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(54) **APERTURED CLOTHING**

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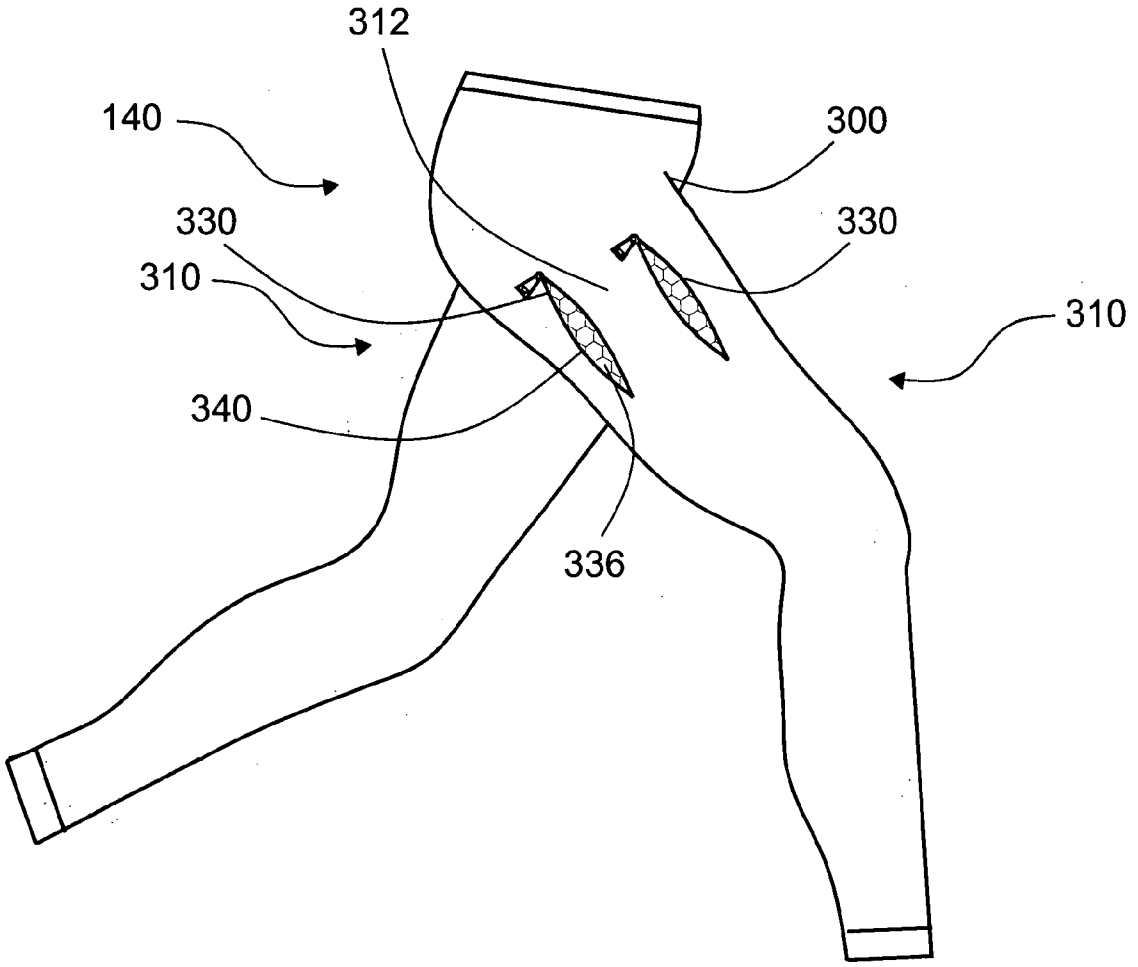
(57) **ABSTRACT**

There are pants, including a hip section, first and second leg sections, and one or more selectably sealable apertures. The aperture(s) may be disposed only on a region of the first upper leg section corresponding with a middle region of a thigh of the wearer, thereby enabling selectably enhancable heat exchange. The aperture(s) may include a plurality of sealing devices enabling partial sealing. There may be a modesty layer that may be athletic mesh.



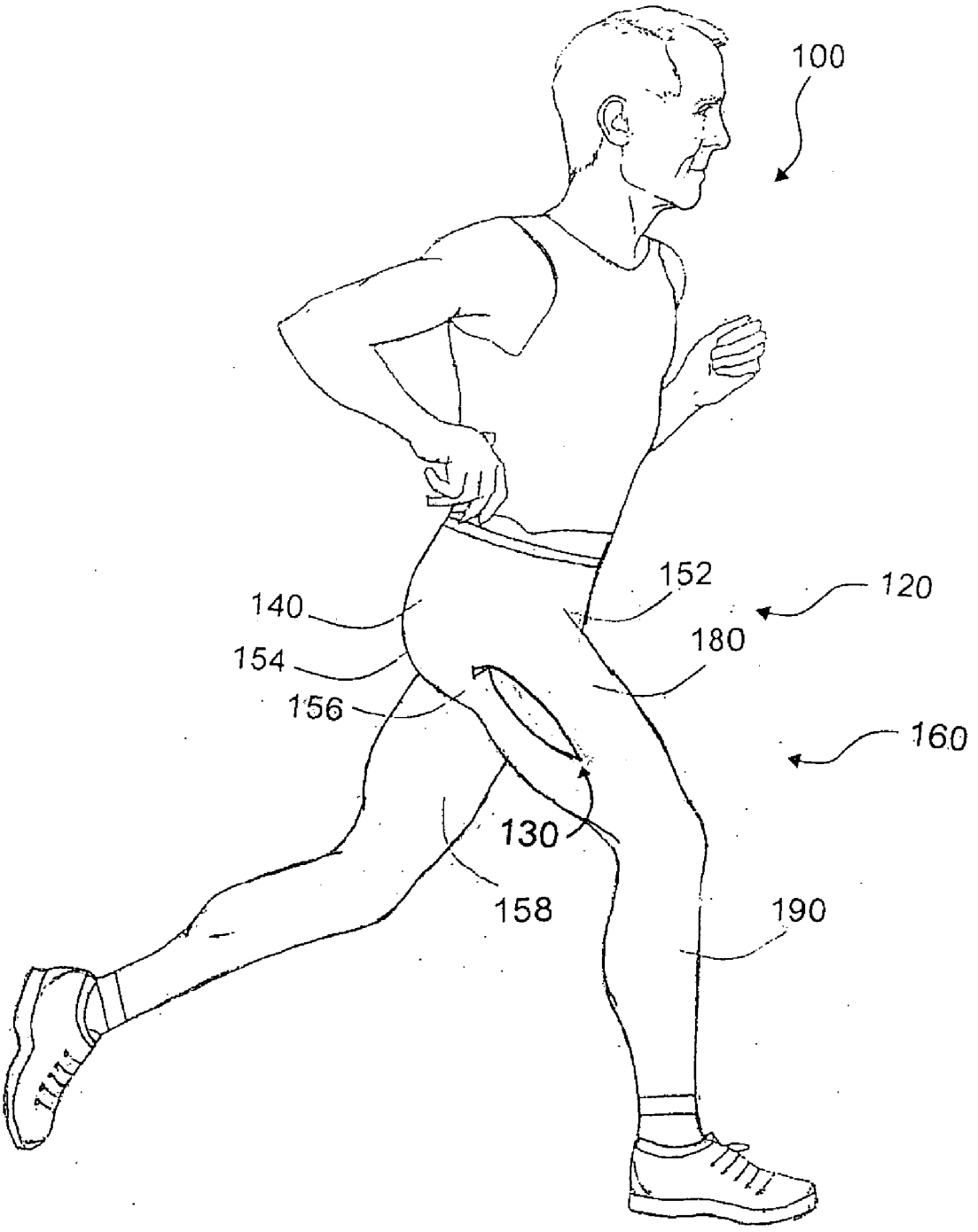


Figure 1

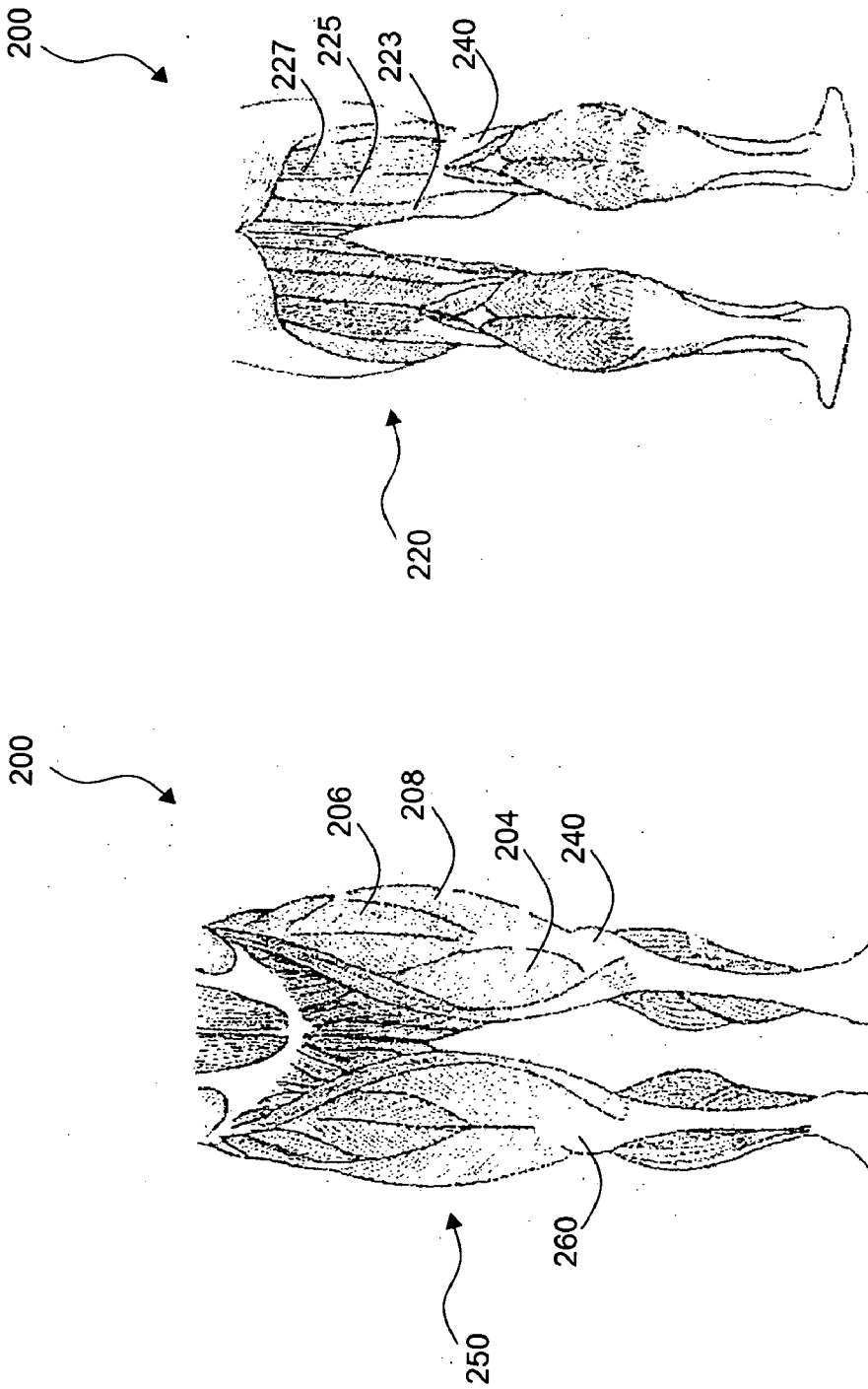


Figure 2

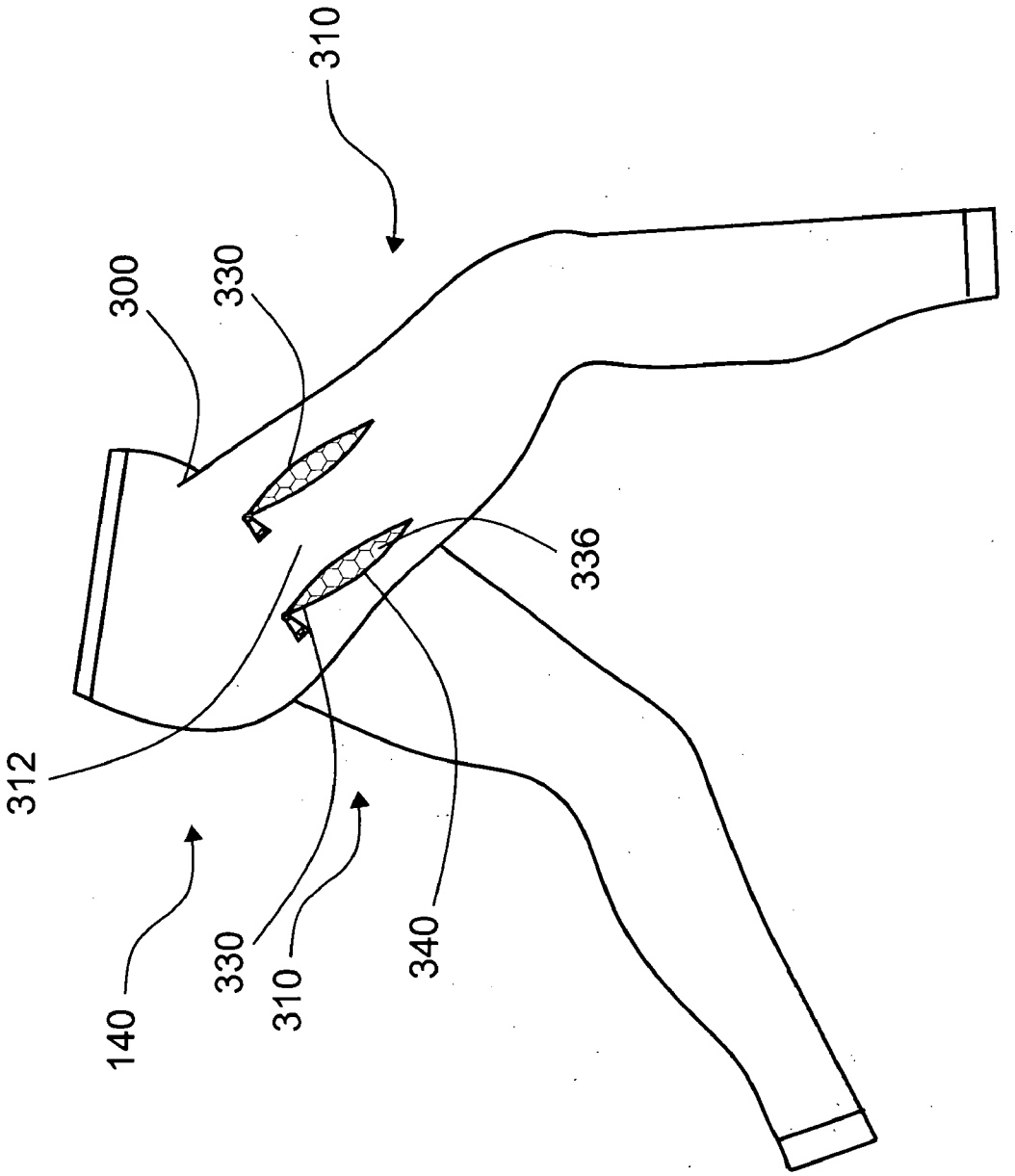


Figure 3

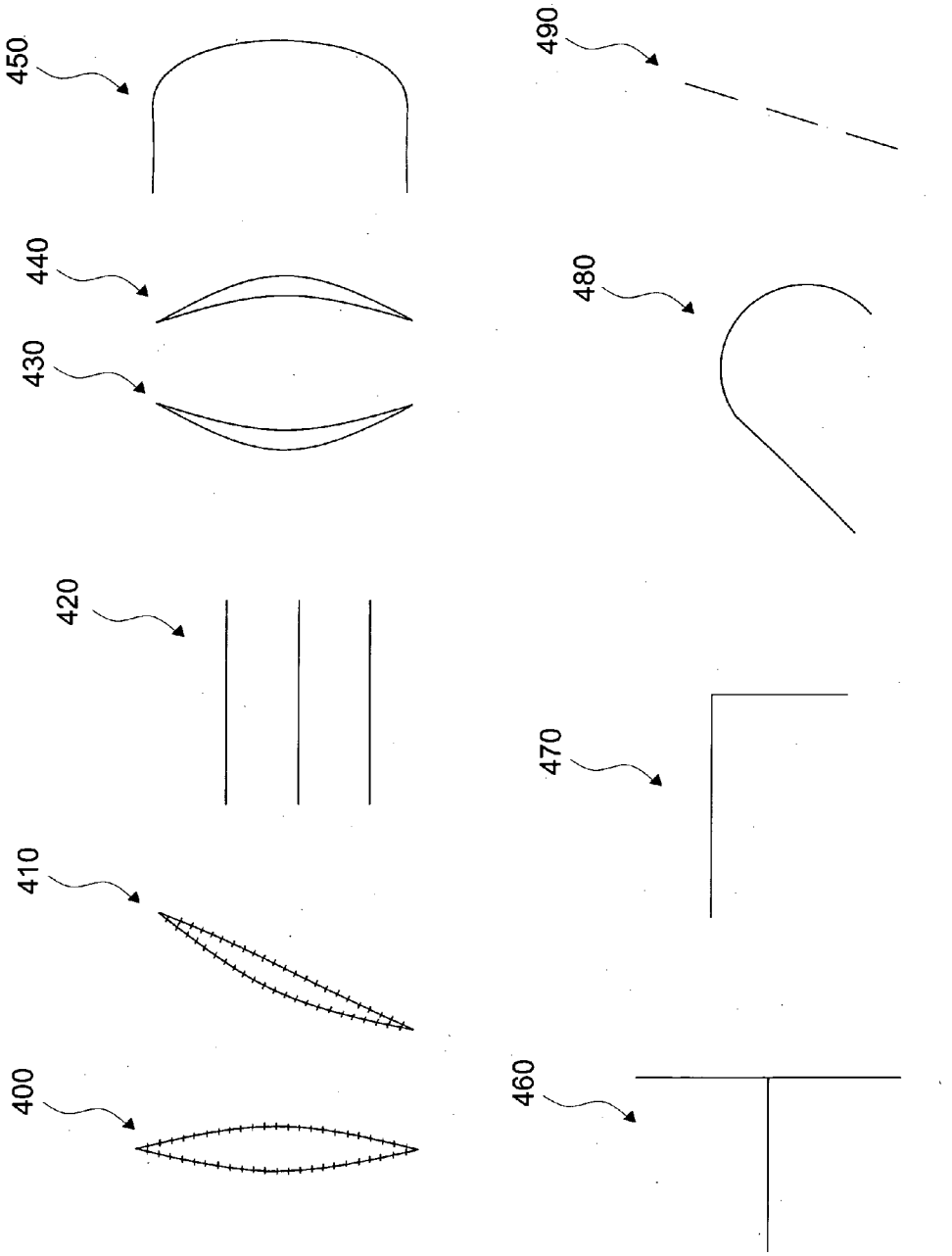


Figure 4

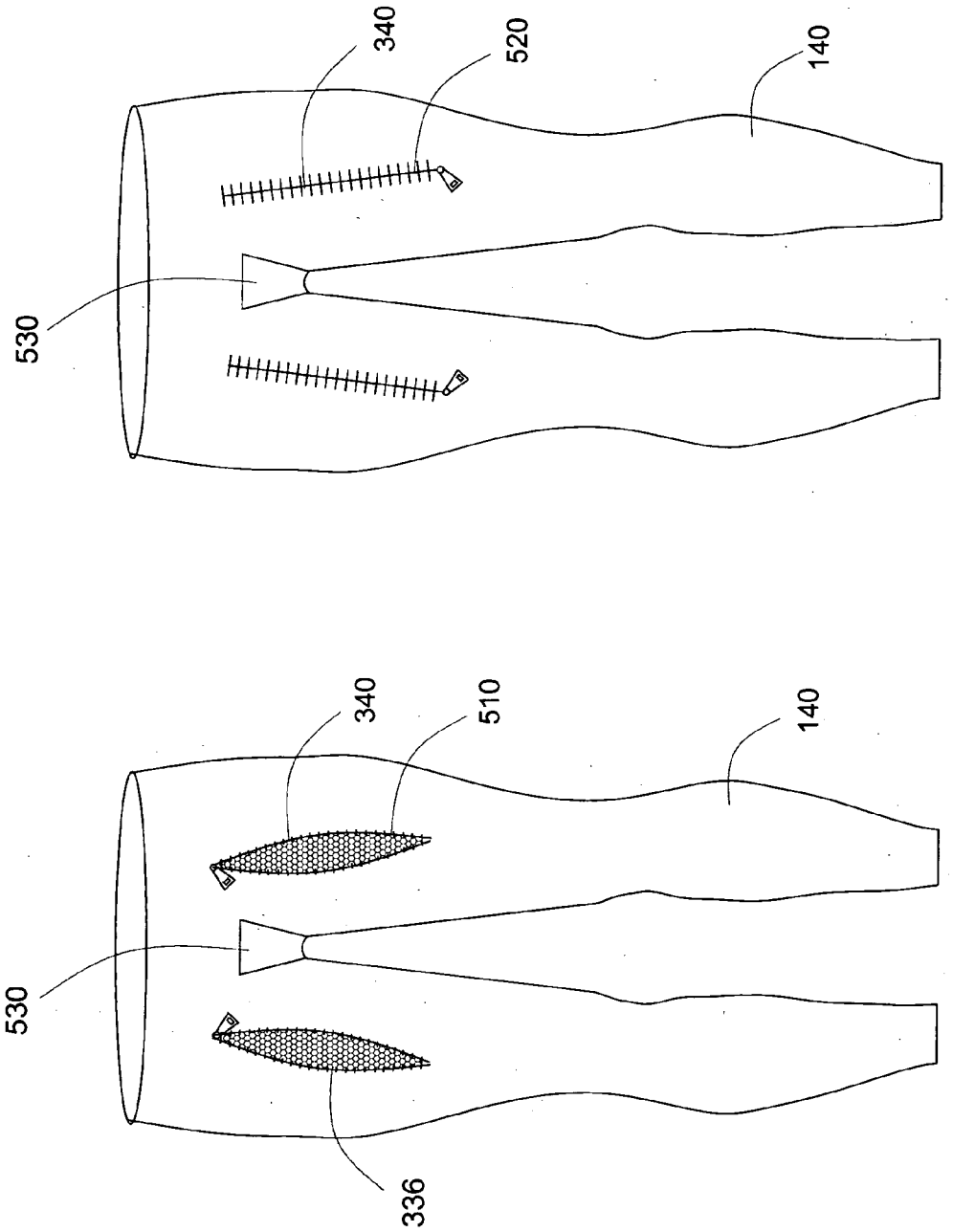


Figure 5

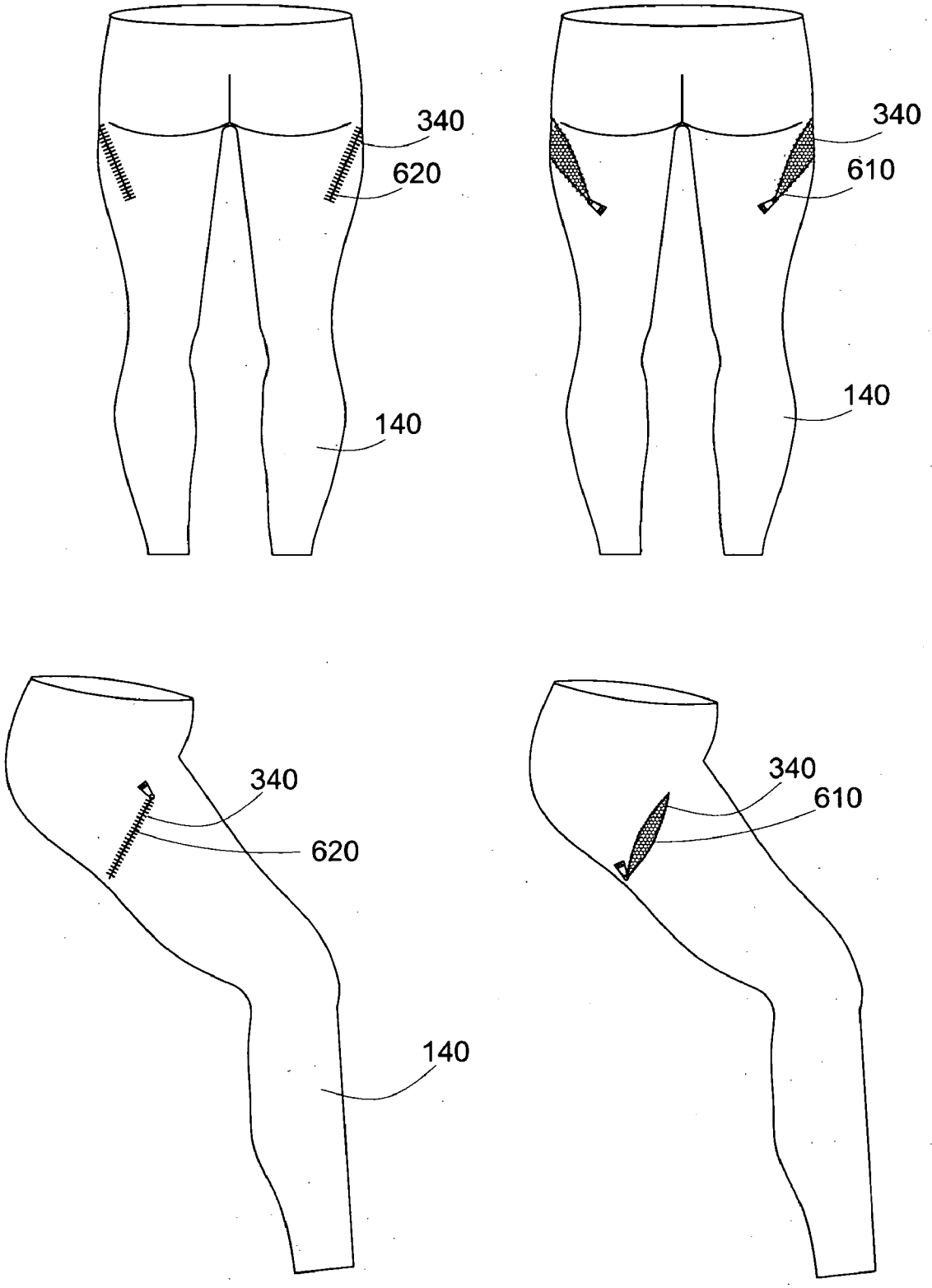


Figure 6

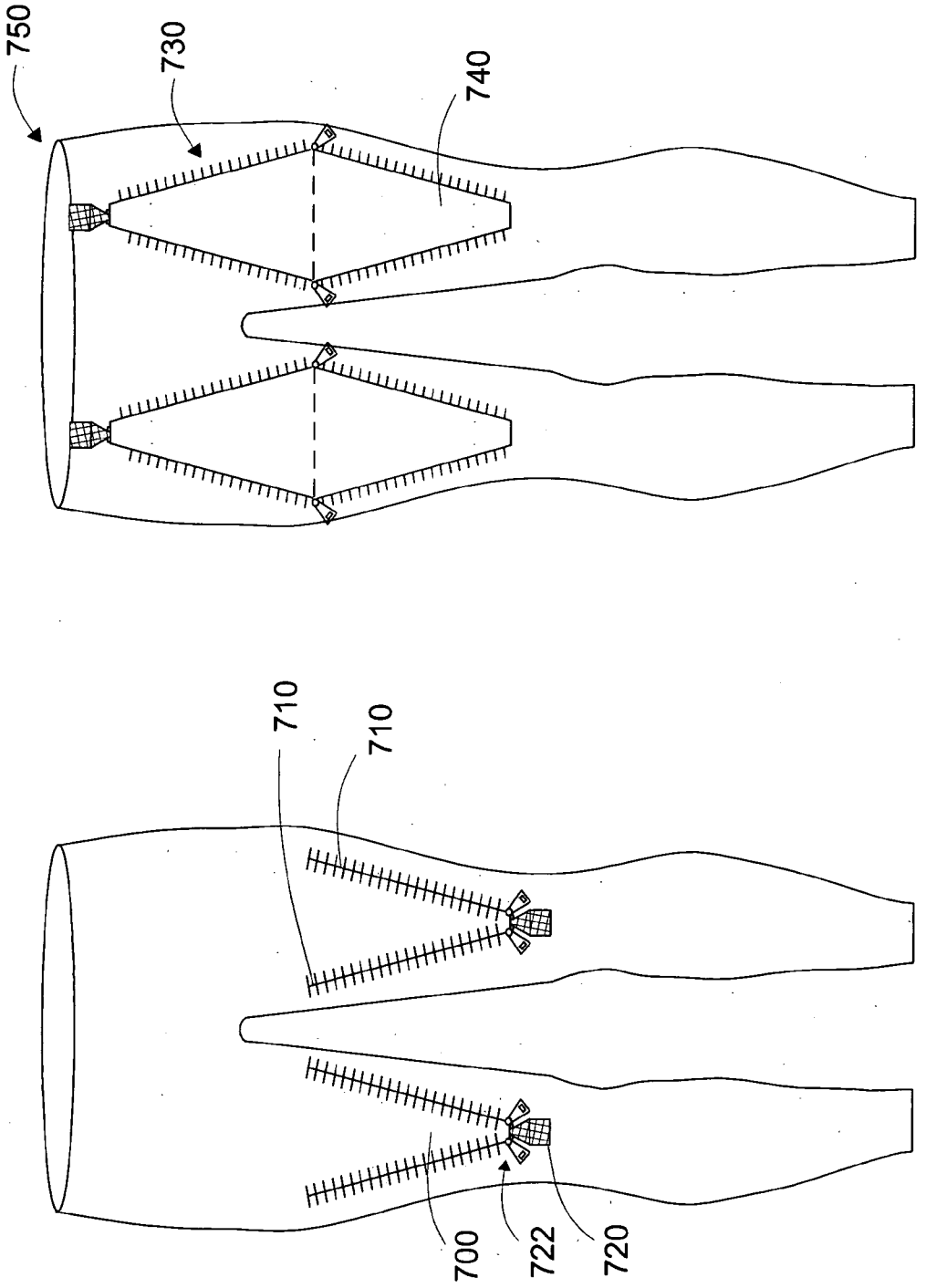


Figure 7

APERTURED CLOTHING

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to apertured clothing, specifically to clothing having selectably sealable apertures.

[0003] 2. Description of the Related Art

[0004] One function of clothing is to protect a wearer from exposure. However, a need to be protected from exposure may be variable, such as over different activities, or even different segments of a single activity. For example, a jogger may need full leg coverings when jogging in cold weather, especially at an initial portion of a jogging session. As a session continues, the exercise may generate additional body heat that may then offset the need for full leg covering. In fact, additional generation of body heat may cause discomfort and/or overheating, wherein the body is shielded from heat exchange with the outside air. However, it may be inconvenient, awkward, or inappropriate to remove and/or carry the leg coverings, despite what other clothing may be worn underneath and despite how easy it may be to remove the leg coverings.

[0005] Some clothing tries to solve this problem by having removable portions of the clothing. For example, there may be a removable lower leg portion, thereby permitting a user to configure a pair of pants to change to a pair of shorts. However, the removed portion remains an inconvenience, as it may be lost, is no longer carried by the legs and may be difficult to reattach. Also, while removing a lower leg portion may expose a substantial surface area, not all the area exposed is a source of heat, and may thereby be inefficiently and/or inappropriately cooled.

[0006] Other attempts include using breathable materials to enhance air flow through the clothing and cooling devices that may be worn under the clothing. However, these methods are typically unsatisfactorily expensive, un-adjustable, and/or cumbersome.

[0007] What is needed is a device and/or article of clothing configured to solve one or more of the problems herein described.

SUMMARY OF THE INVENTION

[0008] The present invention has been developed in response to the present state of the art, and in particular, in response to the problems and needs in the art that have not yet been fully solved by currently available clothing. Accordingly, the present invention has been developed to provide a device and/or article of clothing having a selectably sealable aperture.

[0009] In one embodiment, there are pants for covering at least a portion of a first and a second leg of a wearer. The pants may include a hip section, a first and a second upper leg section, and/or a first selectably sealable aperture. The hip section may be configured to cover a portion of a hip of a wearer. The first and a second upper leg sections may each be attached to the hip section and may each be configured to cover an upper portion of a first and a second upper leg of the wearer, respectively. The first selectably sealable aperture may be disposed on the first upper leg section.

[0010] The first selectably sealable aperture may include being disposed only on a region of the first upper leg section corresponding with a middle region of a thigh of the wearer. Also, the first selectably sealable aperture may include a plurality of sealing devices. There may be a sealing device. The sealing device may be configured to enable partial sealing of the aperture. The sealing device may be configured to enable partial sealing of the aperture wherein only an upper portion is sealed.

[0011] There may be a modesty layer that may be attached about the first selectably sealable aperture and may be configured to substantially restrict visual access through the first selectably sealable aperture. The modesty layer may be athletic mesh.

[0012] The first selectably sealable aperture may include a flap. There may be a second selectably sealable aperture disposed on the first upper leg section. The first selectably sealable aperture may include a substantially vertical slit. The first selectably sealable aperture may include a slit that may extend from about a front exterior of the first upper leg section to about a rear exterior of the first upper leg section. There may be a second selectably sealable aperture disposed on the second upper leg section. First and second selectably sealable apertures may each comprise being disposed on a front of the hip section.

[0013] There may be a crotch panel coupled to the hip section. The first selectably sealable aperture may include being disposed on a hamstring adjacent portion of the first upper leg section. The first selectably sealable aperture may include being disposed on a quadriceps adjacent portion of the first upper leg section. The first selectably sealable aperture may include being disposed on a hamstring adjacent portion of the first upper leg section.

[0014] In another embodiment, there may be an article of clothing for covering a portion of a human body. The article of clothing may include a flexible covering and a selectably sealable aperture. The selectably sealable aperture may include being disposed on the flexible covering. The selectably sealable aperture may include being disposed about a portion of the flexible covering intended to cover a region of muscle mass. The selectably sealable aperture may be a flap. There may be a modesty layer that may be attached about the selectably sealable aperture and may be configured to substantially restrict visual access through the selectably sealable aperture when the selectably sealable aperture is at least partially unsealed. The modesty layer may include athletic mesh.

[0015] Reference throughout this specification to features, advantages, or similar language does not imply that all of the features and advantages that may be realized with the present invention should be or are in any single embodiment of the invention. Rather, language referring to the features and advantages is understood to mean that a specific feature, advantage, or characteristic described in connection with an embodiment is included in at least one embodiment of the present invention. Thus, discussion of the features and advantages, and similar language, throughout this specification may, but do not necessarily, refer to the same embodiment.

[0016] Furthermore, the described features, advantages, and characteristics of the invention may be combined in any

suitable manner in one or more embodiments. One skilled in the relevant art will recognize that the invention can be practiced without one or more of the specific features or advantages of a particular embodiment. In other instances, additional features and advantages may be recognized in certain embodiments that may not be present in all embodiments of the invention.

[0017] These features and advantages of the present invention will become more fully apparent from the following description and appended claims, or may be learned by the practice of the invention as set forth hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] In order for the advantages of the invention to be readily understood, a more particular description of the invention briefly described above will be rendered by reference to specific embodiments that are illustrated in the appended drawings. Understanding that these drawings depict only embodiments of the invention and are not therefore to be considered to be limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings, in which:

[0019] FIG. **1** illustrates a side perspective view of a jogger wearing a pair of pants according to one embodiment of the invention;

[0020] FIG. **2** illustrates front and back views of musculature of a human leg;

[0021] FIG. **3** illustrates a perspective side view of a pair of pants according to one embodiment of the invention;

[0022] FIG. **4** illustrates a plurality of plan views of aperture shapes according to several embodiments of the invention;

[0023] FIG. **5** illustrates front perspective views of a pair of pants according to one embodiment of the invention;

[0024] FIG. **6** illustrates side and back perspective views of a pair of pants according to one embodiment of the invention; and

[0025] FIG. **7** illustrates front perspective views of a pair of pants according to one embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0026] For the purposes of promoting an understanding of the principles of the invention, reference will now be made to the exemplary embodiments illustrated in the drawings, and specific language will be used to describe the same. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended. Any alterations and further modifications of the inventive features illustrated herein, and any additional applications of the principles of the invention as illustrated herein, which would occur to one skilled in the relevant art and having possession of this disclosure, are to be considered within the scope of the invention.

[0027] Reference throughout this specification to "one embodiment,""an embodiment," or similar language means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases "one embodiment,""an embodiment," and similar language throughout this specification may, but do not necessarily, all refer to the same embodiment, different embodiments, or component parts of the same or different illustrated invention. Additionally, reference to the wording "an embodiment," or the like, for two or more features, elements, etc. does not mean that the features are related, dissimilar, the same, etc. The use of the term "an embodiment," or similar wording, is merely a convenient phrase to indicate optional features, which may or may not be part of the invention as claimed.

[0028] Each statement of an embodiment is to be considered independent of any other statement of an embodiment despite any use of similar or identical language characterizing each embodiment. Therefore, where one embodiment is identified as "another embodiment," the identified embodiment is independent of any other embodiments characterized by the language "another embodiment." The independent embodiments are considered to be able to be combined in whole or in part one with another as the claims and/or art may direct, either directly or indirectly, implicitly or explicitly.

[0029] Finally, the fact that the wording "an embodiment," or the like, does not appear at the beginning of every sentence in the specification, such as is the practice of some practitioners, is merely a convenience for the reader's clarity. However, it is the intention of this application to incorporate by reference the phrasing "an embodiment," and the like, at the beginning of every sentence herein where logically possible and appropriate.

[0030] FIG. **1** illustrates a side perspective view of a jogger **100** wearing a pair of pants according to one embodiment of the invention. A jogger **100** may wear a variety of clothing configured to provide comfort, security, modesty, and/or protection from the elements. In particular, the jogger **100** may wear pants **140** that may cover a portion of the legs **160** of the jogger **100**. The pants **140** may cover upper portions **180** of the legs, or thighs **180** and/or lower portions **190** of the legs, or calves **190** of the jogger **100**. The pants **140** may cover front **152**, rear **154**, exterior **156**, and interior **158** surfaces of a leg **160** of the jogger **100**, wherein interior **158** surfaces of pairs of legs **160** are adjacent and generally facing on another.

[0031] In a cross-sectional description of a leg **160** at a cross-section substantially perpendicular to a length of the leg **160**, the front **152** may correspond to a location that may be described as being positioned at about a zero degree angle. The rear **154** may be described as being positioned at about a 180 degree angle. The exterior **156** and interior **158** surfaces may be described as being at about a 270 and about a 90 degree angle respectively. Therefore a generally exterior range of angle may be described using degree numbers about the number 270, despite whether the leg is a left or right leg.

[0032] There is shown an aperture **130** through the pair of pants. The aperture is generally through an exterior surface **156** of the pants. The aperture **130** may be sealable and/or selectably sealable (such as by use of a zipper). The aperture **130** may be used by a jogger **100** to expose a portion of a leg to the elements, thereby enhancing heat exchange from the leg to an environment outside of the pants.

[0033] FIG. **2** illustrates front and back views of musculature of a typical human leg **160**. There are shown quadriceps **200** being generally at the upper **180** front **152** of the leg **160**. Quadriceps **200** may include, but are not limited to, muscle(s) and/or muscle groups known as Vastus Medialus **204**, Rectus Fomoris **206**, and/or Vastus Lateralis **208**. There is illustrated the Vastus Medialus muscle or muscle group **204**, being generally front **152** and internal **158** on the thigh **180**. There is illustrated the Rectus Femoris muscle or muscle group **206**, being generally positioned at the front **152** of the thigh **180**. There is illustrated the Vastus Lateralis muscle or muscle group **208**, being generally front **152** and external **156** on the thigh **180**. The muscles are generally bound to bone by tendons extending from each end of each muscle.

[0034] There are shown hamstrings **220** being generally at the upper **180** rear **154** of the leg **160**. Hamstrings **220** may include, but are not limited to, muscle(s) and/or muscle groups known as Semitendinosus **223**, Semimembranosus **225**, Biceps Femoris **227**. There is illustrated the Semitendinosus muscle or muscle group **223**, being generally rear **154** and internal **158** on the thigh **180**. There is illustrated the Semimembranosus muscle or muscle group **225**, being generally rear **154** on the thigh **180**. There is illustrated the Biceps Femoris muscle or muscle group **227**, being generally rear **154** and external **156** on the thigh **180**. The muscles are generally bound to bone by one or more tendons **240** extending from an end of each muscle.

[0035] During exercise, particularly during exercise such as jogging, wherein the legs **160** are used vigorously and/or repeatedly, heat may be generated by the quadriceps **200** and/or the hamstring **220** muscles. Therefore, a middle region **250** of a limb member, such as a middle region **250** of a thigh **180** may be a significant heat source and may contribute to overheating of one or more portions of a jogger **100**. A middle region **250** of a limb is defined as a continuous substantially cylindrical region including at least about 50% of the muscle mass of the limb. In particular, a middle region **250** of a limb does not include a substantial amount of tendon material of the primary muscles of the limb.

[0036] Tendons **240** are not comparatively significant generators of heat. Further, tendons **240** may be more resistant to damage when properly heated, and therefore it may be advantageous to maintain a cover over a portion of a limb including one or more tendons **240**. Also, an end portion of a limb segment, such as a knee **260**, being primarily tendon and bone, may generate significantly less heat than the middle region **250** of a limb segment that may include substantial muscle mass. Therefore, in one embodiment, a knee **260** may remain substantially covered by an article of clothing including a selectably sealable aperture that may expose a portion of a thigh **180**.

[0037] Turning to FIG. **3** there is illustrated a perspective side view of pants **140** according to one embodiment of the invention. There may be a hip section **300** that may be a loop of material configured to encircle, enclose, encase, envelope, and/or otherwise cover a portion of a hip of a wearer. Generally, the hip section **300** includes one or more devices, materials, and/or structures that may be configured to removably couple the hip section to the waist of a wearer, thereby enabling the pants to remain coupled to the wearer, even during, for example, vigorous exercise such as running. For example, but not by way of limitation, there may be a cord, elastic member, snap, zipper, clasp, button, and/or any other coupling device configured to attach the pants **140** to a wearer.

[0038] There may be one or more portions of material that may be configured to cover one or more portions of a leg of the wearer. There may be one or more tubular members **310**, preferably of a flexible material such as cloth or elastic fabric that may be coupled to the hip section **300**. Each of the first and second legs of the wearer may be covered by one or more tubular members **310**. The material may be a flexible material, such as but not limited to woven natural materials and/or polymers. There may be a plurality of materials and or layers of materials. There may be one or more upper leg sections **312** that may correspond to a thigh **180** area when worn.

[0039] One or more members or portions of the pants **140** may be continuous and/or contiguous with one or more other portions or members of the pants **140**. For example, but not by way of limitation, the pants **140** may comprise a single seamless flexible cloth-like material that may be formed into a hip section **300** and a pair of tubular leg sections **310**. The pants **140** may be tight and form fitting as with pantyhose. The pants **140** may be loose form fitting, as with jogging sweats. The pants **140** may be baggy.

[0040] The pants **140** may be of any type, configuration, and/or style known in the art. As used in this application, the term "pants" includes all manner of tubular leg coverings covering a portion of a hip and a leg of a wearer, including covering a portion of an interior of the thigh of the wearer. Therefore, the term "pants" as used in this application includes shorts, but does not include a skirt or kilt. The pants **140** may of varying fits known in the art. The pants **140** may be multi-layered or single layered. The pants **140** may be symmetrical or asymmetrical about an axis, in particular about an axis of symmetry of a human body. The pants **140** may be exercise pants, dress pants, jean style pants, ballet tights, etc.. The pants **140** may include any combination of traits, styles, structures, and/or materials described herein.

[0041] There may be an aperture **330** included in an embodiment. An aperture **330** may extend through one or more portions and/or layers of the pants **140**. An aperture **330** may be configured to enable gaseous fluid communication to and/or across the skin of the wearer and/or between the skin of the wearer and gases external the pants, such as outside air. An aperture **330** may be a generally linear slit. The generally linear slit may be at a slit angle relative to a line defined by the length of the pants **140**. The slit angle may be about 0 degrees, or in other words, the generally linear slit may be disposed vertically on the pants **140**. The slit angle may be any angle. In particular, the slit angle may be about 90 degrees, wherein the generally linear slit would be generally horizontal. The slit angle may be from about 20 degrees to about 70 degrees or from about 290 to about 340 degrees, wherein the generally linear slit may extend from a front or exterior of a thigh region to an exterior or rear thigh region. During use, a generally linear slit will flex and open differently based on the slit angle. Further, wherein a slit angle is substantially diagonal, ease of use in sealing and unsealing the slit is typically increased.

[0042] There may be a pair of apertures **330** that may be configured to enable gaseous fluid communication to and/or

across the skin of the wearer and/or between the skin of the wearer and gases external the pants, such as outside air. The pair of apertures **330** may be each on a different tubular member **310** or may be each on the same tubular member **310**. The pair of apertures **330** may be to either side or both sides of a groin area, thereby enabling cooling of the upper thigh and groin area.

[**0043**] An aperture **330** may be sealable. An aperture **330** may be selectably sealable **340**. An aperture **330** may include one or more sealing devices, selectably sealing devices, and/or coupling devices **340** such as zippers, snaps, buttons, hook and loop portions, sliding and/or spinning obstructions, and/or any other coupling devices known in the art. Plastic zippers are preferred, as metal zippers tend to be very good conductors of heat and hook and loop devices tend to accumulate lint when washed. Actuation of a coupling device **340** may seal the aperture **330**, thereby substantially restricting gaseous fluid communication to the skin of the wearer. A sealing device may enable partial sealing **342** of an aperture **330**, such as when a zipper is partially closed or when a series of buttons include some buttons coupled and some buttons uncoupled.

[**0044**] Substantial restriction of gaseous fluid communication may or may not require an airtight seal. A sealed aperture **330** substantially restricts gaseous fluid communication wherein a wearer would experience substantially similar, or less, heat exchange by means of convective heat transfer from the portion of the wearer's body most closely associated with the aperture **330** to air through the sealed aperture **330** as if the aperture did not exist in the article of clothing. This definition applies equally to partially sealed apertures **330**, wherein a partially sealed aperture **330** may be considered as a continuous series of smaller apertures **330**.

[**0045**] There may be a plurality of apertures **330** that may be each positioned about a front, back, interior, and/or exterior of a tubular covering member **310** that may be configured to cover a leg of a wearer. The plurality of apertures **330** may be a pair of apertures **330** positioned about a front/exterior and a back/exterior of the tubular covering member **310**. An aperture **330** may extend from about a position on the pants **140** adjacent when worn where a quadriceps muscle **200** may connect to a tendon **240** to about a lower portion of a hip of a wearer. An aperture **330** may extend any length along a tubular covering member **310**. An aperture **330** may extend from about a position on the pants **140** adjacent when worn where a hamstring **220** muscle may connect to a tendon **240** to about a lower portion of a hip of a wearer.

[**0046**] In operation, a wearer or user may wear the pants **140** of an embodiment of the invention. In one example, the wearer may wear the pants **140** while exercising. At an initial portion of time of an exercise session, air external the wearer may be cold, a portion of the wearer's body may not be a sufficient source of heat to maintain a comfortable and/or safe temperature if exposed to convective heat exchange with the cold air, and the pants **140** may protect the wearer from the cold air. Any aperture(s) **330** present in the embodiment may be sealed or may be partially sealed, thereby not interfering, or only appropriately interfering, with the protection of the wearer from cold air external the pants **140**.

[**0047**] During a subsequent portion of time during the exercise session, the muscles of the wearer may generate significant heat, particularly in the thighs **180**. Heat generation may be from a single burst of activity, and/or may be continuous heat generation from an extended exertion, such as long distance running. Therefore, a wearer may need to exchange away an amount of heat and/or may need to have a substantially continuous rate of heat exchange. Gaseous fluid communication through the pants **140** may act to exchange heat from the muscles of the legs, in particular from the thigh muscles such as the quadriceps **200** and/or the hamstring **220** muscles of the leg. The wearer may selectably unseal one or more apertures **330** included in the pants, thereby permitting gaseous fluid communication through the pants **140**. Once unsealed, an aperture **330** may permit and/or enable gaseous fluid communication between a layer of material that may be a layer of clothing positioned under the pants **140**, may be a layer of the pants **140**, and/or may be the skin of the wearer.

[**0048**] A layer of the pants **140** that may be exposed upon unsealing an aperture **330** may include a modesty layer **336** such as an athletic mesh layer that may be configured to permit gaseous fluid flow but substantially block light, thereby enabling heat exchange with an increased level of modesty for the wearer. Preferably, the athletic mesh is attached to the pants **140**. The athletic mesh may be of any color and may be of any material, preferably a flexible material including a plurality of holes. The athletic mesh may serve as a pocket.

[**0049**] Wherein a plurality of apertures **330**, each included about a single leg **160**, may be unsealed there may additionally be enabled gaseous fluid communication internal the pants **140** between one aperture **330** and another **330**. For example, air may flow into one aperture **330**, traverse the skin of the wearer under the pants **140**, and flow out of a second aperture **330**. This generally enhances heat exchange between the wearer and the air.

[**0050**] Looking now to FIG. **4**, there is illustrated a plurality of plan views of aperture configurations according to several embodiments of the invention. There may be an aperture **330** (see FIG. **3**) including a generally linear discontinuity extending vertically through a layer of material of the pants as shown in **400**. The aperture **330** may include a zipper attached along the discontinuity, thereby permitting selectable sealing of the discontinuity. The generally linear discontinuity may be angled at any angle, such as but not limited to the angle displayed in **410**.

[**0051**] There may be a plurality of discontinuities, such as shown in **420** and **490**. The plurality of discontinuities **420** and/or **490** may be substantially parallel and/or perpendicular to one another and may be positioned adjacently to one another. A discontinuity may include one or more curved or arced portions as in **430**, **440**, **450**, and **480**. A curved discontinuity may be angled at any angle such as in **430** and **440** wherein **440** is radially positioned at about 180 degrees of difference as compared to **430**. There may be zero or more curved portions and zero or more substantially linear portions included in a discontinuity. For example, as shown in **450**, there may be a pair of substantially parallel portions connected by a curved portion. In another example, there may be a pair of substantially perpendicular linear discontinuities that may intersect or may be adjacent as shown at **460** and **470**.

[0052] There may be a strongly curved portion as in **480**. The discontinuity may form a flap or tab when the discontinuity is not sealed as in **450**, **460**, **470**, and **480**. There may be a coupling device such as a hook and loop structure that may be configured to secure the flap in an open position. A flap may be configured to provide substantially greater exposure than a slit. A flap may be held open at any position, for example, a flap may open upwards towards the waist of the wearer. In another example, the flap may open to fold to an exterior portion of the thigh **180**.

[0053] In one embodiment there may be a selectable sealer **340** (see FIG. **3**), such as a zipper, hook and loop couple, snap, button, etc., that may be configured to selectably seal a discontinuity. In one embodiment, there may be a zipper and/or selectably sealer **340** that may have a density comparable to the pants **140**, thereby not adding substantial weight and/or substantial variation in portional weight in the pants **140**. The selectable sealer **340** may have a density that may be differ from a density of the pants **140** by no more than about 10% or about 50% or about 100%.

[0054] There may be a zipper and/or selectable sealer **340** that may have a profile sufficiently small as to not significantly protrude from the surface of the pants **140**. There may be a selectable sealer **340** that may have a maximum protrusion from the surface of the pants **140** when worn of no greater than about 10% or about 50% or about 100%. There may be a locking and/or latching selectable sealer **340**. A selectable sealer **340** may be water-proof and/or water resistant, thereby restricting liquid fluid communication of water through a surface of the pants **140**. There may be a selectable sealer **340** that may have an adjustable sealing mechanism configured to seal only a selected portion of a discontinuity, thereby enabling a selection of aperture size.

[0055] The selectable sealer **340** may be configured to seal from top to bottom, or from bottom to top, or any combination thereof, including wherein the selectable sealer may simultaneously seal and/or unseal an entire aperture **330**, such as with a single snap in a central portion of an aperture **330**. Wherein an aperture **330** may be sealed from top to bottom, a wearer may be permitted to select a level of exposure, thereby permitting a user to selectably partially unseal the aperture **330** without exposing a portion of the aperture **330** closest to the groin, which may be inappropriate or undesired as immodest.

[0056] Next, reviewing FIG. **5**, there are illustrated front perspective views of a pair of pants **140** according to one embodiment of the invention. There may be a selectable sealer **340** positioned on a front surface of a tubular member of pants **140**. The selectable sealer **340** may have a first end positioned on a front surface, or in other words positioned at about a zero degree radial position about a cross-section of the tubular member. The selectable sealer **340** may have a second end that may be vertically lower than the first end and that may be positioned on a front surface, or in other words positioned at about a zero degree radial position about a cross-section of the tubular member. The selectable sealer **340** may include a discontinuity that may extend generally linearly from the first end to the second end.

[0057] The selectable sealer **340** may be positioned to selectably expose a portion of a leg of a wearer in a general area most closely corresponding with a Rectus Femoris **206** of a wearer, thereby enabling enhanced heat exchange of a Rectus Femoris **206** with air. The selectable sealer **340** is shown in fully open **510** and fully sealed **520** modes. The pants **140** may include one or more crotch panels **530** that may be a strip of material that may be a parallelogram configured to enable the pants **140** to be made without a seam in the crotch area.

[0058] Finally, looking to FIG. **6**, there are illustrated side and back perspective views of a pair of pants **140** according to one embodiment of the invention. There may be a selectable sealer **340** positioned on an exterior surface of a tubular member of pants **140**. The selectable sealer **340** may have a first end positioned on an exterior surface, or in other words positioned at about a 270 degree radial position about a cross-section of the tubular member. The selectable sealer **340** may have a second end that may be vertically lower than the first end and that may be positioned on a exterior/rear surface, or in other words positioned at about a 225 degree radial position about a cross-section of the tubular member. The selectable sealer **340** may include a discontinuity that may extend generally linearly from the first end to the second end.

[0059] The selectable sealer may be positioned to selectably expose a portion of a leg of a wearer in a general area most closely corresponding with muscles such as Vastus Lateralis **208** and/or Biceps Femoris **227** of a wearer, thereby enabling enhanced heat exchange of a Vastus Lateralis **208** and/or Biceps Femoris **227** with air. The selectable sealer is shown in fully open **610** and fully sealed **620** modes.

[0060] The selectable sealer **340** may be positioned and angled to selectable expose any combination of muscle areas. Preferably, the selectable sealer **340** will extend only to areas including large muscle masses, thereby enhancing heat exchange to muscles with a minimum exposure. For example, a selectable sealer **340** may extend only so far towards a knee as there may be a large quantity of muscle mass.

[0061] Turning to FIG. **7**, there is shown a non-limiting example of a plurality of sealing devices and slits in conjunction. There is shown pair of pants according to one embodiment of the invention. There is shown selectable sealer **340** that is a flap **700** flanked by a pair of zippers **710** and having a securing tab **720** at a lower end **722** thereof. The flap **700** may be positioned such that when the flap **700** is unzipped and secured by the securing tab **720** in an open position **730** there is an aperture **740** situated about a muscle mass, such as the quadriceps as illustrated. The zippers **710** preferably converge to a securing tab **720** as shown (forming a substantially V-shaped flap) or run substantially parallel, thereby forming a substantially rectangular flap. The securing tab **720** is preferably a hook and loop device and/or a snap.

[0062] In operation, a user may unzip one or more zippers **710** and/or release a securing tab **720** from a lower secured position. Then, a user may raise the flap **700** thereby formed, preferably raised near to a waist area **750** of the user and subsequently attached thereto. Thereby a substantial aperture may be created whereby a user may experience substantial heat transfer from a large muscle mass to the outside air.

[0063] While the flap **700** is shown disposed at a substantially zero degree radial position about a circumference of

the leg of the pants, it is envisioned that the flap **700** may be disposed at any radial angle about the circumference of the leg of the pants. Further, the flap **700** may itself be angled relative to the longitudinal axis of the leg of the pants. Also, it is envisioned that there may be a plurality of flaps **700** disposed about a leg of a pair of pants. Still further, it is envisioned that there may be a layer of mesh disposed under the flap **700**, such that when the flap **700** is raised, the layer of mesh inhibits visual access through the pants and/or substantially allows air transfer between the outside air and a layer under the mesh, wherein such a layer is preferably a layer of skin of the wearer when in use.

[**0064**] It is understood that the above-described preferred embodiments are only illustrative of the application of the principles of the present invention. The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiment is to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claim rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

[**0065**] For example, although there is substantial disclosure relating to jogging and/or jogging clothes, an embodiment may be focused about any or no type of exercise and about any form of clothing. For example, and not by way of limitation, there may be an embodiment of the invention that may include a jacket, shoes, or a hat that may include one or more apertures that may have one or more of the features, structures, purposes, and/or functions herein described. In another example, and not by way of limitation, there may be an embodiment configured and or designed to be used with weight lifting, horse racing, martial arts, cycling, aerobics, and/or any other sport and/or exercise known in the art.

[**0066**] Additionally, although the figures illustrate particular shapes of apertures and/or aperture configurations, it is envisioned that the variety of aperture shapes, placements, and configurations included in the invention is innumerable and plethoric.

[**0067**] It is also envisioned that layers not herein described may be included. For example, there may be a layer that is not athletic mesh that may be exposed when an aperture may be unsealed. Such a layer may be a thick or thin material and may resist heat transfer weakly or strongly. Such a layer may substantially block light or may be substantially transparent. Such a layer may be of any color and/or of any material.

[**0068**] It is expected that there could be numerous variations of the design of this invention. An example is that an aperture may be disguised, covered, or hidden. In another example, there may be stiff supports at one or more of the ends of the aperture that may be configured to flare an aperture open when the aperture may be unsealed.

[**0069**] Finally, it is envisioned that the components of the device may be constructed of a variety of materials. An embodiment may include natural fibers, synthetic fibers, polymers, coatings, woven materials, metal, ceramic, plastic, resin, liquids, gels, and any combination thereof.

[**0070**] Thus, while the present invention has been fully described above with particularity and detail in connection with what is presently deemed to be the most practical and preferred embodiment of the invention, it will be apparent to those of ordinary skill in the art that numerous modifications, including, but not limited to, variations in size, materials, shape, form, function and manner of operation, assembly and use may be made, without departing from the principles and concepts of the invention as set forth in the claims.

What is claimed is:

1. Pants for covering at least a portion of a first and a second leg of a wearer, comprising:

a hip section configured to cover a portion of a hip of a wearer;

a first and a second upper leg section, each attached to the hip section and configured to cover an upper portion of a first and a second upper leg of the wearer, respectively; and

a first selectably sealable aperture disposed on the first upper leg section.

2. The pants of claim 1, wherein the first selectably sealable aperture comprises being disposed substantially completely on a region of the first upper leg section corresponding with a middle region of a thigh of the wearer.

3. The pants of claim 1, wherein the first selectably sealable aperture comprises a sealing device configured to enable partial sealing of the first selectably sealable aperture wherein only an upper portion of the first selectably sealable aperture is sealed.

4. The pants of claim 1, further comprising a modesty layer attached about the first selectably sealable aperture and configured to substantially restrict visual access through the first selectably sealable aperture.

5. The pants of claim 4, wherein the modesty layer comprises athletic mesh.

6. The pants of claim 1, wherein the first selectably sealable aperture comprises a flap.

7. The pants of claim 1, further comprising a second selectably sealable aperture disposed on the first upper leg section.

8. The pants of claim 1, wherein the first selectably sealable aperture comprises a substantially vertical slit.

9. The pants of claim 1, wherein the first selectably sealable aperture comprises a slit extending from about a front exterior of the first upper leg section to about a rear exterior of the first upper leg section.

10. The pants of claim 1, further comprising a second selectably sealable aperture disposed on the second upper leg section.

11. The pants of claim 10, wherein the first and second selectably sealable apertures each comprise being disposed on a front of the hip section.

12. The pants of claim 1, further comprising a crotch panel coupled to the hip section.

13. The pants of claim 1, wherein the first selectably sealable aperture comprises being disposed on a hamstring adjacent portion of the first upper leg section.

14. The pants of claim 1, wherein the first selectably sealable aperture comprises being disposed on a quadriceps adjacent portion of the first upper leg section.

15. The pants of claim 14, wherein the first selectably sealable aperture comprises being disposed on a hamstring adjacent portion of the first upper leg section.

16. An article of clothing for covering a portion of a human body, comprising:

a flexible covering; and

a selectably sealable aperture disposed on the flexible covering, wherein the selectably sealable aperture is disposed about a portion of the flexible covering intended to cover a region of muscle mass.

17. The article of clothing of claim 16, wherein the selectably sealable aperture comprises a flap.

18. The article of clothing of claim 16, further comprising a modesty layer attached about the selectably sealable aperture and configured to substantially restrict visual access through the selectably sealable aperture when the selectably sealable aperture is at least partially unsealed.

19. The article of clothing of claim 16, wherein the modesty layer comprises athletic mesh.

20. Pants for covering at least a portion of a first and a second leg of a wearer, comprising:

a hip section configured to cover a portion of a hip of a wearer;

a first and a second upper leg section, each attached to the hip section and configured to cover an upper portion of a first and a second upper leg of the wearer, respectively;

a first selectably sealable aperture disposed only on a region of the first upper leg section corresponding with a middle region of a thigh of the wearer, wherein the first selectably sealable aperture comprises a sealing device configured to enable partial sealing of the first selectably sealable aperture wherein only an upper portion of the first selectably sealable aperture is sealed; and

a modesty layer attached about the first selectably sealable aperture and configured to substantially restrict visual access through the first selectably sealable aperture.

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