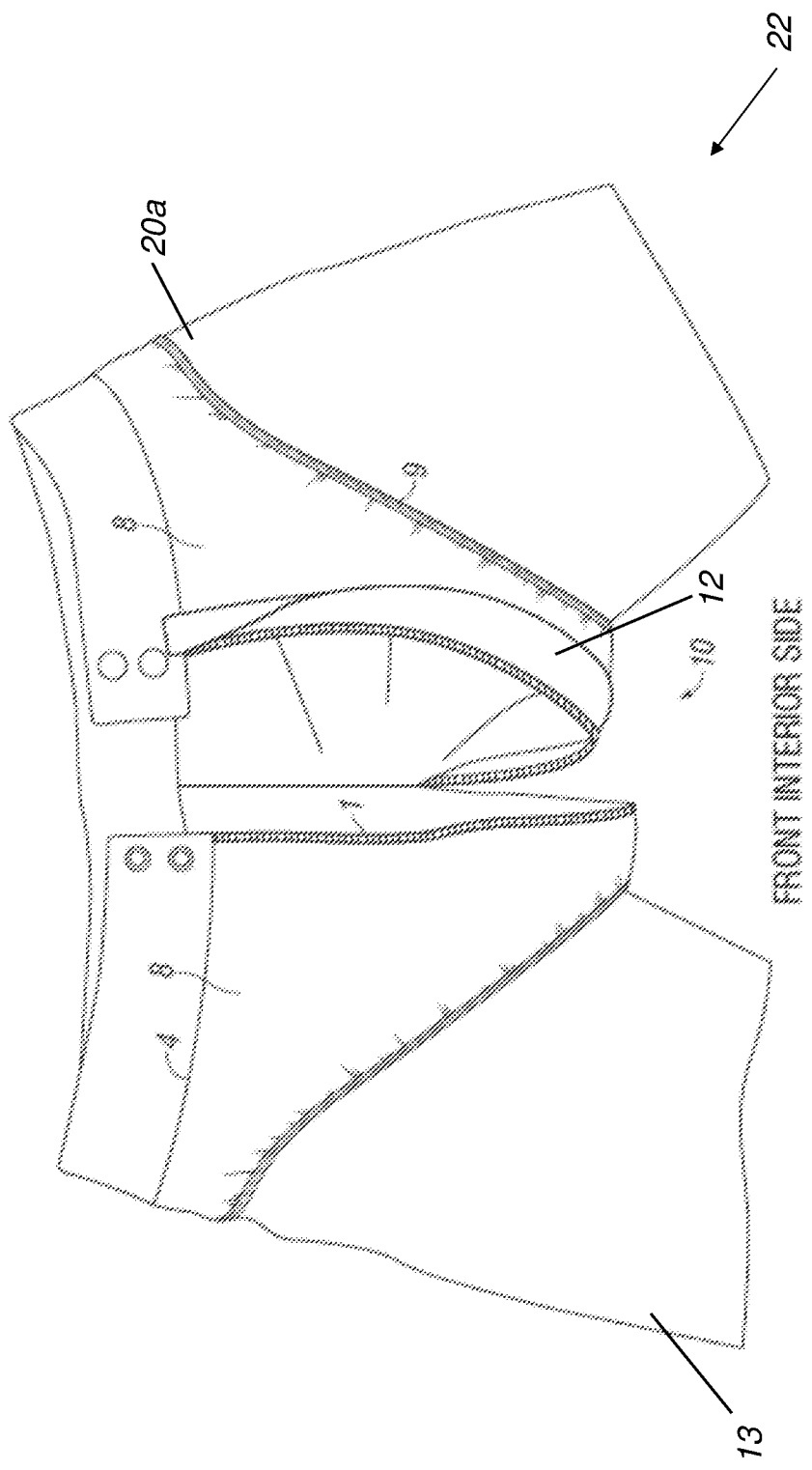


FIG. 8

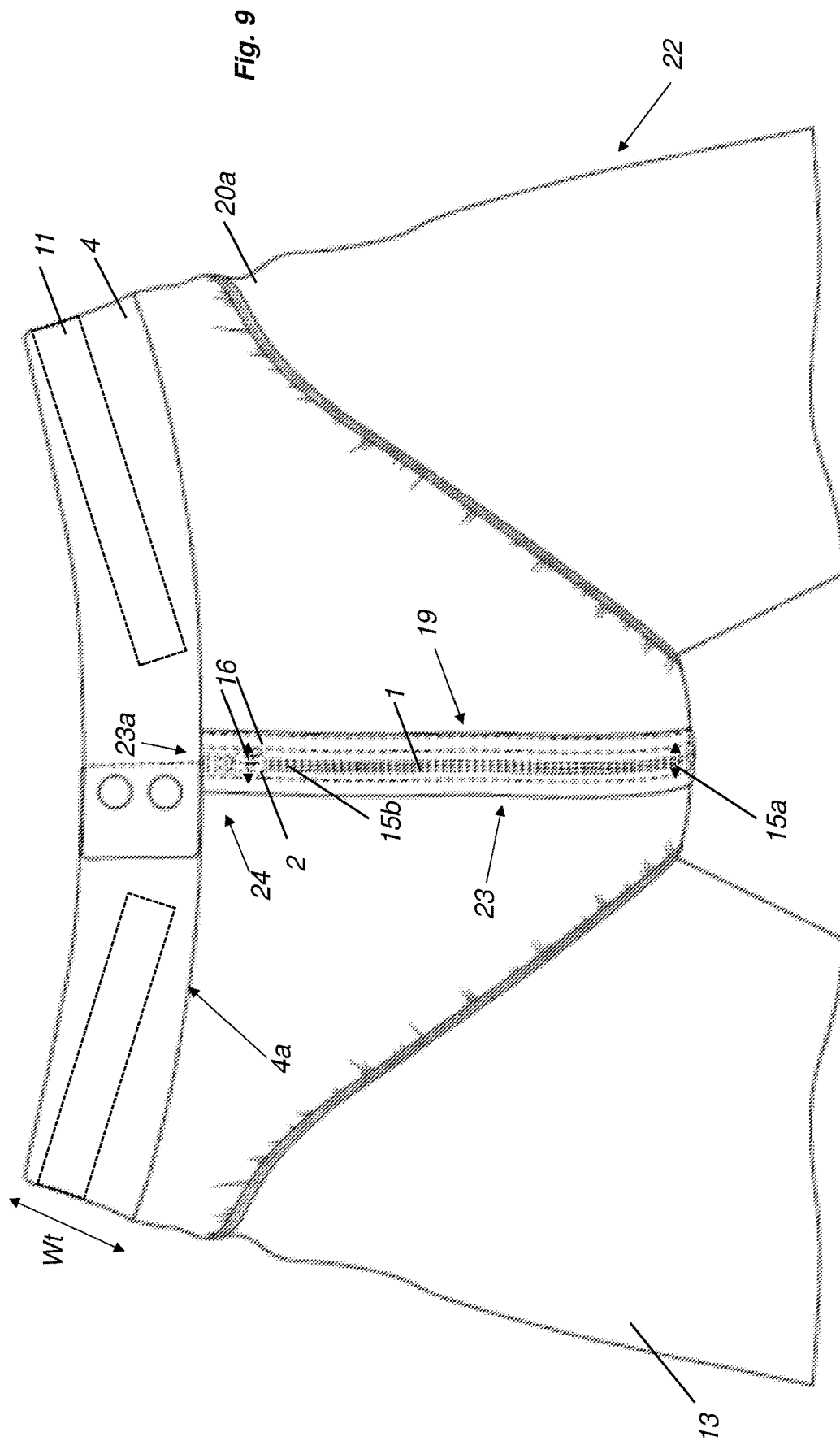
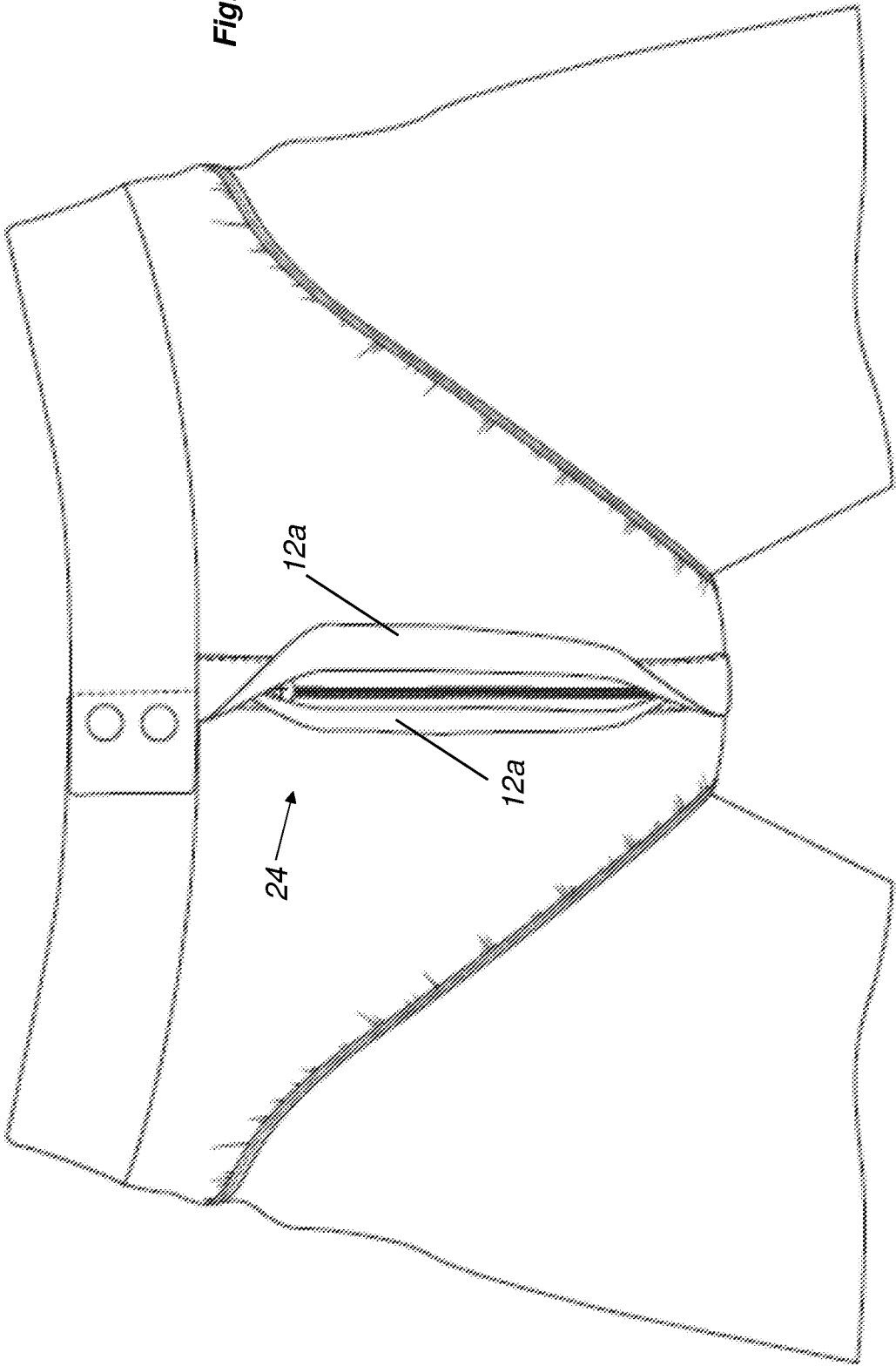


Fig. 10



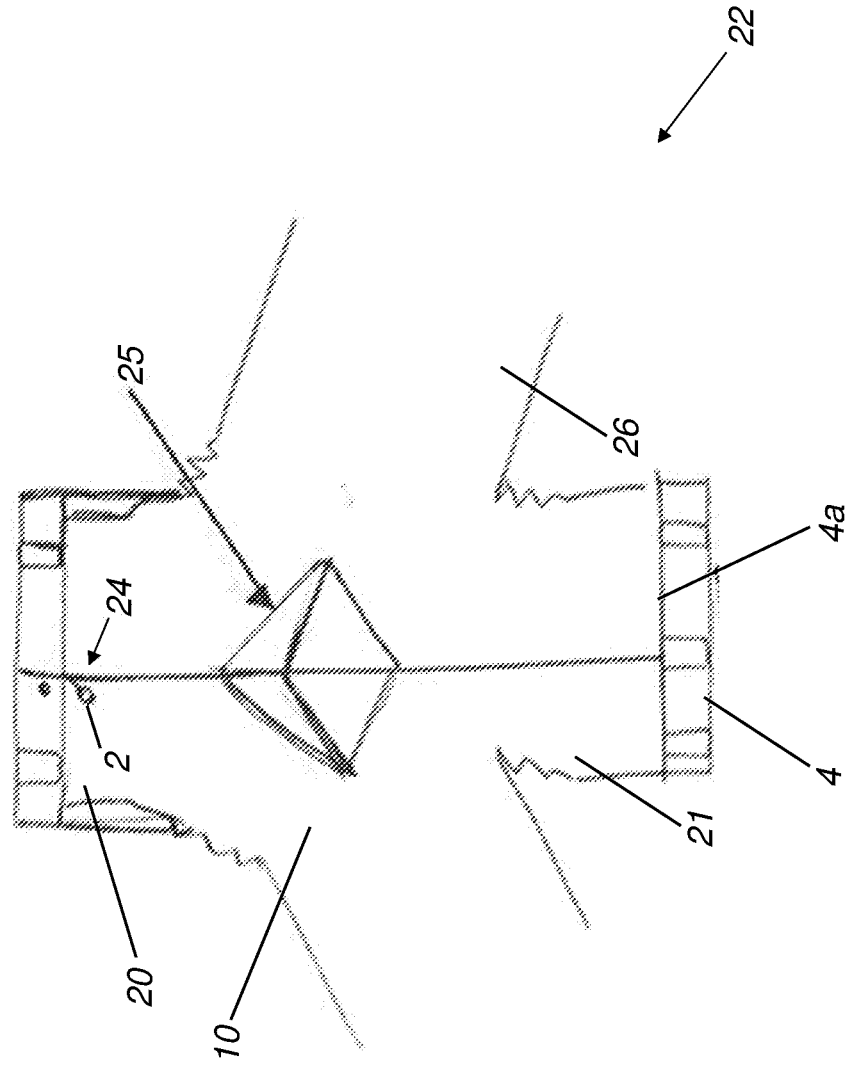


Fig. 11

ACTIVEWEAR AND METHODS OF USE AND MANUFACTURE THEREOF

REFERENCE TO RELATED APPLICATION(S)

[0001] This application is a continuation-in-part of U.S. Non-provisional application Ser. No. 16/054,275, filed on Aug. 3, 2018, which claims priority to U.S. Provisional Patent Application Ser. No. 62/541,092, filed on Aug. 4, 2017. The disclosure of each application is hereby incorporated herein by reference in its entirety for all purposes.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not applicable.

BACKGROUND

Field of the Disclosure

[0003] This disclosure relates to clothing, such as activewear, and methods of use and manufacture thereof, whereby the activewear, such as pants, yoga pants, sweatpants, tights, shorts, and other clothing items that cover the legs at least partially, comprises natural and/or synthetic material that have a zipper that extends from the waistband on the front side, traverses the crotch, and extends to the waistband on the rear side.

Background of the Disclosure

[0004] For dressing and undressing, clothing may contain various fastening mechanisms, such as zippers, buttons, Velcro®, hooks, ties, and otherwise. Despite the availability of fastening mechanisms, dressing and/or undressing may be cumbersome, protracted or both, especially if someone is in a hurry. For instance, if someone in the middle of exercising or even in a race, then undressing to go to the bathroom and dressing thereafter may require more time and effort than desired.

[0005] Although such urgency may not be of critical necessity, what is needed are improvements in clothing and methods related therefor that provide facile dressing while still providing dignity, convenience and privacy.

SUMMARY

[0006] Embodiments of the disclosure pertain to an article of clothing that may include any of the following: a front portion; a rear portion on an opposite side of the front portion; a waistband extending around the front portion and the rear portion; a middle crotch region between the front portion and the rear portion; an internal side; an external side; a zipper extending from the waistband on the front portion, through the middle crotch region, to the waistband on the rear portion; a panel having a first panel side and a second panel side, a complete length of the first panel side being attached to the internal side. The panel may not be connected anywhere on its second side, thereby having freedom of movement on the second panel side.

[0007] There may be a zipper pulley assembly coupled with the zipper. The assembly may include one or more of the following: a slider movably engaged with the zipper; an oversized zipper pull; and a coupler. The coupler may have

a first coupler end directly coupled with the slider, and a second coupler end directly coupled with the oversized zipper pull.

[0008] The panel may be movable (including when the article is worn), but otherwise covers the internal side of the zipper when the zipper is completely zipped.

[0009] When the zipper is zipped, the respective portion of the zipped zipper may be hidden from ordinary view, such as via an invisible zipper configuration. However, the oversized zipper pull may be viewable and accessible on the external side of the front portion.

[0010] The article of clothing may be made of a primary material. The middle crotch region may include a gusset made of a secondary material that is different from the primary material.

[0011] The article may include one or more pockets on the pants. The one or more pockets have one or more designs thereon.

[0012] The primary material may include a first color. The zipper pull assembly may be manufactured or otherwise configured with an appearance also of the first color.

[0013] The panel may be configured with an inner panel section. There may be a pliable panel insert disposed within the inner section. The panel insert may be a third material, such as baby felt.

[0014] The article may include one or more liners inside the pants and at least partially behind the zipper. The one or more liners may be bifurcated. The at least one of the one or more liners may be attached to the zipper. The one or more liners may include panty liners or underwear liners. At least one of the one or more liners may include elastomeric material at or proximate to at least a portion a boundary of the at least one of the one or more liners.

[0015] The article of clothing may be any of: dress pants, casual pants, athleticwear, rugged wear, culottes, jeans, sweatpants, skirts, yoga pants, tights, or shorts.

[0016] Other embodiments pertain to an article of athleticwear that may provide a layer of hygienic protection, as the article need not be pulled down while using an indoor toilet or outdoor portacan.

[0017] These and other embodiments, features and advantages will be apparent in the following detailed description and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] A full understanding of embodiments disclosed herein is obtained from the detailed description of the disclosure presented herein below, and the accompanying drawings, which are given by way of illustration only and are not intended to be limitative of the present embodiments, and wherein:

[0019] FIG. 1 shows front and rear portions or sides of an article of clothing having a zipper in a closed position, wherein the zipper extends from the waistband on the front side, traverses the crotch, and extends to the waistband on the rear side, in accordance with embodiments disclosed herein;

[0020] FIG. 2 shows the front side of an article of clothing having a zipper in a partially opened position, wherein the zipper extends from the waistband on the front side and is traversing the crotch, and although not depicted, the zipper also extends to the waistband on the rear side, in accordance with embodiments disclosed herein;

[0021] FIG. 2A shows an exploded view of a portion of FIG. 2, and more specifically, shows the zipper in a partially opened position on the front side of the article of clothing, in accordance with embodiments disclosed herein;

[0022] FIG. 3 shows front sides of an article of clothing having a zipper that is invisible except for the zipper's pull, in accordance with embodiments disclosed herein;

[0023] FIG. 4 shows front and rear sides of an article of clothing having a zipper in a closed position, wherein the zipper extends from the waistband on the front side, traverses the crotch, and extends to the waistband on the rear side, in accordance with embodiments disclosed herein;

[0024] FIG. 5 shows front and rear sides an article of clothing having a zipper in a partially opened position, wherein the zipper extends from the waistband on the front side and traverses the crotch, in accordance with embodiments disclosed herein;

[0025] FIG. 6 shows an interior view from the front side of an article of clothing having a zipper in a partially opened position, wherein the zipper extends from the waistband on the front side and traverses the crotch, in accordance with embodiments disclosed herein;

[0026] FIG. 7 shows an interior view from the rear side of an article of clothing having a zipper in a partially opened position, wherein the zipper extends from the waistband on the rear side and traverses the crotch, in accordance with embodiments disclosed herein;

[0027] FIG. 8 shows an interior view from the front side an article of clothing having a zipper in a partially opened position, wherein the zipper extends from the waistband on the front side and traverses the crotch, in accordance with embodiments disclosed herein;

[0028] FIG. 9 shows a partial front side interior view of an article of clothing having an inner panel, in accordance with embodiments disclosed herein;

[0029] FIG. 10 shows a partial front side interior view of an article of clothing having an inner panel and a second inner panel, in accordance with embodiments disclosed herein; and

[0030] FIG. 11 shows a partial external view of an article of clothing shown cut open and configured with a gusset, in accordance with embodiments disclosed herein.

DETAILED DESCRIPTION

[0031] Regardless of whether presently claimed herein or in another application related to or from this application, herein disclosed are novel apparatuses, units, systems, and methods that pertain to improved athleticwear and manufacture thereof, details of which are described herein.

[0032] Embodiments of the present disclosure are described in detail with reference to the accompanying Figures. In the following discussion and in the claims, the terms "including" and "comprising" are used in an open-ended fashion, such as to mean, for example, "including, but not limited to . . .". While the disclosure may be described with reference to relevant apparatuses, systems, and methods, it should be understood that the disclosure is not limited to the specific embodiments shown or described. Rather, one skilled in the art will appreciate that a variety of configurations may be implemented in accordance with embodiments herein.

[0033] Although not necessary, like elements in the various figures may be denoted by like reference numerals for consistency and ease of understanding. Numerous specific

details are set forth in order to provide a more thorough understanding of the disclosure; however, it will be apparent to one of ordinary skill in the art that the embodiments disclosed herein may be practiced without these specific details. In other instances, well-known features have not been described in detail to avoid unnecessarily complicating the description. Directional terms, such as "above," "below," "upper," "lower," "front," "back," etc., are used for convenience and to refer to general direction and/or orientation, and are only intended for illustrative purposes only, and not to limit the disclosure.

[0034] Numerical ranges in this disclosure may be approximate, and thus may include values outside of the range unless otherwise indicated. Numerical ranges include all values from and including the expressed lower and the upper values, in increments of smaller units. As an example, if a compositional, physical or other property, such as, for example, molecular weight, viscosity, melt index, etc., is from 100 to 1,000, it is intended that all individual values, such as 100, 101, 102, etc., and sub ranges, such as 100 to 144, 155 to 170, 197 to 200, etc., are expressly enumerated. It is intended that decimals or fractions thereof be included. For ranges containing values which are less than one or containing fractional numbers greater than one (e.g., 1.1, 1.5, etc.), smaller units may be considered to be 0.0001, 0.001, 0.01, 0.1, etc. as appropriate. These are only examples of what is specifically intended, and all possible combinations of numerical values between the lowest value and the highest value enumerated, are to be considered to be expressly stated in this disclosure.

Terms

[0035] The term "connected" as used herein may refer to a connection between a respective component (or subcomponent) and another component (or another subcomponent), which may be fixed, movable, direct, indirect, and analogous to engaged, coupled, disposed, etc., and may be by screw, nut/bolt, weld, and so forth. Any use of any form of the terms "connect", "engage", "couple", "attach", "mount", etc. or any other term describing an interaction between elements is not meant to limit the interaction to direct interaction between the elements and may also include indirect interaction between the elements described.

[0036] The term "zipper" as used herein may refer to two segments of interlocking teeth that may be separated or connected to each other via another member, such as a zipper slider. Reference to 'zipper' herein may refer to the segments together being interlocked or separated, or partially both.

[0037] Disclosed are articles of clothing or clothing items that cover a user's legs, at least partially, and may be collectively referred to as "pants," although it is understood that "pants," which may be loose or form-fitting, may include dress pants, casual pants, culottes, jeans, sweatpants, skirts, yoga pants, tights, shorts, and so forth. The pants, which may be made of natural and/or synthetic material, may include a zipper, which extends from the waistband on the front portion or side, traverses a crotch region, and extends to the waistband on the rear portion or side. It is understood that the zipper may include material or one or both sides of the zipper, wherein said material is for sewing, fastening, adhering or otherwise applying the zipper onto the pants. The zipper may refer to two segments of interlocking teeth separated or connected with each other. The zipper

may be referred to via its individual components, namely, a first zipper segment and a second zipper segment.

[0038] In other embodiments, the zipper may extend from just above, at, or just below the waistband on the front side, traverse the crotch, and extend to just above, at, or just below the waistband on the rear side. The zipper may be flush with the pants such that the zipper may or may not be visible, slightly raised such that the zipper may or may not be visible, and/or include a flap or panel, internal or external, such as to conceal or otherwise cover the zipper.

[0039] The zipper may also include a pull, which fingers may grasp to zip or unzip. The zipper may be coupled with a zipper pull assembly. The pull assembly may include a slider and a zipper pull. The pull may be any shape, including circular, and include indicia on one or both primary surfaces of the pull; in one instance, the pull may include “ZH” on at least one of the two primary surfaces of the pull. One or more liners may be attached, e.g., sewn, heat-sealed, buttoned, or otherwise, to inside of the pants at or proximate one or both sides of the zipper to protect skin against scratching, chafing, or rubbing by the zipper. The liner(s) may comprise natural and/or synthetic having one or more of the following characteristics: soft, stretchable, moisture-wicking, and moisture-resistant.

[0040] Generally, each liner may be bifurcated, i.e., half is on one side of the zipper, and another half may be on the other side of the zipper, so that when the zipper is zipped, then the individual liners abut so as to appear that there is an integrated liner. Various liners, such as ones made from mesh, polyester, elastomeric materials, cotton blends, etc., may be integrated into the pants, which may be made of the same or different materials. In one embodiment, the liner may extend slightly beyond the width of the zipper and optionally widen in the crotch area. In other embodiments, the liner may have any shape and/or extend substantially beyond the zipper. Furthermore, the liner may run the entire length of the zipper or a portion thereof, e.g., 90%, 80%, 75%, 70%, 60%, 50% or less.

[0041] Additionally, and/or alternatively, the liner may be an underwear or panty liner. As a result, there may be one or more liners beneath the zipper. In the case of multiple liners, their arrangement may be stacked, partially overlapping, or non-overlapping. Again, however, it is noted that whether there are one or more liners, the liners may be bifurcated as previously explained.

[0042] In some embodiments, the pants may include one or more pockets of various size(s) and/or position(s). Such pocket(s) may serve to carry tissue for use on bathroom breaks or other countless other purposes and functions. Furthermore, the pants may be designed with fashion in mind, incorporating mesh and color blocks so that in the case of tights, for instance, they are wearable for everyday activity; thus, their fashion sense distracts an observer from focusing on the pants' open-crotch zipper. To that end, tights are designed for comfort and may use a moisture resistant, sun-resistant, and/or stretchable fabric comprising of nylon, spandex, UPF30, other material(s), or combinations thereof.

[0043] Referring now to FIGS. 1, 2, and 2A together, side views of front and rear portions or sides of an article of clothing having a zipper in a closed position, wherein the zipper extends from the waistband on the front side, traverses the crotch, and extends to the waistband on the rear side, and the front side of the article of clothing having the

zipper in a partially opened position, wherein the zipper extends from the waistband on the front side and is traversing the crotch.

[0044] As shown, an article of clothing 22, sometimes referred to herein as ‘pants’, may have a front side or portion 20 and a rear side or portion 21. FIG. 1 shows the article 22 having a zipper 1 in a closed position, wherein the zipper 1 may extend from the waistband 4 on the front side 20, traverses the crotch 10, and extends to the waistband 4 on the rear side 21. FIGS. 2 and 2A show the zipper 1 may include a first zipper segment 1a, and a second zipper segment 1b. The segments 1a, 1b may extend to each side of the waistband 4 as mentioned. The segments 1a, 1b may be interlocked, separated, or partially both, via a zipper pull assembly 18.

[0045] The zipper pull assembly 18 may include a slider 17, which may be coupled with the segments 1a, 1b. A zipper pull 2 may be coupled with the slider 17. Although the pull may be coupled directly with the slider 17, there may be times that there is not enough space. As such, a coupler 27 may be used. The coupler 27 may have a first end 27a connected with the slider 17, and the coupler 27 may have a second end 27b coupled with the pull 2. The parts of the assembly 18 may be coupled together via crimping, clamping, and so forth.

[0046] The pants may include one or more pockets 3. Furthermore, there may be a liner 5 positioned proximate, such as behind, the zipper 1. FIG. 2 shows the front side 20 of the pants 22 having the zipper 1 in a partially opened position 6, wherein the zipper 1 extends from the waistband 4 on the front side 20 and is traversing the crotch 10. Although not shown in detail here, the zipper 1 also extends to the waistband 4 on the rear side 21. As shown, the segments 1a, 1b may be partially coupled together and separated. However, the open position 6 may include the segments 1a, 1b completely unzipped (i.e., disconnected).

[0047] FIG. 2A shows an exploded or close-up view of the article of clothing 22, and more specifically, shows the zipper 1 in a partially opened position 6 on the front side 20. As viewable here, the zipper assembly 18 may have the pull 2 configured with a desired shape, such as a circular shape. As mentioned, the pull 2 may be coupled directly to the slider 17, or there may be the coupler 27 coupled therebetween.

[0048] The pull 2 may have a fashion indicator or indicia associated therewith, such as shown here may include the letters Z and H. In other example embodiments, the pull 2 may have a different shape and/or include any or no indicia thereon.

[0049] The pull 2 may be oversized. By this, the pull 2 may have a pull width dimension 16 greater in size or wider than a zipper width dimension 15a or 15b. The dimension 15b may be the width dimension of the segments 1a, 1b together.

[0050] Referring now to FIG. 3, a side view of a front portion of an article of manufacture configured with an invisible slipper and one or more fashion designs, in accordance with embodiments disclosed herein, is shown.

[0051] As shown, the article of clothing 22 may have different designs, including inclusion of pockets 3, which are optional, and may be in different sizes and locations. Although not depicted here, the zipper 1 may traverse the crotch (see 10, FIG. 2) and extend to the waistband 4 on the rear side (21).

[0052] In particular embodiments, the article of clothing 22 may be configured with an invisible zipper. An invisible zipper may be contemplated or characterized as the zipper 1 being hidden from view via a seam(s) (see FIG. 2A, 14a, 14b). In this respect, the zipper 1 may be sewn differently in that no topstitching is used; instead, the zipper 1 may be installed on the pants before the seam it is installed in is sewn. In the eyes of an ordinary observer, the zipper 1 may be hidden from view or ‘invisible’, although the seams may be physically moved or separated to see the zipper 1. Of note, the pull 2 may still be viewable and/or accessible. Not only may this be accomplished for fashion purposes, but leaving the pull 2 freely accessible makes it very easy for a user to grab and pull, especially if hurried or in a matter of urgency, such as for a first responder or military personnel.

[0053] Referring briefly to FIG. 4, a front and rear views of shorts, a type of pants as previously disclosed, having a zipper 1 in a closed position, wherein the zipper 1 extends from the waistband 4 on the front side, traverses the crotch, and extends to the waistband 4 on the rear side. The zipper 1 on the front view may be covered by a flap 7, which is optional. The closed position may include the zipper pull assembly 18 on the rear side.

[0054] Referring now to FIG. 5, a partial side interior view of an article of clothing, in accordance with embodiments disclosed herein, is shown. FIG. 5 illustrates the article of clothing 22 may have an interior (or interior side) 13, essentially the side that which would be felt by or in contact with a user, and not ordinarily viewable by another.

[0055] The interior front portion 20a and interior rear portion 21a of the article of clothing 22 may have a zipper 1 in a partially opened position. Although not shown, the zipper 1 may also have a completely zipped or unzipped position. The zipper 1 may extend from the waistband 4 on the front side 20a and traverses the crotch 10a. The zipper 1 may also extend to the waistband 4 on the rear side. The article of clothing 22 may include a liner 8 on either or both sides of the zipper 1. In the disclosed embodiment, the liner 8 may be on both sides of the zipper 1. As can be seen, this liner 8 may be akin to an underwear or panty liner 8, and may be made from any synthetic, natural, or combination of materials.

[0056] The liner 8 may be attached 8' over the interior of the short's zipper 1. In other embodiments, liner 5 in FIG. 1 may be attached between the zipper 1 and liner 8. In still other embodiments, liner 8 may be attached between the zipper 1 and liner 5. And, in still other embodiments, one or more types of liners 5, 8 occur after the zipper 1, e.g., liner 5/liner 8, liner 5 or liner 8/liner 8, liner 5, etc. Each liner 5, 8 may be made from the same or different material.

[0057] Referring now to FIG. 6, a partial front side interior view of an article of clothing, in accordance with embodiments disclosed herein, is shown. FIG. 6 illustrates the interior (or interior side) 13 of the front interior portion 20a of an embodiment of the article of clothing 22. The article 22 may include a zipper 1 in a partially opened position, wherein the zipper 1 extends from the waistband 4 on the front side and traverses the crotch region 10a. Although shown in a partial closed position, the zipper 1 may extend to the waistband 4 on the rear side. On either side of the zipper 1, there may be one or more liners 8, which may be mesh and/or an absorbent material. There may be an inner panel 12. The panel 12 may, but not required, be part of the liner 8.

[0058] Referring now to FIG. 7, a partial rear side interior view of an article of clothing, in accordance with embodiments disclosed herein, is shown. FIG. 7 illustrates the interior (or interior side) 13 of the rear interior portion 21a of an embodiment of the article of clothing 22. The article 22 may include a zipper 1 in a partially opened position. The zipper 1 may extend from the waistband 4 on the rear side and traverses the crotch region 10a. The zipper 1 may extend to the waistband 4 on the front side. On either side of the zipper 1 there may be a liner 8, which may be mesh and/or an absorbent material.

[0059] Referring now to FIG. 8, a partial front side interior view of an article of clothing, in accordance with embodiments disclosed herein, is shown. FIG. 8 illustrates the interior (or interior side) 13 of the front interior portion 20a of an embodiment of the article of clothing 22.

[0060] The zipper 1 may be in a partially opened position, wherein the zipper 1 extends from the waistband 4 on the front side and traverses the crotch region 10. The zipper 1 may be completely zipped or unzipped, as otherwise described herein. A such, the zipper 1 may extend to the waistband 4 on the rear side. On either side of the zipper 1 there may be a liner 8, which may be mesh and/or an absorbent material. Further the liner 8, may include elastomeric material at or proximate to at least a portion of a boundary 9 of the liner 8. This elastomeric material may impart the security and/or feel of a liner 8 akin to the way panties or underwear operate and/or feel. The elastomeric material may be located along all boundaries of the liner 8 or any portion thereof.

[0061] As a result, elastomeric material may circumscribe a person's leg(s), waist, and/or any portion thereof when such person wears pants having a liner 8 containing elastomeric material at or proximate to a boundary 9 or all boundaries of the liner 8. Furthermore, one or more liners 8 in the pants may contain elastomeric material at the respective liner's 8 boundaries or a portion thereof.

[0062] Referring now to FIGS. 9 and 10, a partial front side interior view of an article of clothing having an inner panel, and a partial front side interior view of an article of clothing having an inner panel and a second inner panel, in accordance with embodiments disclosed herein, are shown.

[0063] While referring to an article of clothing of FIG. 9 or 10, depicted embodiments may apply to other embodiments described or otherwise shown herein. The article 22 may be comparable to other embodiments, but need not be duplicate. Similarities may not be described in brevity.

[0064] FIG. 9 illustrates how embodiments herein may have an interior (or interior side) 13 of a front portion 20a (or a rear portion—not viewable here) may provide for an inner panel 12. The panel 12 may extend from the front portion of waistband 4 to a rear portion. The panel may start and end at a lower end 4a of the waistband 4. As such, the waistband 4 may have a discernable thickness Wt. The waistband 4 may have an internal section to which an elastic insert 11 may be disposed therein. The elastic 11 may not extend all the way around the waistband; instead, the elastic 11 may extend about 60% to about 85% of the waistband 4.

[0065] The panel 12 may be shaped and engineered for this specific area. In embodiments, the panel 12 may be constructed of two thin layers of soft, breathable 4-way stretch woven mesh which is stitched to one side of the (inner) zipper (or zipper tape) at connection point 19. There may be another small piece stitched to the other side of the

zipper tape to provide a proper lining and full protection and absorption/wicking abilities. The patterning and stitching of the inner panel **12** may be configured in a manner to stay flush and shaped against the zipper **1** as well as the body of the user, therefore the panel **12** may stay sleek at all times and not bunch.

[0066] The inner panel **12** may follow the length of the zipper **1** and starts at the top of the center front. Although not necessary, the inner panel **12** may be stitched across at the bottom **4a** of the waistband seam, and goes to the center back and is stitched to the bottom of the waistband seam **4a** on the other side. The panel **12** may be kept flat and stitched with the same continuous serged thread that the waistband **4** is applied. This is so there is not any extra stitching and bulk added to cause chafing in those sensitive areas with high agitation through running, climbing, or hiking etc.

[0067] The zipper **1** of any embodiment herein may be industrial strength universal. In a similar manner the zipper assembly (**18**) and the zipper **1** may be coated in matching paint color. The pull tab **2** may be custom made to be decorative, hang well and at a good height across the stomach, and fit a generic female thumb size for ease of grasping, pulling and finding when unzipped to the farthest part of the center back.

[0068] The pull **2** may be a round disc with approximately a pull width dimension of about 1 inch. The pull **2** may have a cutout, for example the letters “ZH”. The pull **2** may be used on the article of clothing **2** to be more decorative and fashionable.

[0069] The pull **2** may be a longer rectangular zipper pull. Every single part of the zipper assembly **18** may be produced by mold, including the pull **2**, slider **17**, and a coupler (TBD). All components of the assembly **18** may be attached together by machine.

[0070] The article of clothing **22** may be made of a lightest weight nylon that looks like cotton. This material may be wind proof and moisture wicking. The article **22** may be designed with side pockets (e.g., **3**), and any extra pockets for convenience. Any pocket may be configured with a pocket zipper to keep keys, maps, or snacks secure. An invisible pocket zipper with a may be used so that the zipper is strong and completely hidden away in the seam.

[0071] Referring now to FIG. **11**, a partial external view of an article of clothing shown cut open and configured with a gusset, in accordance with embodiments disclosed herein, is shown. FIG. **11** illustrates an article of clothing **22** may have an exterior (or exterior side) **26**, essentially being the side ordinarily viewable when the article is worn. To provide a different view of the article **22**, FIG. **11** illustrates the article cut along its sides and laid open. The invisible zipper (not viewable by way of configuration) may extend from a waistband **4** on a front portion **20**, through a crotch region **10**, to the waistband **4** on a back portion **21**. The zipper may extend from a bottom end **4a** of the waistband from the front **20** to the bottom end **4a** on the back **21**.

[0072] As also shown, although the article of clothing **22** may be in a completely zipped or closed position **24**, the pull **2** may still be accessible and viewable. Finally, the article of clothing **22** may be configured with a gusset **25**. The gusset **25** may be a different material from that of the rest of the article **22**. For example, the gusset **25** may be of a material of greater elasticity than the rest of the article **22**. The gusset **25** may be formed in the middle or crotch region **10**. In this respect, when a user spreads his/her legs, such as for

squatting, bending, etc., the gusset **25** may flex with ease, and thereby reduce tension on the zipper.

Advantages

[0073] Embodiments herein provide for a zipper that may be continuous with no stops, and goes from the center front, under the waistband to the center back under the waistband. The pull tab may be custom made to be decorative, hang well and at a good height across the stomach, and fit a generic female thumb size for ease of grasping, pulling and finding when unzipped to the farthest part of the center back.

[0074] Embodiments herein may provide for fitted trunks inside made of thin nylon/spandex perfoskin super stretch that feel like a second skin. There may be elastic leg casings that hug the leg properly and do not ride up. There is no need to worry about having to wear underwear because we have thought of everything so you feel secure and protected from the environment and can perform at your best.

[0075] While preferred embodiments of the disclosure have been shown and described, modifications thereof may be made by one skilled in the art without departing from the spirit and teachings of the disclosure. The embodiments described herein are exemplary only and are not intended to be limiting. Many variations and modifications of the embodiments disclosed herein are possible and are within the scope of the disclosure. Where numerical ranges or limitations are expressly stated, such express ranges or limitations should be understood to include iterative ranges or limitations of like magnitude falling within the expressly stated ranges or limitations. The use of the term “optionally” with respect to any element of a claim is intended to mean that the subject element is required, or alternatively, is not required. Both alternatives are intended to be within the scope of the claim. Use of broader terms such as comprises, includes, having, etc. should be understood to provide support for narrower terms such as consisting of, consisting essentially of, comprised substantially of, and the like.

[0076] Accordingly, the scope of protection is not limited by the description set out above but is only limited by the claims which follow, that scope including all equivalents of the subject matter of the claims. Each and every claim is incorporated into the specification as an embodiment of the present disclosure. Thus, the claims are a further description and are an addition to the preferred embodiments of the present disclosure. The inclusion or discussion of a reference is not an admission that it is prior art to the present disclosure, especially any reference that may have a publication date after the priority date of this application. The disclosures of all patents, patent applications, and publications cited herein are hereby incorporated by reference, to the extent they provide background knowledge; or exemplary, procedural or other details supplementary to those set forth herein.

What is claimed is:

1. An article of clothing comprising:

- a front portion;
- a rear portion on an opposite side of the front portion;
- a waistband extending around the front portion and the rear portion;
- a middle crotch region between the front portion and the rear portion;
- an internal side;
- an external side;

a zipper extending from the waistband on the front portion, through the middle crotch region, to the waistband on the rear portion;

a panel having a first panel side and a second panel side, a complete length of the first panel side being attached to the internal side, but having freedom of movement on the second panel side;

a zipper pulley assembly coupled with the zipper, the assembly comprising:

- a slider movingly engaged with the zipper;
- an oversized zipper pull; and
- a coupler having a first coupler end directly coupled with the slider, and a second coupler end directly coupled with the oversized zipper pull,

wherein the panel is movable, but otherwise covers the internal side of the zipper when the zipper is completely zipped,

wherein when the zipper is completely zipped, the zipper is hidden from ordinary view via an invisible zipper configuration, but the oversized zipper pull is viewable and accessible on the external side of the front portion.

2. The article of clothing of claim 1, wherein the article of clothing is made of a primary material, and wherein the middle crotch region comprises a gusset made of a secondary material that is different from the primary material.

3. The article of clothing of claim 2, the article of clothing further comprising one or more pockets on the pants, wherein the one or more pockets have one or more designs thereon.

4. The article of clothing of claim 2, wherein the primary material comprises a first color, and wherein the zipper pull assembly is manufactured with an appearance also of the first color.

5. The article of clothing of claim 1, wherein the panel is configured with an inner section, and wherein a pliable insert is disposed within the inner section.

6. The article of clothing of claim 1, the article further comprising one or more liners inside the pants and at least partially behind the zipper.

7. The article of clothing of claim 1, wherein the one or more liners is bifurcated, and wherein at least one of the one or more liners is attached to the zipper.

8. The article of clothing of claim 7, wherein the one or more liners comprises panty liners or underwear liners.

9. The article of clothing of claim 8, wherein at least one of the one or more liners further comprises elastomeric material at or proximate to at least a portion a boundary of the at least one of the one or more liners.

10. The article of clothing of claim 1, wherein the article of clothing is selected from the group consisting of: dress pants, casual pants, culottes, jeans, sweatpants, skirts, yoga pants, tights, or shorts.

11. An article of clothing comprising:

- a front portion;
- a rear portion on an opposite side of the front portion;
- a waistband extending around the front portion and the rear portion;
- a middle crotch region between the front portion and the rear portion;
- an internal side;

- an external side;
- a zipper extending from the waistband on the front portion, through the middle crotch region, to the waistband on the rear portion;
- a panel having a first panel side and a second panel side, a complete length of the first panel side being attached to the internal side, but having freedom of movement on the second panel side;
- a zipper pulley assembly coupled with the zipper, the assembly comprising:

 - a slider movingly engaged with the zipper;
 - an oversized zipper pull; and
 - a coupler having a first coupler end directly coupled with the slider, and a second coupler end directly coupled with the oversized zipper pull,

- wherein the panel is movable, but otherwise covers the internal side of the zipper when the zipper is completely zipped,
- wherein when the zipper is completely zipped, the zipper is hidden from ordinary view via an invisible zipper configuration, but the oversized zipper pull is viewable and accessible on the external side of the front portion, and
- wherein the zipper does not extend into the waistband.

12. The article of clothing of claim 11, wherein the article of clothing is made of a primary material, and wherein the middle crotch region comprises a gusset made of a secondary material having a greater elasticity than the primary material.

13. The article of clothing of claim 12, wherein the waistband comprises an inner section having an elastic insert disposed therein, and wherein the elastic insert extends between 60% to 85% of the waistband.

14. The article of clothing of claim 13, the article of clothing further comprising one or more pockets on the pants, wherein the one or more pockets have one or more designs thereon.

15. The article of clothing of claim 14, wherein the primary material comprises a first color, and wherein the zipper pull assembly is manufactured or dyed in a manner to have an appearance also of the first color.

16. The article of clothing of claim 15, wherein the panel is configured with an inner panel section, and wherein a pliable insert is disposed within the inner panel section.

17. The article of clothing of claim 16, the article further comprising one or more liners inside the pants and at least partially behind the zipper.

18. The article of clothing of claim 17, wherein the one or more liners is bifurcated, and wherein at least one of the one or more liners is attached to the zipper.

19. The article of clothing of claim 18, wherein the article of clothing is selected from the group consisting of: dress pants, casual pants, culottes, jeans, sweatpants, skirts, yoga pants, tights, or shorts.

20. The article of clothing of claim 16, wherein the oversized pull comprises a width dimension that is greater than a zipper width dimension at a point where the zipper is zipped.

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