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(54) **HOOD**

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A41D 31/06 (2019.01)

(52) **U.S. Cl.**
CPC **A41D 31/06** (2019.02); **A41D 2200/20**
(2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

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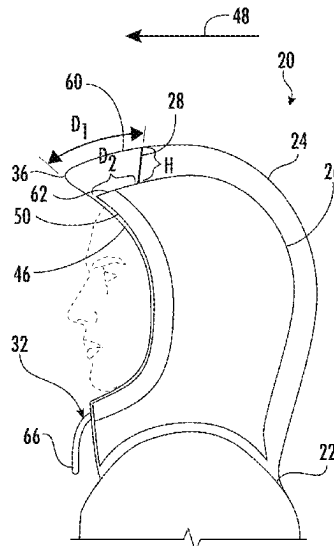
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(57) **ABSTRACT**

A hooded garment may include a body portion having a neck
opening, an outer hood projecting from the neck opening
and having an outer face opening, and an inner hood
projecting from the neck opening within the outer hood. The
inner hood has an inner face opening facing in a forward
direction. A lead is located rearward the inner face opening
and extends from an exterior of the inner hood to an interior
of the outer hood. A constrictor is connected to the inner
hood to constrict the inner face opening without constricting
the outer face opening.

21 Claims, 16 Drawing Sheets



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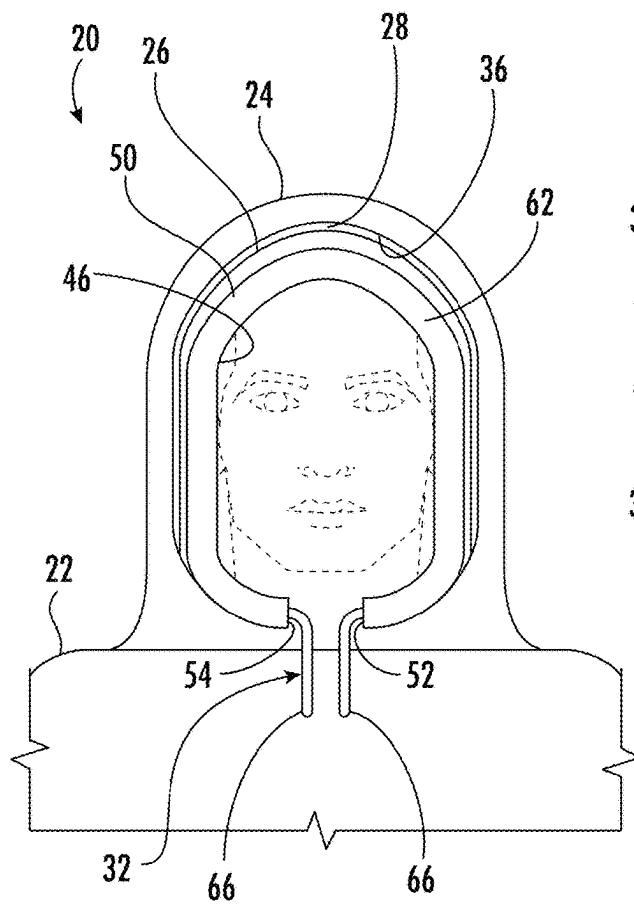


FIG. 1

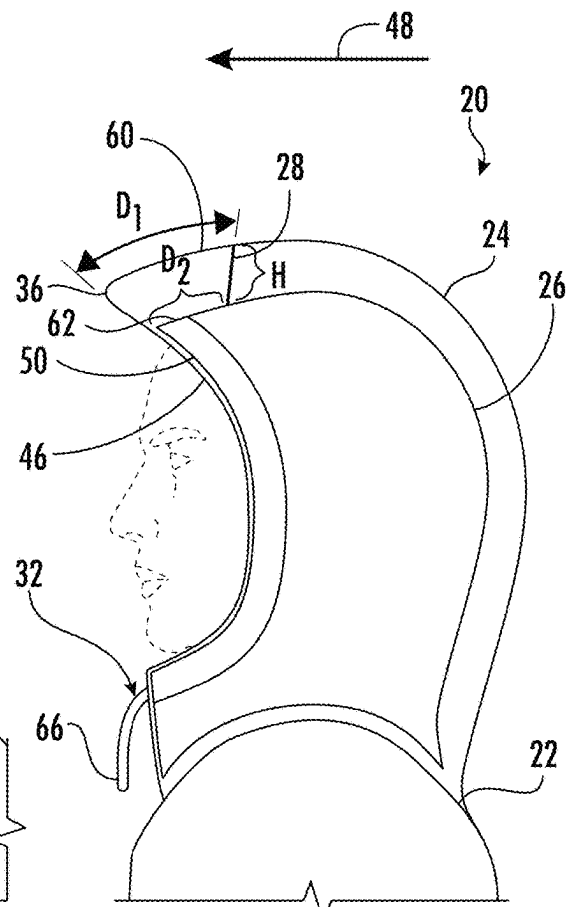
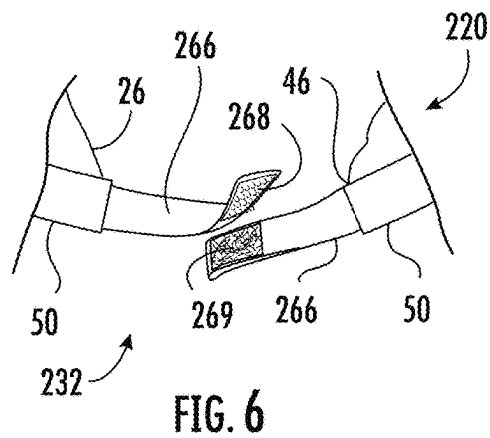
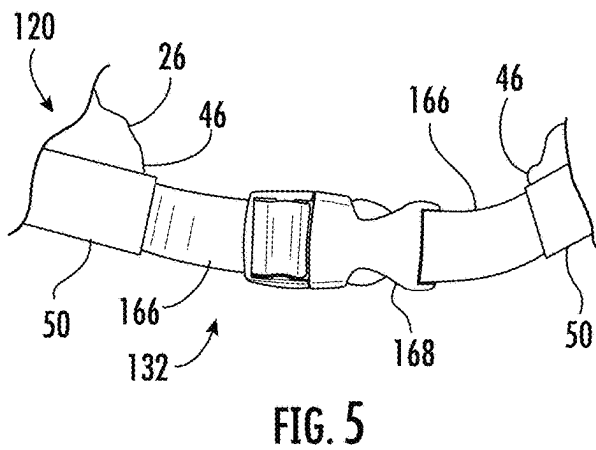
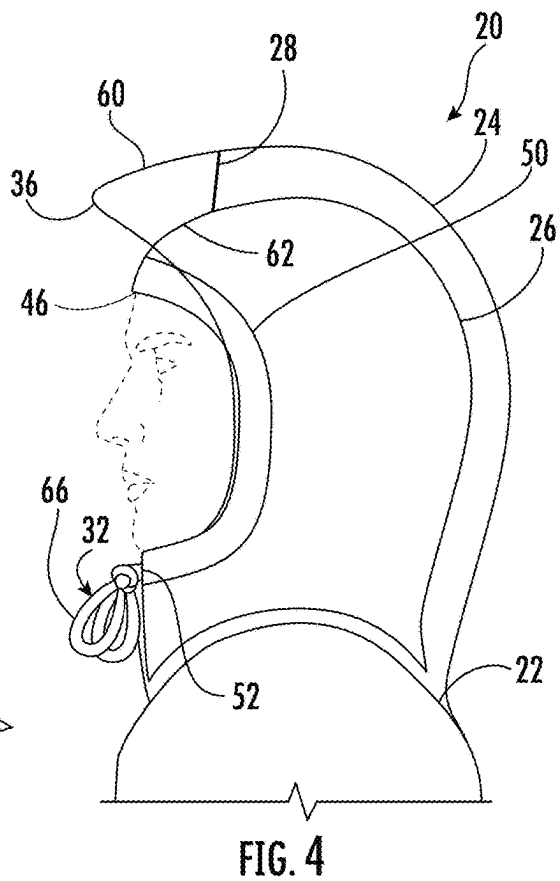
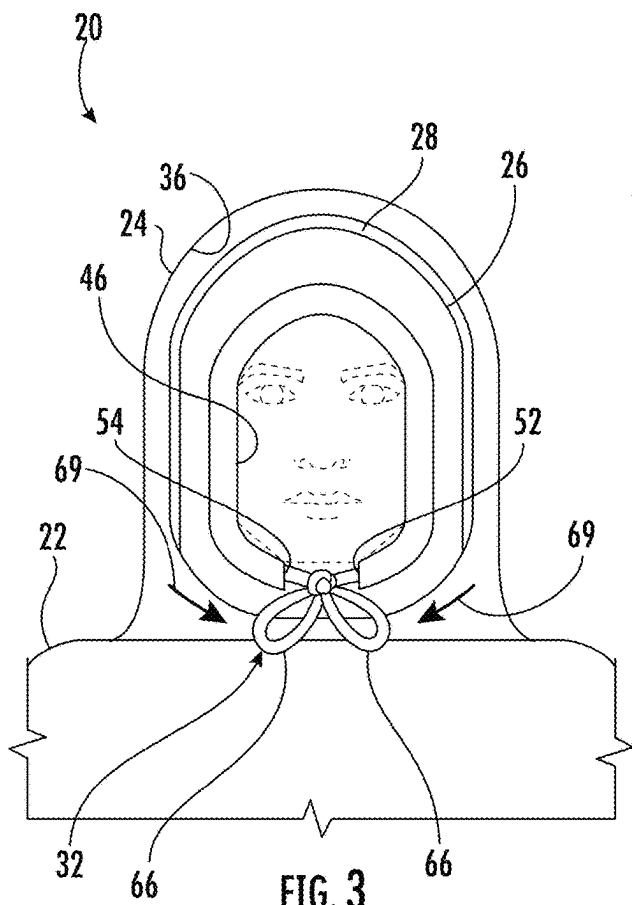
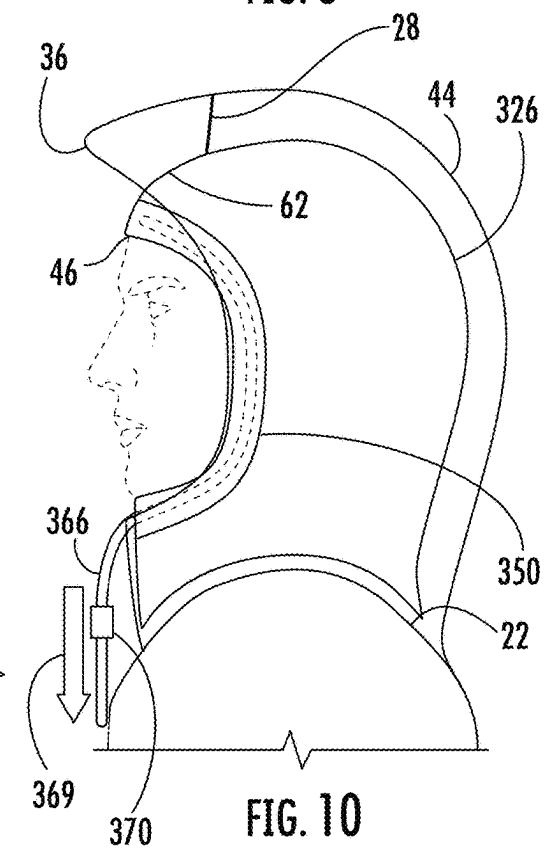
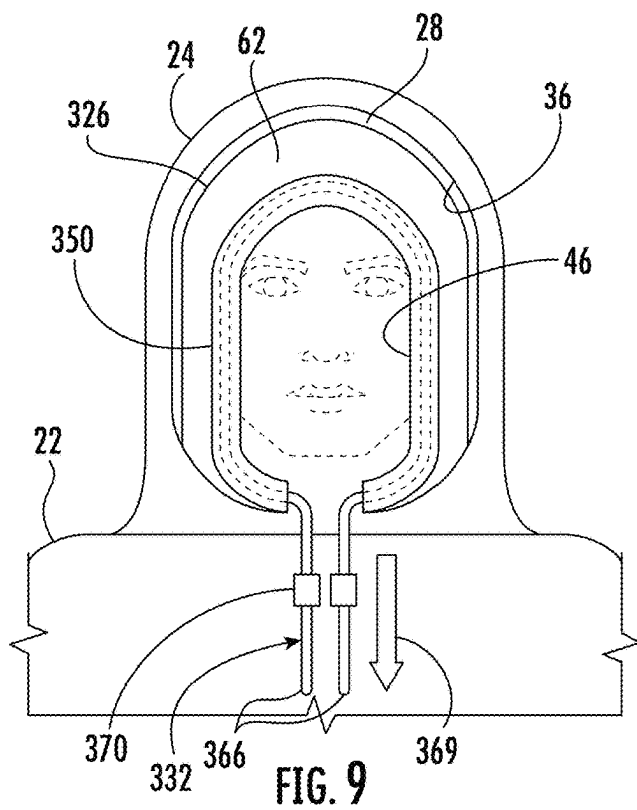
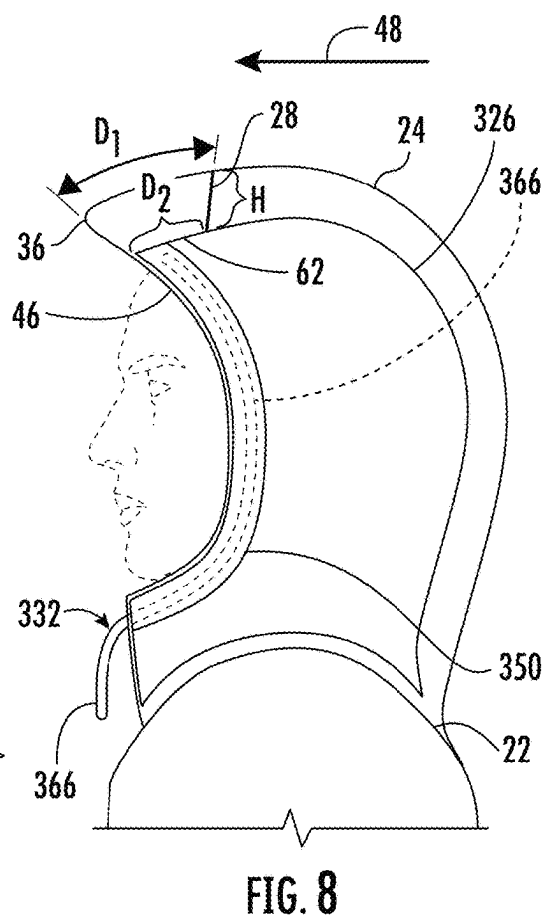
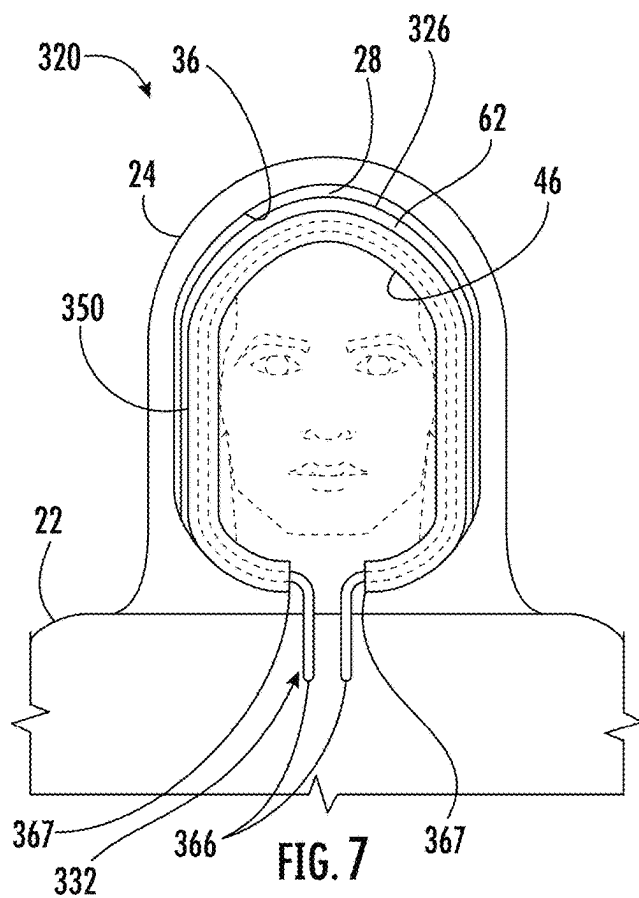


FIG. 2





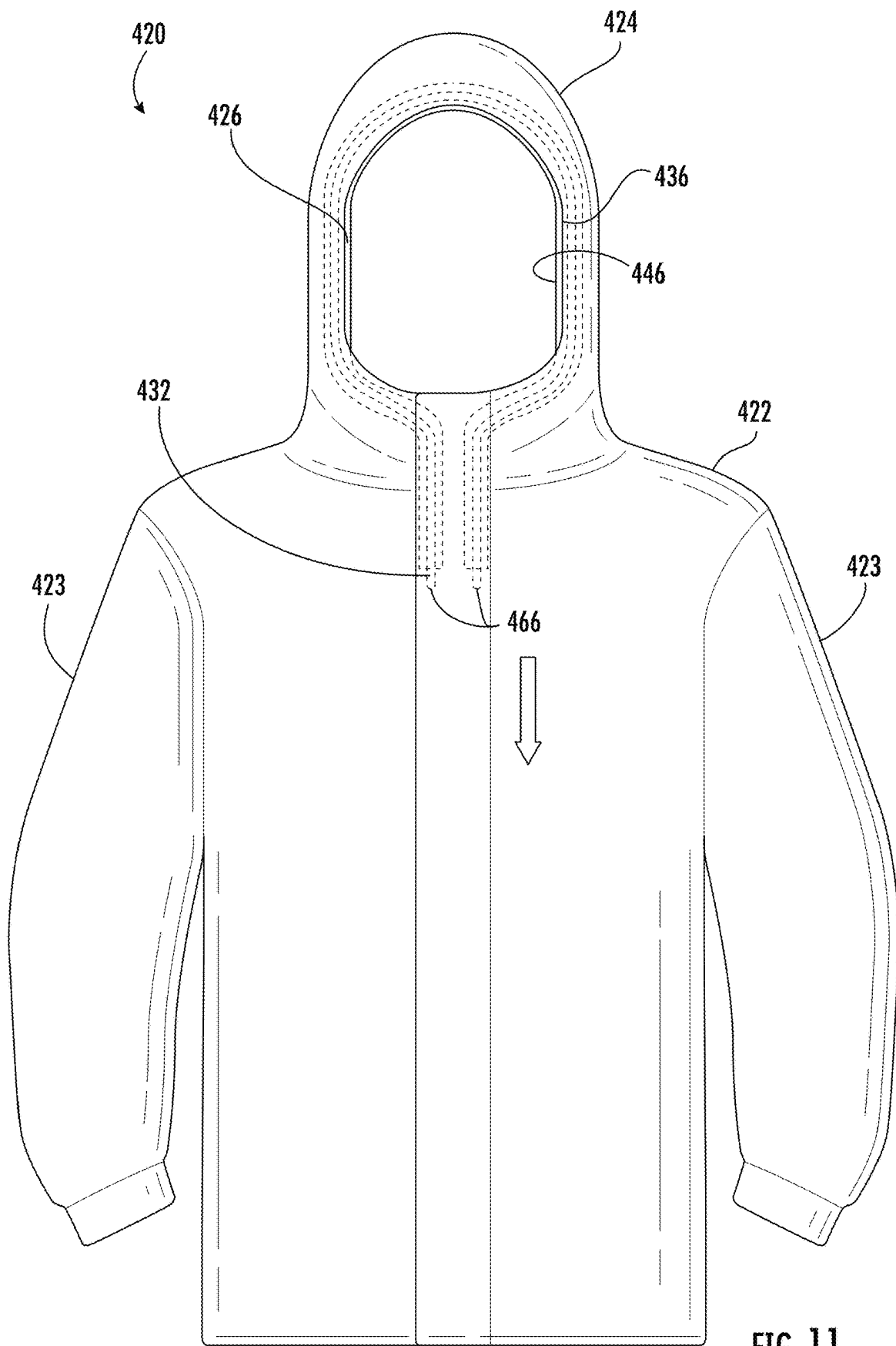


FIG. 11

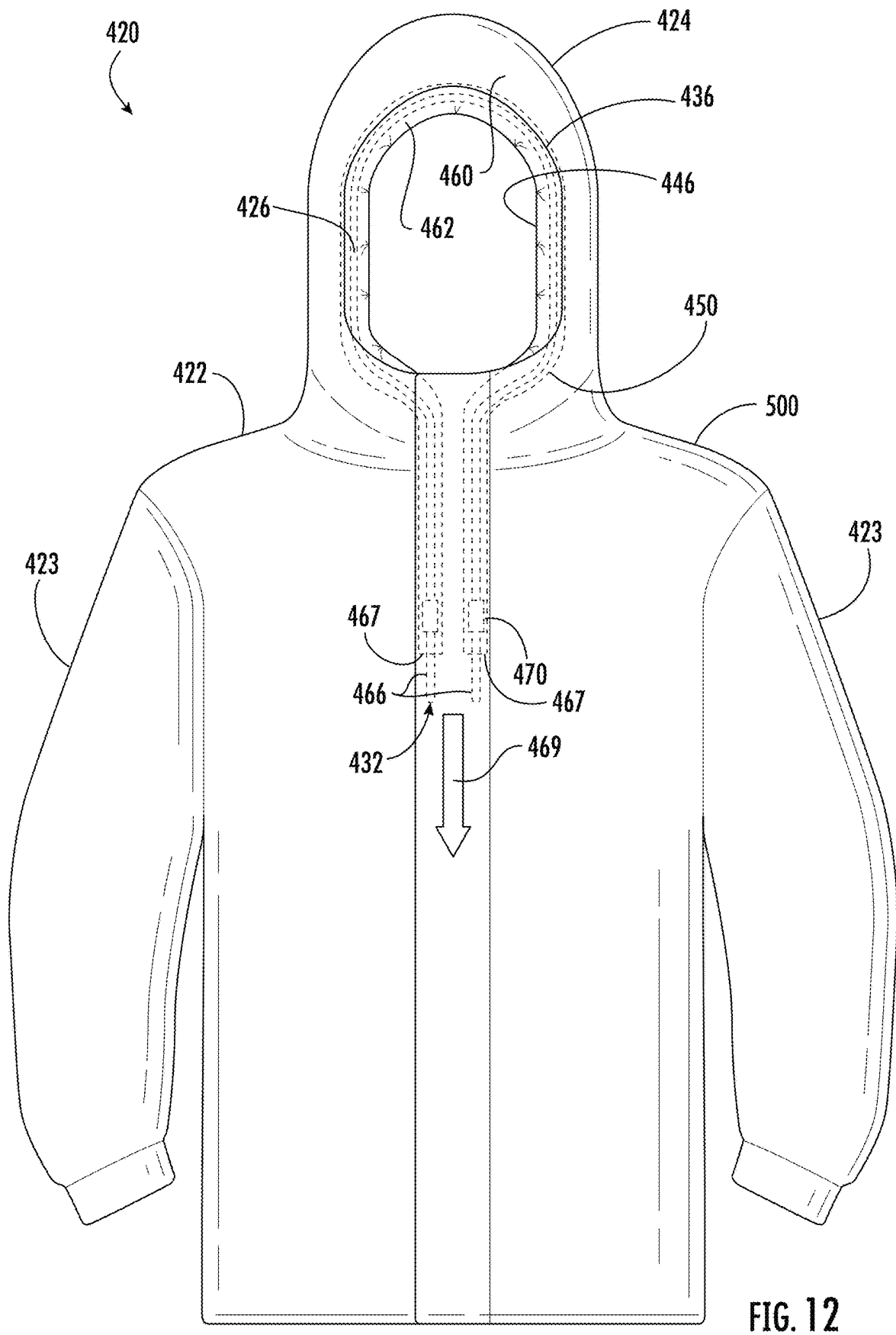


FIG. 12

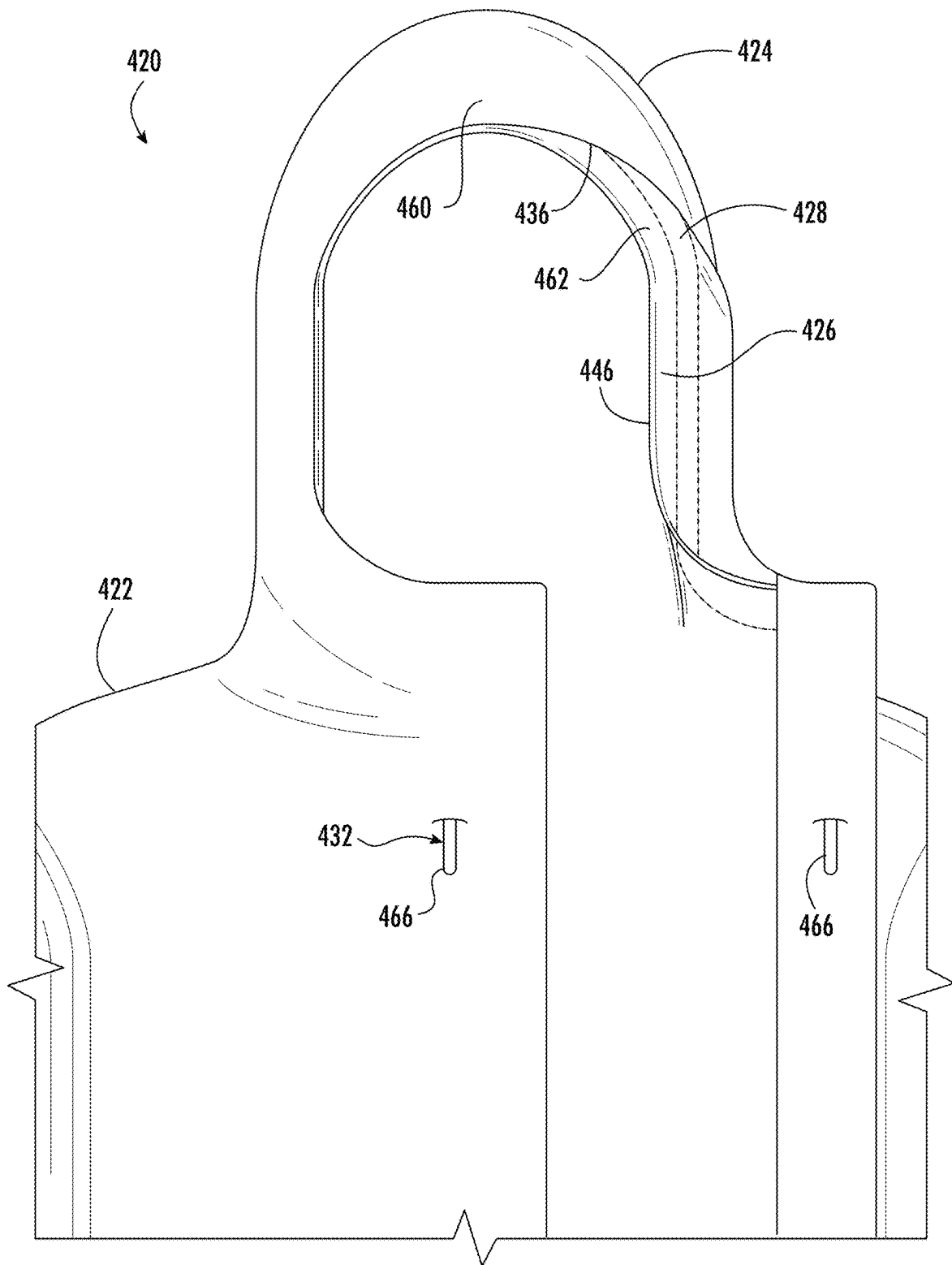


FIG. 13

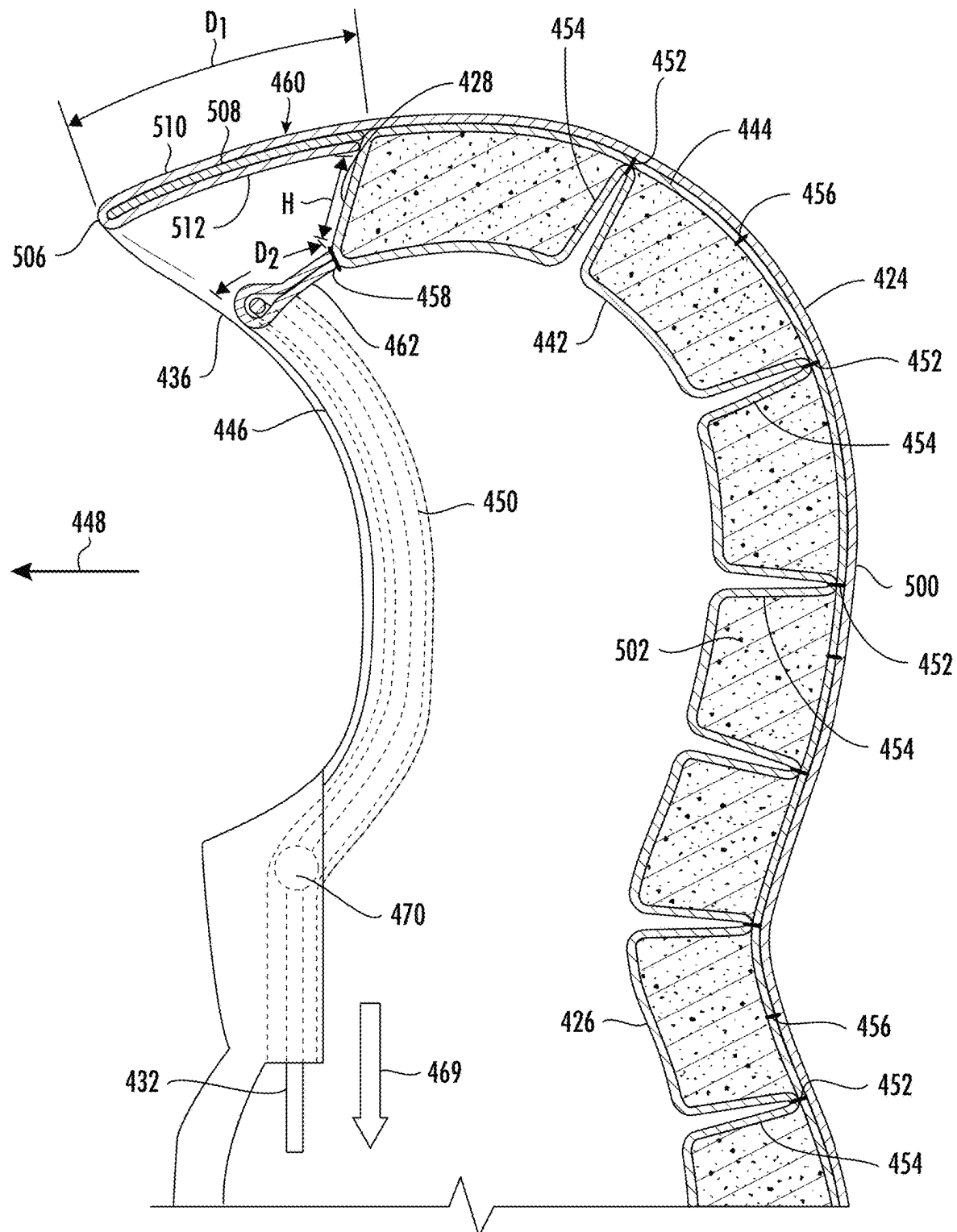


FIG. 14

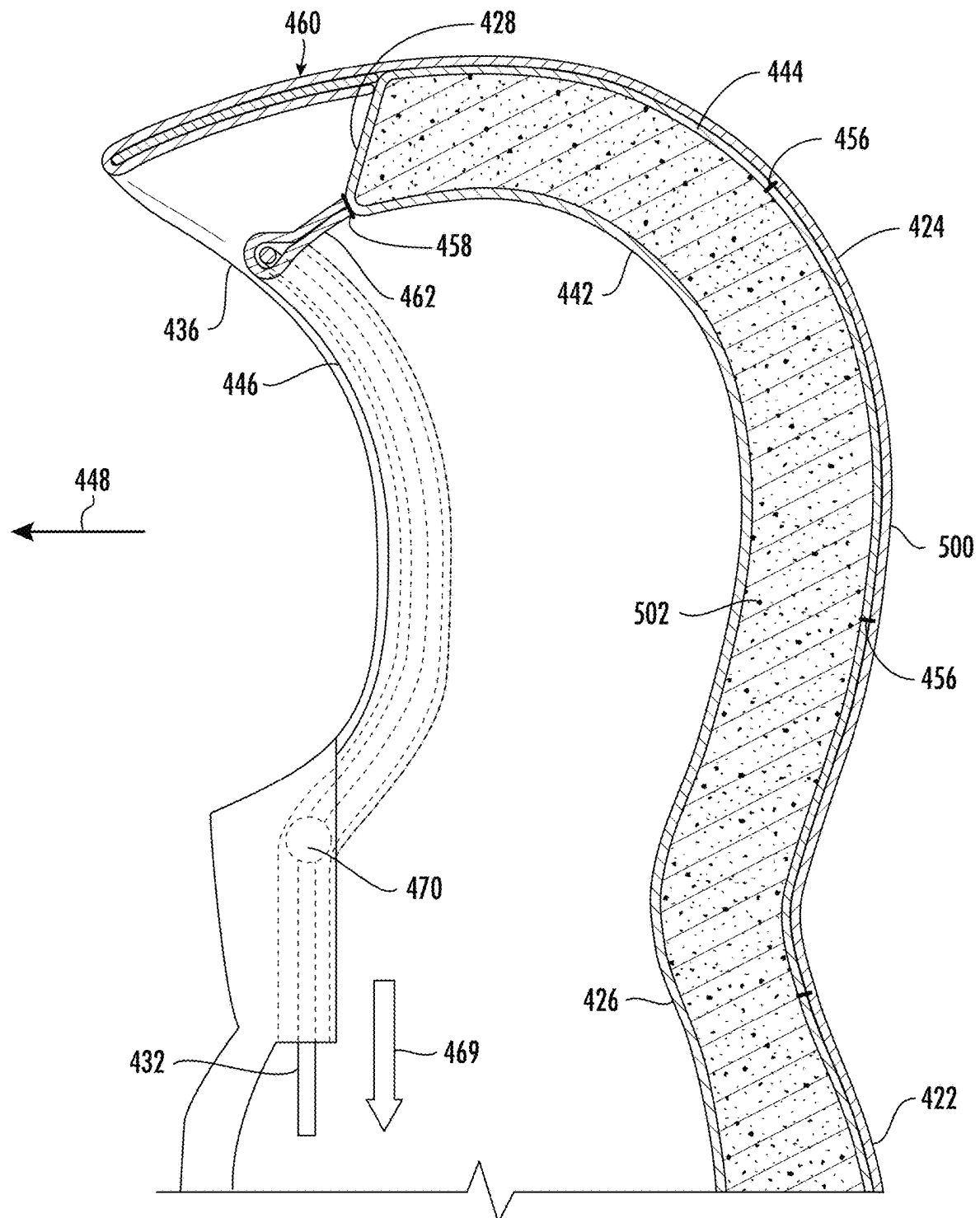
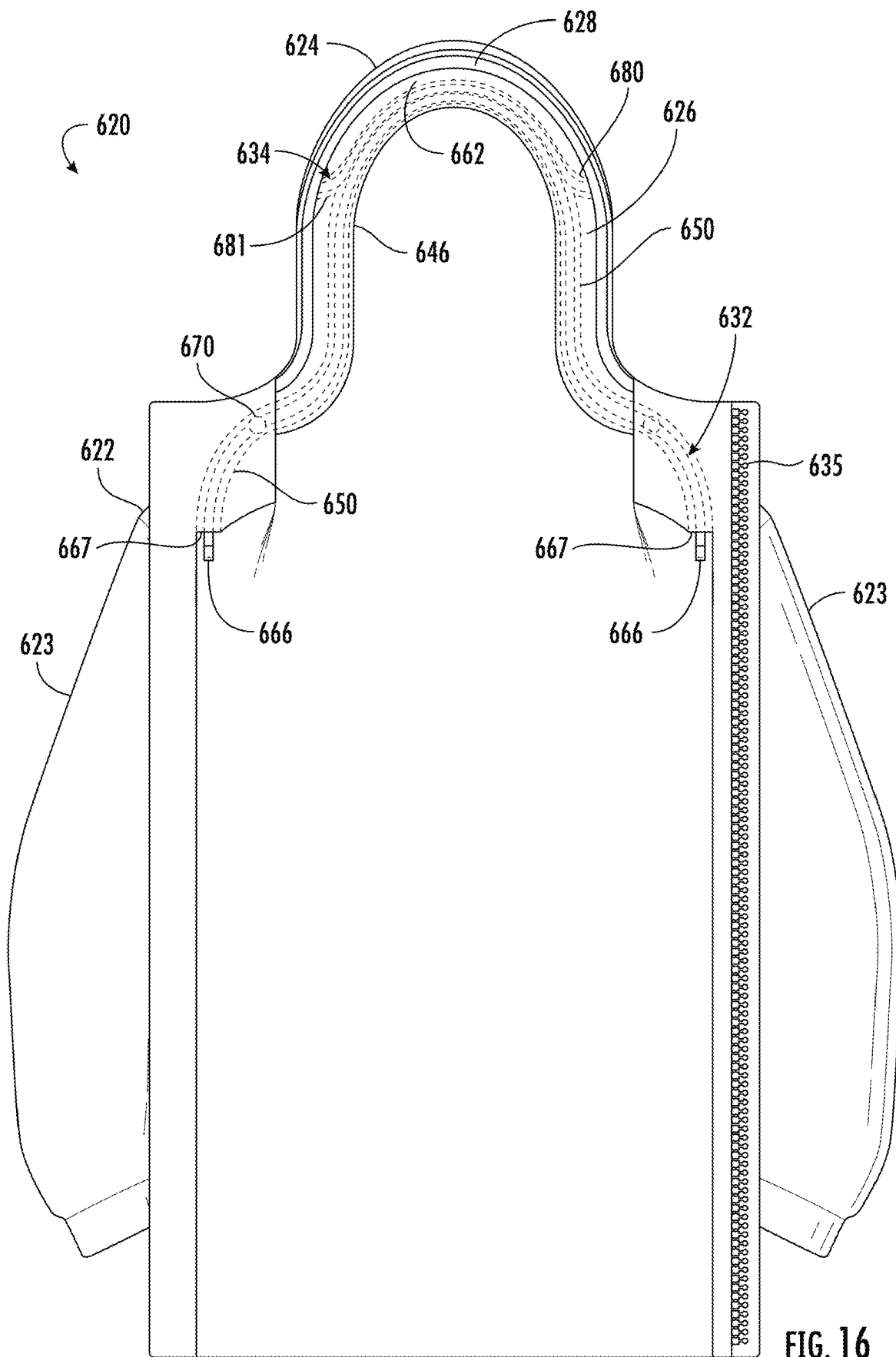


FIG. 15



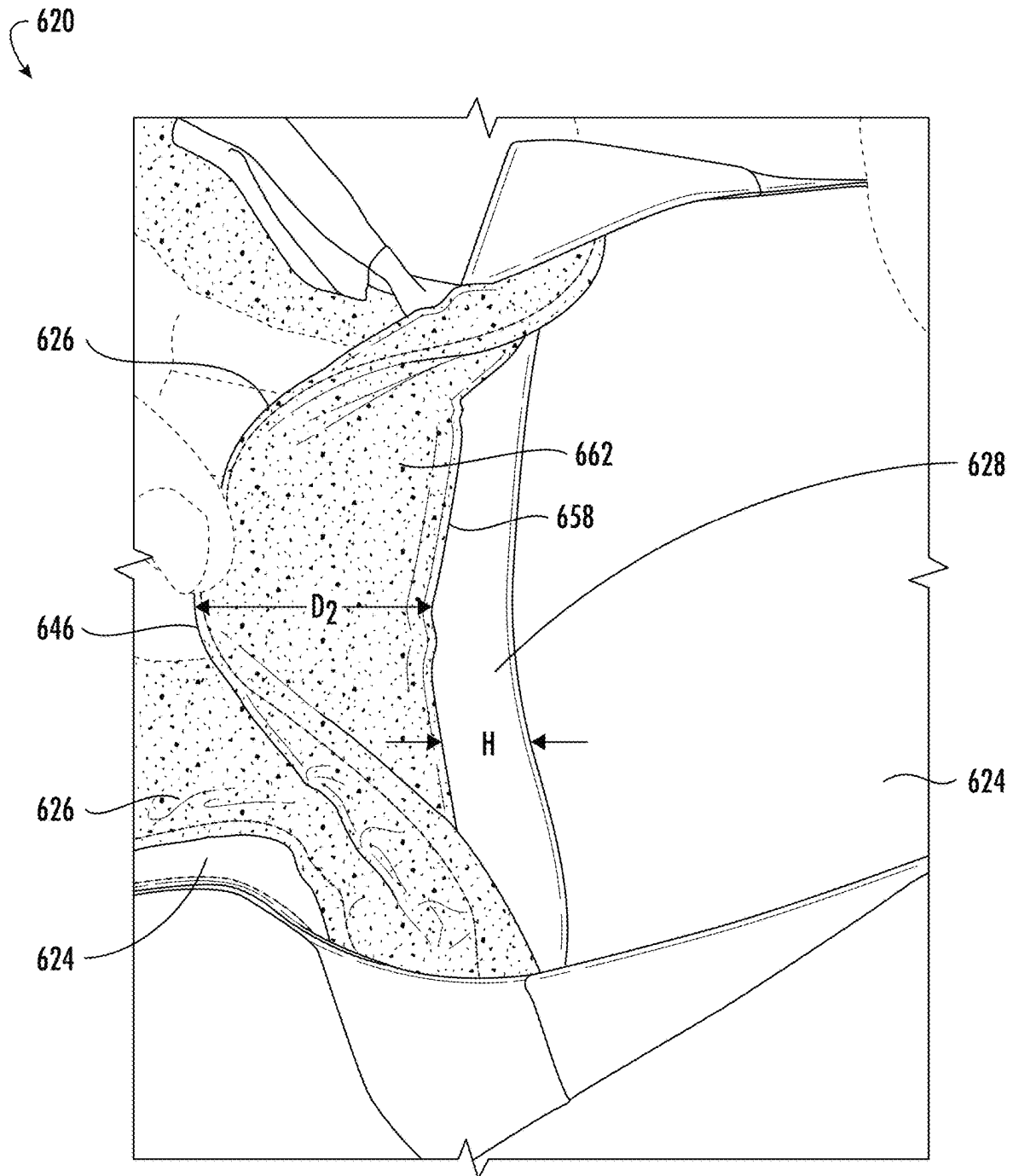


FIG. 17

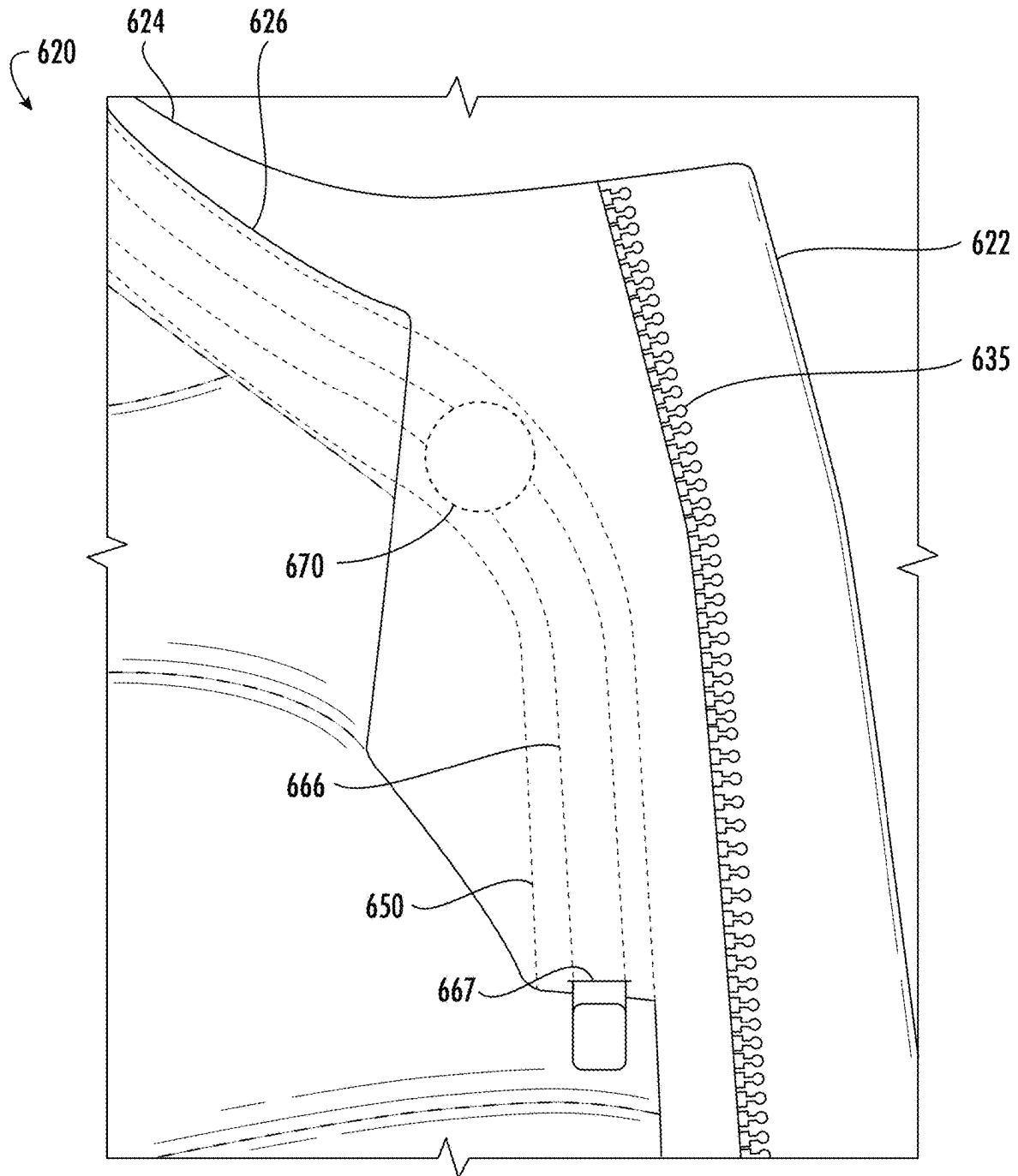


FIG. 18

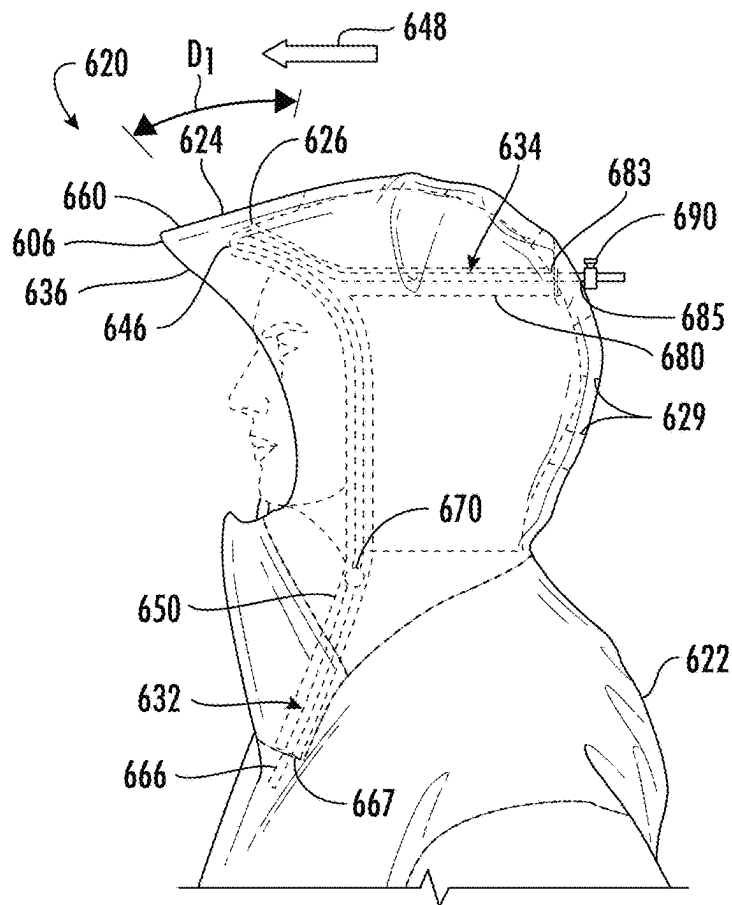


FIG. 19A

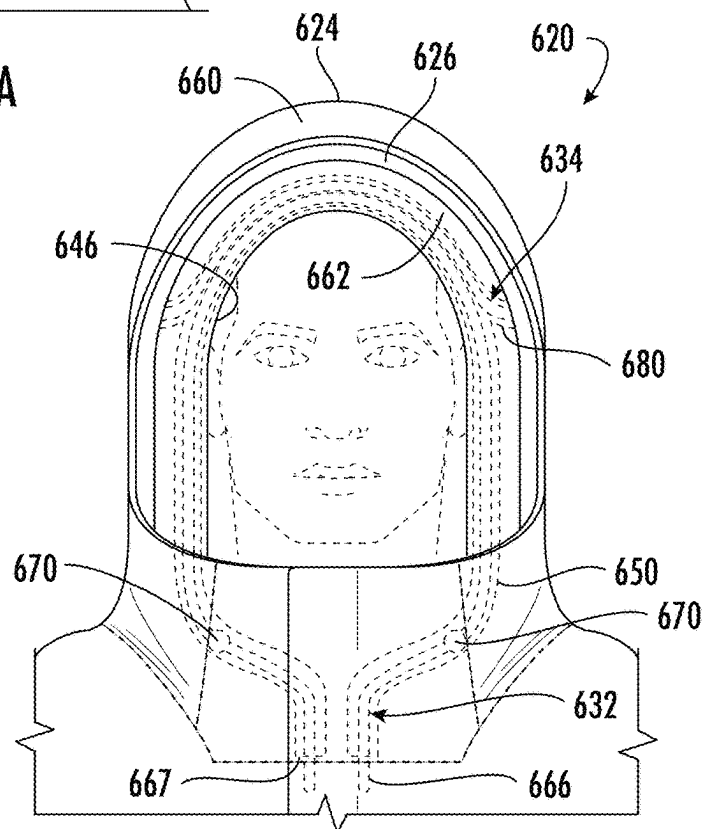


FIG. 19B

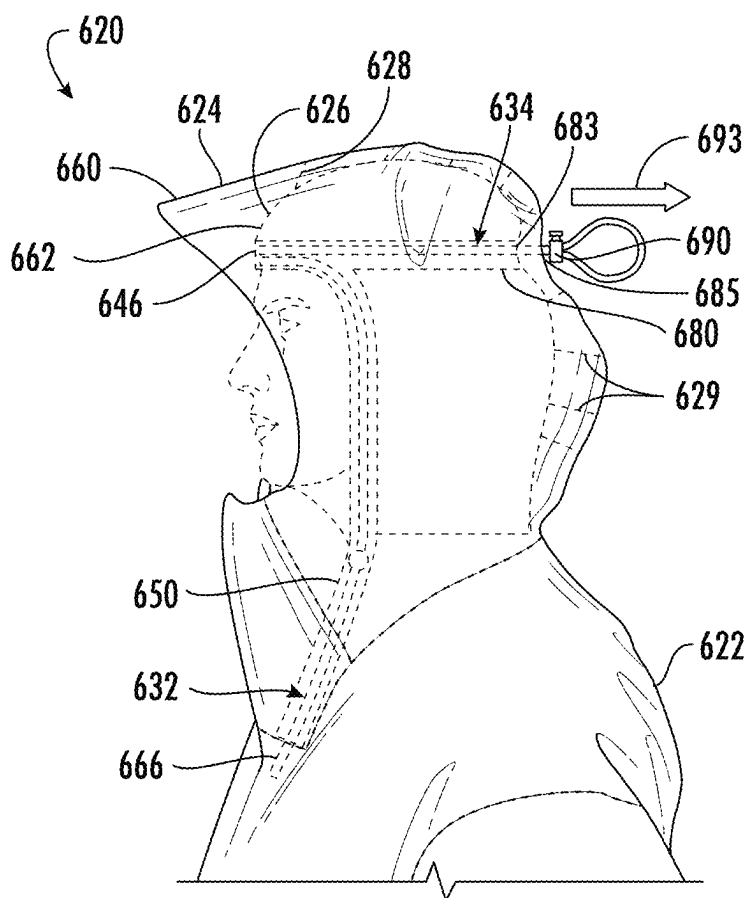


FIG. 20A

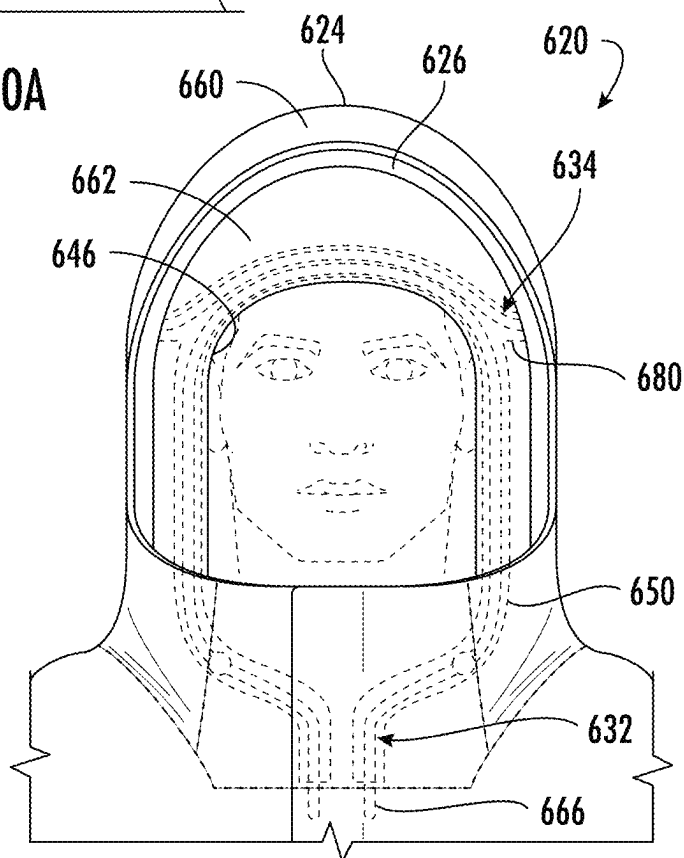


FIG. 20B

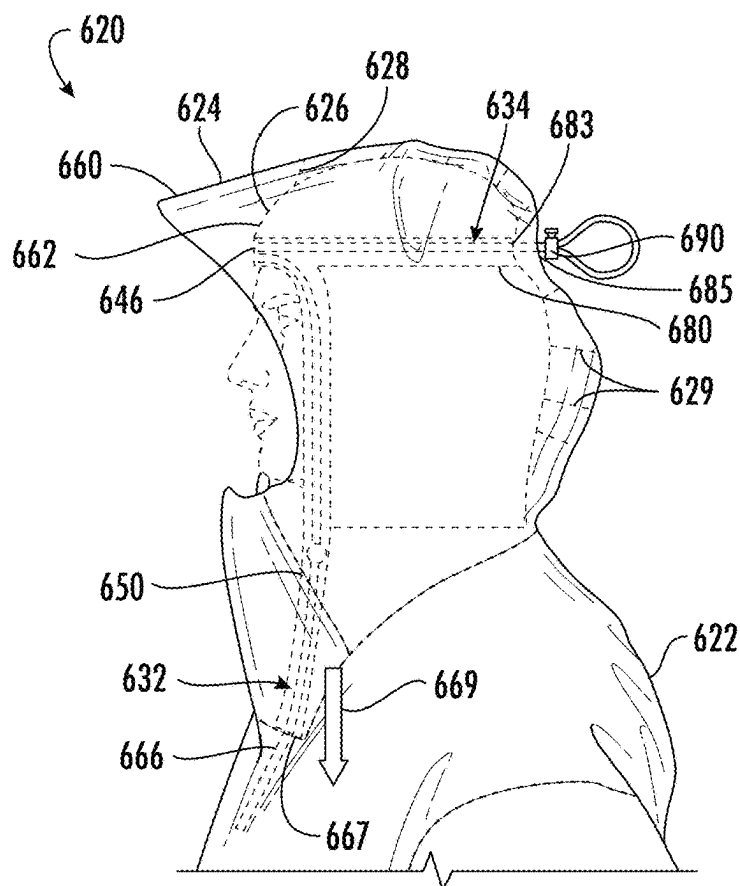


FIG. 21A

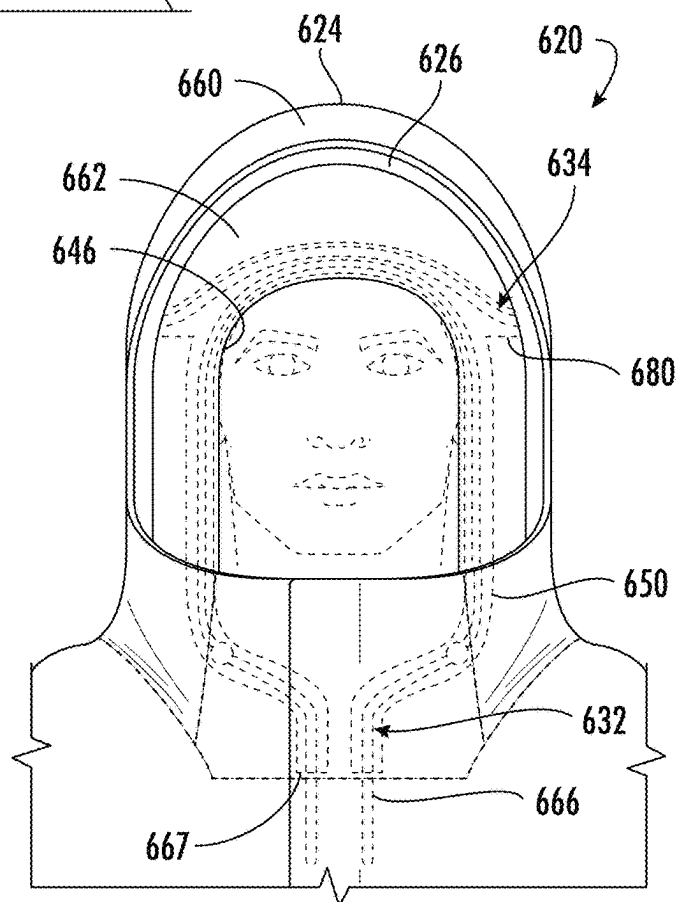
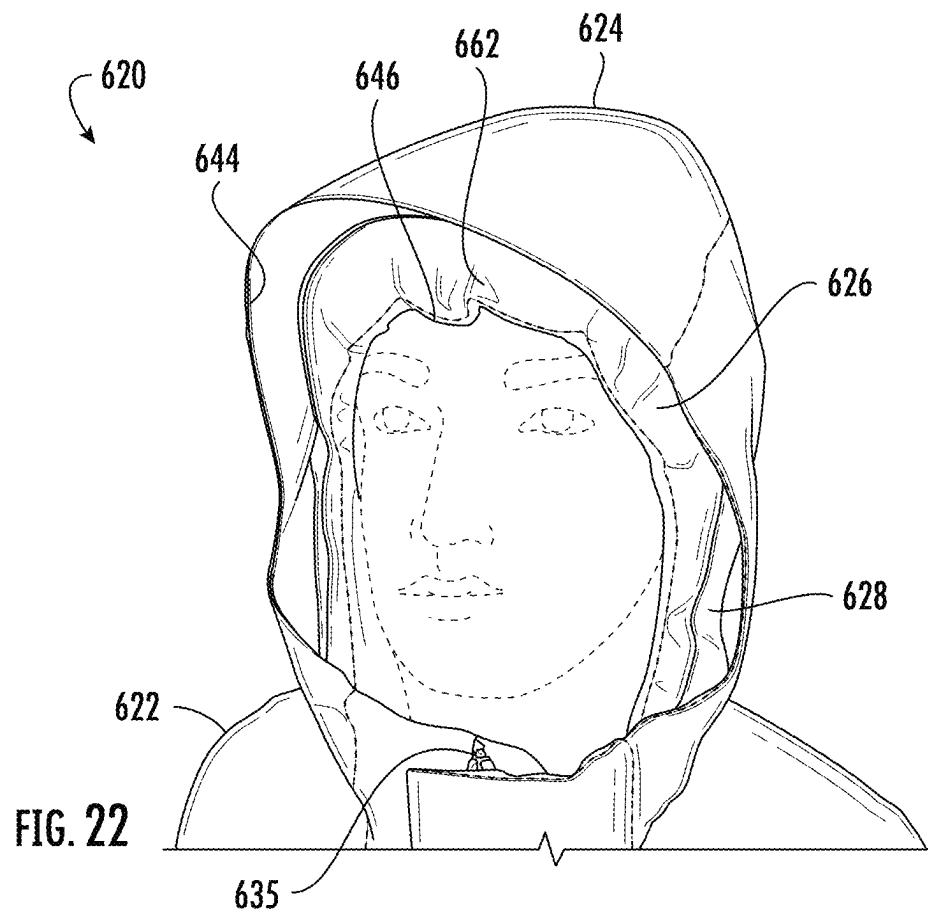


FIG. 21B



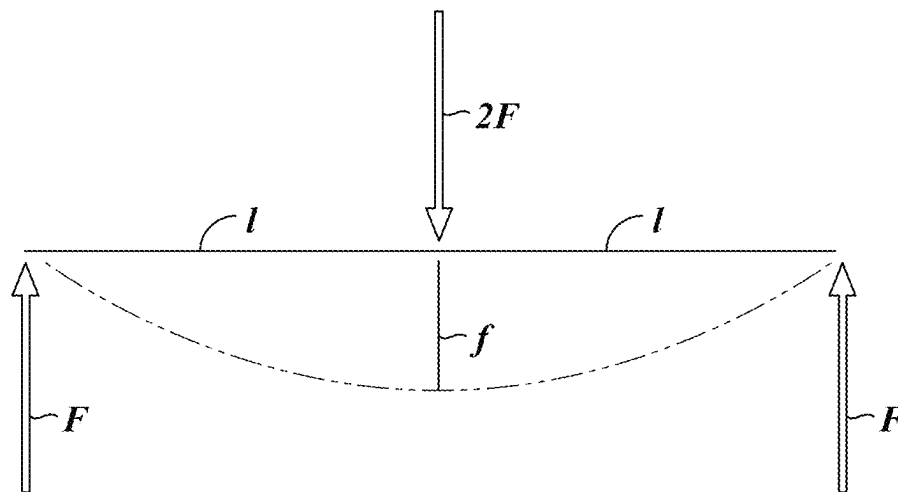


FIG. 23

1 HOOD

CROSS REFERENCE TO RELATED APPLICATIONS

The present application is a non-provisional patent application claiming priority from U.S. Provisional Patent Application Ser. No. 63/416,400 filed on Oct. 14, 2022 entitled HOOD, the full disclosure which is hereby incorporated by reference.

BACKGROUND

Garments are frequently provided with hoods. Some hoods are provided to protect a person's head from the elements, such as wind, rain and snow. Some hoods are provided to insulate the person's head.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front view schematically illustrating portions of an example hooded garment with an inner hood in an unconstricted state.

FIG. 2 is a side sectional view schematically illustrating portions of the example hooded garment of FIG. 1 with the inner hood in an unconstricted state.

FIG. 3 is a front view schematically illustrating portions of the example hooded garment of 1 with the inner hood in a constricted state.

FIG. 4 is a side sectional view schematically illustrating portions of the example hooded garment of FIG. 3 with the inner hood in the constricted state.

FIG. 5 is a fragmentary front view schematically illustrating portions of an example hooded garment with an inner hood retained in a constricted state.

FIG. 6 is a fragmentary front view schematically illustrating portions of an example hooded garment with an inner hood retained in a constricted state.

FIG. 7 is a front view schematically illustrating portions of an example hooded garment with an inner hood in an unconstricted state.

FIG. 8 is a side sectional view schematically illustrating portions of the example hooded garment of FIG. 7 with the inner hood in an unconstricted state.

FIG. 9 is a front view schematically illustrating portions of the example hooded garment of FIG. 7 with the inner hood in a constricted state.

FIG. 10 is a side sectional view schematically illustrating portions of the example hooded garment of FIG. 9 with the inner hood in the constricted state.

FIG. 11 is a front view of an example hooded garment having an inner hood in an unconstricted state.

FIG. 12 is a front view of the example hooded garment of FIG. 11 with the inner hood in a constricted state.

FIG. 13 is a front view of the example hooded garment of FIG. 11 illustrating portions of an outer hood pulled back from the inner hood to expose an example lead connecting the outer hood to the inner hood.

FIG. 14 is a fragmentary sectional view of the example hooded garment of FIG. 11.

FIG. 15 is a fragmentary sectional view of the example hooded garment of FIG. 12.

FIG. 16 is a front perspective view illustrating portions of an example hooded garment in an opened state with a non-constricted inner hood.

FIG. 17 is an enlarged fragmentary perspective view illustrating portions of the inner hood manually peeled away

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from portions of an outer hood to better reveal an intermediate lead connecting the inner hood and the outer hood of the hooded garment of FIG. 16.

FIG. 18 is an enlarged fragmentary perspective view illustrating an example drawstring exiting from a body portion of the hooded garment of FIG. 16.

FIG. 19A is a side view of the example hooded garment of FIG. 16, illustrating both an example inner face opening constrictor and an example inner hood top constrictor in unconstricted states.

FIG. 19B is a front view of the example hooded garment of FIG. 19A.

FIG. 20A is a side view of the example hooded garment of FIG. 16, illustrating the example inner face opening constrictor in an unconstructive state and an example inner hood top constrictor in a constricted state.

FIG. 20B is a front view of the example hooded garment of FIG. 20A.

FIG. 21A is a side view of the example hooded garment of FIG. 16, illustrating both an example inner face opening constrictor and an example inner hood top constrictor in constricted states.

FIG. 21B is a front view of the example hooded garment of FIG. 20B.

FIG. 22 is a front perspective view of the example hooded garment of FIG. 21A.

FIG. 23 is a diagram illustrating a 3-point bending stiffness test based on ISO Standard 5628.

Throughout the drawings, identical reference numbers designate similar, but not necessarily identical, elements. The Figures are not necessarily to scale, and the size of some parts may be exaggerated to more clearly illustrate the example shown. Moreover, the drawings provide examples and/or implementations consistent with the description; however, the description is not limited to the examples and/or implementations provided in the drawings.

DETAILED DESCRIPTION OF EXAMPLES

Disclosed are example garments and associated hoods that include both an outer hood for protecting a wearer's head against weather elements and an inner hood for insulating the wearer's head. The inner hood has a face opening that may be constricted to enhance coziness and heat retention. The inner hood is connected to the outer hood to prevent their separation but is connected such that constriction of the face opening of the inner hood does not or is less likely to constrict or alter the shape of the outer hood. Constriction of the inner hood is less likely to wrinkle or bend the outer hood. As a result, rain impacting the outer hood is not directed towards the face of the person wearing the garment. The ability of the outer hood to direct weather elements, such as rain, away from the face opening of the inner hood is maintained.

In the examples illustrated, the inner hood is joined to the outer hood by an intervening lead. The inner hood has an inner brim portion that projects forwardly from the lead. The inner brim portion is provided with a constrictor forward the lead. The constrictor may be actuated to constrict the inner brim portion against the face of the person wearing the garment and to retain the inner brim portion in such a constricted state. Such constriction of the inner brim portion does not result in corresponding constriction of the outer hood. In some implementations, the outer hood may have an outer brim portion that extends over and above the inner

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brim portion. Constriction of the inner brim portion does not result in corresponding constriction of the outer brim portion.

In some implementations, the constrictor may comprise a sleeve extending along the inner brim portion and a drawstring slidably received within the sleeve. In some implementations, the constrictor may comprise a pair of cords or ropes attached to the inner hood, wherein the pair of cords or ropes may be drawn or pulled towards one another and tied to constrict the inner face opening of the hood about the face of the person wearing the garment and to retain the inner face opening in the constricted state. In some implementations, the constrictor may comprise a strap connected to a first portion of the inner hood proximate the inner face opening (such as below the chin of the person wearing the garment) and a buckle connected to another portion of the inner hood proximate the inner face opening, wherein the strap may be pulled through the buckle to tighten and constrict the inner face opening about the face of the person wearing the garment and wherein the buckle retains a strap to retain the inner face opening in the constricted state. In some implementations, the constrictor may comprise a first strap supporting one of a hook and loop fastener while being connected to a first portion of the inner hood proximate the inner face opening (such as below the chin of the person wearing the garment) and a second strap supporting the other of a hook and loop fastener or be connected to a second portion of the inner hood proximate the inner face opening, wherein the hook fastener and the loop fastener may be secured and retained to one another at a continuum of different relative positions while retaining the inner face opening in a constricted state about the face of the person wearing the hooded garment. In some implementations, the first or second strap may be omitted, wherein the hook or loop fastener is directly secured to the inner hood. In yet other implementations, the constrictor may have other configurations or mechanisms that facilitate constricting the inner face opening about the face of the person wearing the garment and retaining the inner face opening in the constricted state, without correspondingly constricting the outer face opening of the outer hood.

In some implementations, the inner hood and the outer hood have distinct stiffnesses or portions with distinct stiffnesses to facilitate shape retention of the outer hood during constriction of the inner hood. In some implementations, the outer hood has a rear portion extending rearwardly from the lead and an outer brim portion extending forwardly from the lead, wherein the outer brim portion has a greater stiffness, or resistance to bending, than the rear portion of the outer hood. In some implementations, the inner hood has an inner brim portion extending forwardly from the lead, wherein the outer brim portion of the outer hood has a greater bending stiffness than the bending stiffness of the inner brim portion.

In some implementations, the outer hood is formed from a stiff material such as an expanded polytetrafluoroethylene (ePTFE) material such as a stiff Gore-Tex™ material while the inner brim portion of the inner hood is formed of a flexible nylon material. In some implementations, the outer hood includes a Gore-Tex material wrapped about a stiffening panel, such as a nylon panel, laminated with an adhesive to produce a weather resistant outer brim of the outer hood. In some implementations, the outer hood includes multiple weather resistant panels that sandwich at least one material stiffening panel. In some implementations, a weather resistant panel of material is folded to form the outer brim portion of the outer hood, wherein the material stiffening panel is laminated within the fold. In some imple-

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mentations, the outer hood has a bending stiffness that is at least twice as large as the bending stiffness of the inner hood. In some implementations, the outer brim portion has a bending stiffness that is at least 3 times as large as the bending stiffness of the inner brim portion. In some implementations, the outer hood has a bending stiffness that is at least 5 times as large as the bending stiffness of the inner hood.

In particular implementations, the lead and the inner hood are sized and shaped to provide a person with the ability to tightly constrict the face opening of the inner hood against the person's face without correspondingly changing the shape of the outer hood. In some implementations, the lead and the inner hood are shaped and sized to provide a person with the ability to tightly constrict the face opening of the inner hood against the person's face or against sides of the person's head without any change to the shape of the outer hood. In some implementations, the inner brim portion of the inner hood has a length of at least 2 inches. The lead has a length of at least 1 inch. The inner brim portion of the inner hood and the lead have a combined length of at least 0.5 inches and no greater than 6 inches.

In some implementations, the inner hood is further provided with a substantially horizontal sleeve through which an inner hood top constrictor extends. The inner hood top constrictor may be in the form of a drawstring which extend through the sleeve and through a rear opening in the inner hood, and further through a rear opening in the outer hood. Pulling of the drawstring may result in a top portion of the inner hood constricting about the front, sides and rear of the head received within the inner hood. The constriction extends along a path about the head similar to that of a headband. The drawstring forming the inner hood top constrictor may be retained in a constricted state or an unconstricted state with a cord lock. The inner hood top constrictor and the inner face opening constrictor are independently constricted to provide a customized fit of the inner hood while a top and sides of the outer hood do not correspondingly change in shape or size.

For purposes of this disclosure, the term "coupled" shall mean the joining of two members directly or indirectly to one another. Such joining may be stationary in nature or movable in nature. Such joining may be achieved with the two members, or the two members and any additional intermediate members being integrally formed as a single unitary body with one another or with the two members or the two members and any additional intermediate member being attached to one another. Such joining may be permanent in nature or alternatively may be removable or releasable in nature.

For purposes of this disclosure, the phrase "configured to" denotes an actual state of configuration that fundamentally ties the stated function/use to the physical characteristics of the feature proceeding the phrase "configured to".

For purposes of this disclosure, the term "releasably" or "removably" with respect to an attachment or coupling of two structures means that the two structures may be repeatedly connected and disconnected to and from one another without material damage to either of the two structures or their functioning.

FIGS. 1 and 2 illustrate portions of an example hooded garment 20 having an unconstricted inner hood. Garment 20 comprises body portion 22, outer hood 24, inner hood 26, lead 28 and inner face opening constrictor 32. Body portion 22 comprises that portion of garment 20 that may cover at least portions of a person's back and chest. In some implementations, body portion 22 may include sleeves for receiv-

ing a person's arms. In some implementations, such sleeves may be omitted. Body portion 22 comprises a neck opening for receiving a person's neck and from which a person's head may project when garment 20 is being worn. Body portion 22 may have various configurations with various layers. For example, body portion 22 may serve as a rain jacket. In some implementations, body portion 22 may be insulated to serve as a cold-weather or winter coat.

Outer hood 24 projects from body portion 22 and includes a face opening 36. Face opening 36 faces in a forward direction as indicated by arrow 48 and is located so as to at least partially expose the face of the person wearing garment 20. Outer hood 24 is configured to extend over and about the head of a person wearing the garment 20, covering the top, sides and rear of the head of the person wearing garment 20. In some implementations, outer hood 24 has an outer weather resistant surface, a surface that is formed from a material so as to offer resistance to penetration of wind and/or moisture, such as rain or snow. In some implementations, outer hood 24 may be formed from a material that is "breathable" yet is also weather resistant. For example, in some implementations, the outer surface of outer hood 24 may be formed from a Gore-Tex™ type material. In other implementations, outer hood 24 may be formed from other materials.

Inner hood 26 projects from body portion 22 within outer hood 24. Inner hood 26 comprises an inner face opening 46 that faces in a forward direction as indicated by arrow 48 in FIG. 2. Inner face opening 46 at least partially exposes the face of the person wearing garment 20. Inner hood 26 comprises a hem 50 which extends along the inner face opening 46.

In some implementations, hem 50 is formed from the same material forming the remainder of inner hood 26, but wherein hem 50 comprises a folded over portion of such material such that hem 50 has a greater overall thickness. In some implementations, hem 50 is formed from a band of inelastic fabric material stitching, bonded, with fused or otherwise joined to the edge of inner hood 26 along inner face opening 46. In some implementations, hem 50 is formed by an inelastic flexible cord, band or wire secured to inner hood 26 along the edges of inner face opening 46. For example, the wire or band may be contained within a sleeve formed by folding over portions of the layer or layers of material forming inner hood 26.

In some implementations, hem 50 may be elastic in nature. Hem 50 may be formed from one or more materials that enable hem 50 to be resiliently stretched. In some implementations, the entirety of inner hood 26 may be formed from material that is elastic. In some implementations, inner hood 26 may be inelastic but may be provided with an elastic cord or band that is secured to inner hood 26 along inner face opening 46. The elasticity of hem 50 may further facilitate enhanced conformance of inner face opening 46 to the face of the person wearing garment 20 when inner hood 26 is constricted.

In some implementations, the hem 50 may form a channel or tunnel for receiving a constrictor 32. The hem 50 may define first and second hem openings 52 and 54 at opposite ends of the hem. The constrictor 32 can extend along the entire length of the hem 50 and be configured to extend beyond one or both of the first and second hem openings. Hem 50 forms a flexible channel that is attached to the remainder of inner hood 26 and that extends about the face and head of the person wearing garment 20. Hem 50 is configured to be pulled by constrictor 32 into a constricted state against and about the face of the person wearing

garment 20. Such constriction creates a more airtight relationship between the person's head and inner hood 26, providing enhanced heat retention. The constrictor 32 can be one or more cords, strings, cables or other elongated member. The constrictor 32 may be inelastic or can have varying degrees of elasticity.

In the example illustrated, inner face opening 46 of inner hood 26 is rearwardly recessed with respect to face opening 36 about hood 24. In the example illustrated, the top forward edge of outer face opening 36 of outer hood 24 extends forward (as indicated by arrow 48) and beyond of the top forward edge of inner face opening 46 of inner hood 26. As a result, outer hood 24 may better deflect or redirect downwardly moving moisture (rain or snow) away from inner face opening 46 and the face of the person wearing garment 20. In some implementations, outer hood 24 may project forward of a top of inner face opening 46 by at least 1 inch. In other implementations by more than a dimension that is greater than 1 inch. In other implementations, the top of inner face opening 36 and the top of outer face opening 46 may be coextensive or vertically aligned.

Lead 28 (schematically illustrated) comprises a layer or band of material that connects an exterior of inner hood 26 to an interior of outer hood 24 at a single location or multiple locations above body portion 22 and rearward of inner face opening 46 of inner hood 26. Lead 28 inhibits or restricts the entirety of outer hood 24 from being moved or pulled off of the head of the person wearing garment 20 without inner hood 26 also being moved or pulled off of the head of the person wearing garment 20. Lead 28 assists in retaining outer hood 24 about the head of the person wearing garment 20. Because inner hood 26 more closely fits about the head of the person wearing garment 20, it is less likely to be accidentally pulled back or off of the head of the person wearing garment 20. Because outer hood 24 is connected to inner hood 26, outer hood 24 is better retained on the head of the person wearing garment 20.

In some implementations lead 28 comprises a thin layer or band of material extending between inner hood 26 and outer hood 24. In some implementations, lead 28 comprises a continuous elongate panel extending parallel to and/or along a majority of the inner face opening 46, but rearward of the inner face opening 46, wherein the panel faces in a forward direction (as indicated by arrow 48). In some implementations, lead 28 comprises a single panel or multiple spaced panels extending between inner hood 26 and outer hood 24, wherein the panel or such multiple panels each face in a sideways direction (horizontal and perpendicular to arrow 48) and wherein the forward most edge of the panel or such panels are secured or joined to inner hood 26 at a location or locations rearward of inner face opening 46.

In some implementations, lead 28 is inelastic. In other implementations, lead 28 is elastic or resilient stretchable. For example, in some implementations, the overall structure of outer hood 24 may be sufficiently rigid or stiff such that lead 28 may be resiliently stretched to accommodate a desired degree of constriction of inner hood 26 while the shape and size of outer hood 24 is maintained.

The upper and lower end of lead 28 may be joined to outer hood 24 and to an outer brim portion of the inner hood 26 in various fashions. In some implementations, such ends may be secured by stitching, adhesive, welding, bonding, or combinations thereof. For example, in some implementations, the top portion or end of lead 28 may be secured to outer hood 24 by a glue, lamination or adhesive while the lower end of lead 28 may be secured to inner hood 26 by stitching. In some implementations, lead 28 may be inte-

grally formed as a single unitary body with a material panel forming a portion of outer hood **24** and/or a material panel forming portions of inner hood **26**.

In some implementations, lead **28** may have a height H of at least 0.25 inch. In other implementations, the lead **28** may have a height H within the range of 0.25 to 2.0 inches. In some implementations, lead **28** may be connected to outer hood **24** at a distance D1 of at least 1 inch rearward of the forward most point of outer face opening **36**. In other implementations, the distance D1 can have a dimension within the range of 0.5 to 6 inches. In other implementations, the distance D1 can be within the range of 2.5 to 4 inches. In some implementations, lead **28** may be connected to inner hood **26** at a distance D2 of at least 1 inch rearward of the forward most point of inner face opening **46**. In some implementations, the distance D2 can be within the range of 1 to 4 inches. In some implementations, the distance D1 is greater than or equal to distance D2. In some implementations, the height H of lead **28**, and the length of the portion of inner hood **26** extending forward of lead **28**, distance D2, have a combined length of at least 1.0 inches and no greater than 5 inches. In one implementation, the distance D1 is approximately 3 inches, the height H is approximately 1 inch and the distance D2 is approximately 2 inches. In some implementations, combined length of the height H of lead **28** and the length of the portion of inner hood **26**, D2, extending forward of lead **28** have a combined length of at least 1.0 inches and no greater than 5.0 inches. In some implementations, combined length of the height H of lead **28** and the length of the portion of inner hood **26**, D2, extending forward of lead **28** have a combined length within the range of 1.5 to 3.5 inches. As will be described hereafter, this combined length impacts the ability of those portions of inner hood **26** along inner face opening **46** to be constricted without corresponding constriction of outer hood **24**.

Inner face opening constrictor **32** comprises a mechanism by which the inner face opening **46** of inner hood **26** may be constricted or tightened about and against the face or head of the person wearing garment **20**. In the example illustrated, outer hood **24** comprises outer brim portion **60** that extends forwardly (in the direction indicated by arrow **48**) from lead **28** and which terminates at the forward edge of outer face opening **36**. Inner hood **26** comprises an inner brim portion **62** that extends forwardly from lead **28** and which terminates at the forward edge of inner face opening **46**. Inner face opening constrictor **32** comprises a mechanism that is configured to constrict inner brim portion **62** about and against the face of the person wearing garment **20** without corresponding constriction of outer brim portion **60**.

In the example illustrated, outer brim portion **60** overhangs and extends forwardly beyond inner brim portion **62**. Outer brim portion **60** has a bending stiffness, or a resistance to bending, that is greater than the bending stiffness, or resistance to bending, of inner brim portion **62**. In other words, outer brim portion **60** is less likely to bend or wrinkle and is more likely to retain a shape as compared to inner brim portion **62** when experiencing the same forces. For example, the outer brim portion **60** generally retains its shape in adverse weather conditions. At the same time, inner brim portion **62** may be more easily bend, deformed or constricted about the face or head of the person wearing garment **20**. In some implementations, outer brim portion **60** has a bending stiffness that is at least 5 times as large as, or at least 5 times greater than, the bending stiffness of inner brim portion **62**. In some implementations, outer brim portion **60** has a bending stiffness that is at least 6 times as large as, or at least 6 times greater than, the bending stiffness

of inner brim portion **62**. In some implementations, outer brim portion **60** has a bending stiffness that is at least 8 times as large as, or at least 8 times greater than, the bending stiffness of inner brim portion **62**. The degrees of bending stiffness and the relative degree of bending stiffness between outer hood **24** and inner hood **26** impact the ability of constrictor **32** to constrict inner brim portion **62** without correspondingly constricting outer brim portion **60**.

In the example illustrated, constrictor **32** comprises one or more tie lines **66**, in the form of one or more straps, cords, ropes, strings or the like, that extend through one or more of the first and second hem ends **52** and **54** at opposite ends of the hem. As shown by FIGS. 1-4, in one implementation the constrictor **32** can take the form of a pair of tie lines **66** that can be secured to the hem ends **52** and **54**, and may be pulled towards one another (in direction indicated by arrows **69**) to pull hem **50** about and into closer conformity with the face and head of the person wearing garment **20**. During pulling of tie lines **66**, the forces are transmitted to hem **50**, deforming or bending the shape of hem **50** towards and/or against the face or head of the person wearing garment **20**. In those implementations where hem **50** is elastic, such forces may additionally resiliently stretch hem **50**. Once inner face opening **46** has been constricted towards and possibly against the face of the person wearing garment **20**, inner face opening **46** may be retained in the constricted state shown in FIGS. 3 and 4 by tying the tie strings **66** or otherwise retaining the drawn-in positioning of the tie strings **66**.

FIGS. 5 and 6 illustrate alternative mechanisms for retaining the hem **50** and the inner face opening **46** in a constricted state. FIG. 5 illustrates an example garment **120** comprising constrictor **132** in place of constrictor **32**. Those remaining components of garment **120** which correspond to components of garment **20** are numbered similarly and/or are shown in FIGS. 1-4.

Constrictor **132** comprises a pair of straps **166** that extend from and that are connected to opposite end portions of hem **50**. Similar to tie lines **66**, straps **166** may be pulled towards one another to pull hem **50** about and into closer conformity with the face and head of the person wearing garment **20**. Constrictor **132** further comprises a buckle device **168** through which at least one of straps **166** extends. At least portions of straps **166** may be pulled through the buckle device **168**, wherein the buckle device releasably grips the straps **166** to retain the state of the strap **166** and to retain hem **50** and inner face opening **46** in a constricted state. In some implementations, buckle device **160** may comprise a cam buckle, a ratchet buckle, side release buckle, slide buckle, snap buckle, tie buckle or the like.

FIG. 6 illustrates an example garment **220** comprising constrictor **232** in place of constrictor **32**. Those remaining

components of garment **220** which correspond to components of garment **20** are numbered similarly and/or are shown in FIGS. 1-4.

Constrictor **232** comprises a hook and loop (VELCRO™) attachment mechanism. In the example illustrated, constrictor **232** comprises a pair of straps **266** that extend from and that are connected to opposite end portions of hem **50**. Similar to tie lines **66**, straps **266** may be pulled towards one another to pull hem **50** about and into closer conformity with the face and head of the person wearing garment **20**. Constrictor **232** further comprises hook fastener **268** and a loop fastener **269** supported by the two different straps **266**. In some implementations, the hook fastener **268** and the loop fastener **269** may be secured and retained to one another at a continuum of different relative positions while retaining the inner face opening **46** in a constricted state about the face of the person wearing the garment. In some implementations, the first and/or second strap **266** may be omitted, wherein the hook and/or loop fastener is directly secured to the inner hood **26**. In yet other implementations, the constrictor of garment **20** may have other configurations or mechanisms that facilitate constricting the inner face opening **46** about the face of the person wearing the garment **20** and retaining the inner face opening **46** in the constricted state, without correspondingly constricting the outer face opening **36** of the outer hood **24**.

FIGS. 7 and 8 illustrate portions of an example hooded garment **320** having an unconstricted inner hood. FIGS. 7 and 8 illustrate an example of an alternative constrictor for selectively constricting the inner face opening of an inner hood without correspondingly constricting an outer hood. Garment **320** is similar to garment **20** described above except that garment **320** comprises inner hood **326** and constrictor **332** in place of inner hood **26** and constrictor **32**, respectively. Those remaining components of hooded garment **320** which correspond to components of hooded garment **20** are numbered similarly and/or are shown and described above with respect to hooded garment **20**.

Inner hood **326** is similar to inner hood **26** described above except that inner hood **326** comprises sleeve **350** in place of hem **50**. Sleeve **350** comprise a tube which extends along the inner face opening **46**. Sleeve **350** guides and slidably receives constrictor **332** which is in the form of a drawstring **366**. Although illustrated as a continuous, uninterrupted sleeve, sleeve **350** may alternatively comprise a series of spaced sleeves along inner face opening **46** and through which drawstring **366** extends. In some implementations, sleeve **350** forms the edge of the inner face opening **46**. In some implementations, sleeve **350** extends slightly rearward of the forward edge of inner face opening **46**. Although sleeve **350** is illustrated as having drawstring openings **367** proximate to the top of body portion **22**, at the lower end of face opening **46**, in other implementations, sleeve **350** may have drawstring openings **367** at other locations, such as higher up along inner face opening **46** or further down at locations on body portion **22**.

Drawstring **366** comprises an elongate, flexible band, rope, cord, string or the like which is threaded interior of sleeve **350**, wherein opposite ends of drawstring **366** project through sleeve openings **367**. Drawstring **366** is slidably movable within and along sleeve **350**. As shown by FIGS. 9 and 10, the ends of drawstring **366** may be pulled in a downward direction as indicated by arrow **369** to constrict inner face opening **46** about and into closer conformity with the face and head of the person wearing garment **320**.

Referring to FIGS. 9 and 10, in some implementations, the pulled or drawn state of the drawstrings **366** may be

retained to better retain inner face opening **46** in the constricted state. For example, in some implementations, the opposite end portions of drawstring **366**, those that project from sleeve opening **367**, may be tied to one another. In some implementations, garment **320** may additionally comprise one or more cord locks **370**, such as a toggle spring cord lock, an ellipse toggle cord lock or a barrel toggle cord lock, fastened to garment **20** or sized larger than sleeve opening **367** (to prevent the cord lock from being drawn into sleeve openings **367**), wherein the opposite end portions of drawstring **366** pass through the cord lock **370** and are maintained in a selected pulled or drawn state to retain inner face opening **46** in the chosen constricted state. Release of the cord lock may allow the inner face opening **46** to once again be unconstricted and expanded to facilitate removal of inner hood **326** (and outer hood **24**) from the person's head or to provide greater air flow through inner face opening **46**. Such expansion or on constriction of inner face opening **46** does not correspondingly change the shape or size of outer hood **24**.

FIGS. 11-15 illustrate portions of an example hooded garment **420**. FIGS. 11-15 illustrate an example of how an insulated garment may be provided with an insulated inner hood and an outer weather resistant hood, wherein the insulated inner hood may be constricted without corresponding constriction of the outer weather resistant hood. Hooded garment **420** comprises body portion **422**, outer hood **424**, inner hood **426**, lead **428** (shown in FIGS. 13-15) and inner face opening constrictor **432**.

Body portion **422** comprises that portion of garment **420** that may cover at least portions of a person's back and chest. In the illustrated example, body portion **422** comprises sleeves **423** for receiving a person's arms. In some implementations, such sleeves may be omitted. Body portion **422** comprises a neck opening for receiving a person's neck and from which a person's head may project when garment **420** is being worn.

Body portion **422** may have various configurations with various layers. Body portion **422** can comprise an outer weather resistant layer **500** and an inner insulated layer **502**. In the example illustrated, the outer weather resistant layer **500** is formed from material panels that continue from outer hood **424**. The outer weather resistant layer **500** can continue from the outer hood **424** to the body portion **422** across both the back and the chest of the person wearing garment **420**. Likewise, the inner hood **426** can include the inner insulated layer **502** formed from material panels that can continue from the body portion **422**. The inner insulated layer **502** of the inner hood **426** can continue across both the back and the chest of the person wearing garment **420**. In the example illustrated, both layers **500** and **502** continue to form sleeves **423**. In other implementations, one or both of the outer layer and/or the inner layer can be formed in the outer and inner hoods only with separate materials forming inner and outer layers of the body portion. Alternatively, the inner insulated layer of the inner hood can be spaced apart from an inner insulated layer of the body portion of the garment. In such implementations, outer hood **424** and inner hood **426** may be separately formed from components which are stitched, laminated or otherwise secured to the separate panels forming body portion **422**.

The outer weather resistant layer **500** can comprise one or more layers of material. In one implementation, one or more of the layers forming the outer weather resistant layer **500** can comprise a breathable water-resistant material such as an expanded polytetrafluoroethylene (ePTFE) material such as Gore-Tex™. In one implementation, the outer weather

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resistant layer **500** can include a nylon, such as a 70 Denier ripstop nylon. In other implementations, the outer weather resistant layer **500** can be formed from other materials or material combinations.

In the example illustrated, the inner hood **426** can include an inner insulated layer **502** comprises a layer of insulative material. In some implementations, layers **500** and/or **502** may not be a continuation of outer hood **424** and inner hood **426** as illustrated. In such implementations, outer hood **424** and inner hood **426** may be separately formed components which are stitched, laminated or otherwise secured to the separate panels forming body portion **422**.

Outer hood **424** projects from body portion **422** and includes a face opening **436**. Face opening **436** faces in a forward direction as indicated by arrow **448** and is located so as to at least partially expose the face of the person wearing garment **420**. Outer hood **424** is configured to extend over the head of a person wearing the garment **420**, covering the top, sides and rear of the head of the person wearing garment **420**. Outer hood **424** has an outer weather resistant surface, a surface that is formed from a material so as to offer resistance to penetration of wind and/or moisture, such as rain or snow. In the example illustrated, outer hood **24** is be formed from a material that is “breathable” yet is also weather resistant.

In the example illustrated, outer hood **424** is formed from a layer of material that is a continuation of an outer layer of material that also forms an exterior of body portion **422**. In the example illustrated, outer hood **424** is formed from outer weather resistant layer such as a breathable water-resistant material such as an expanded polytetrafluoroethylene (ePTFE) material such as Gore-Tex™.

In the example illustrated, the outer hood **424** includes an outer brim portion **460** that overhangs and extends forwardly beyond an inner brim portion **462** of the inner hood **426**. In the example illustrated, outer brim portion **460** is formed from a first weather resistant layer **510** that extends to a forwardmost edge **506** of the outer brim portion **460** and wraps around a reinforcing member **508** forming a second weather resistant layer **512**. The reinforcing member **508** is sandwiched between first and second weather resistant layers **510** and **512**. In other implementations, the first and second weather resistant layers **510** and **512** can overlie each other and be bonded, pressure molded or otherwise connected to form the forwardmost edge **506**. In one implementation, the reinforcing member **508** and the first and second weather resistant layers **510** and **512** are adhesively bonded, laminated and/or heat pressed together to form the outer brim portion **460**. In one implementation, the reinforcing member **508** can be formed of a nylon. In other implementations, the reinforcing member **508** can be formed of one or more other materials. In some implementations, the reinforcing member **508** may be removed in regions rearward of lead **428**. In other implementations, one or more reinforcing members can be incorporated into other regions of the outer hood **424** rearward of the lead **428** to provide a greater degree of flexibility in such regions. In some implementations, reinforcing member **508** may be omitted where the first and second weather resistant layers **510** and **512** offer sufficient bending stiffness.

Inner hood **426** projects from body portion **422** within outer hood **424**. Inner hood **426** comprises an inner face opening **446** that faces in a forward direction as indicated by arrow **448**. Inner face opening **446** is configured (sized and located) to at least partially expose the face of the person wearing garment **420**.

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In the example illustrated, inner face opening **446** of inner hood **426** is rearwardly recessed with respect to face opening **436** about hood **424**. In the example illustrated, the top forward point of the forwardmost edge **506** of the outer face opening **436** of outer hood **424** extends forward (as indicated by arrow **448**) and beyond of a top forward edge of inner face opening **446** of inner hood **426**. As a result, outer hood may better deflect or direct in a downwardly moving moisture (rain or snow) away from inner face opening **446** and the face of the person wearing garment **420**. In some implementations, outer hood **424** may project forward of a top of inner face opening **446** by at least 1.0 inch. In other implementations, the top of inner face opening **436** and the top of outer face opening **446** may be coextensive or vertically aligned.

In the example illustrated, inner hood **426** is formed from one or more layers of material that are a continuation of the one or more inner layers of material that also form the interior layer of body portion **422**. In the example illustrated, the inner hood **426** includes first and second inner hood layers **442** and **444** that surround or encapsulate an inner insulated layer **502** formed of one or more layers or compartments of insulative material. Referring to FIG. **14**, in one implementation, the inner insulated layer **502** comprises a layer of down material. In one particular implementation, layer **502** comprises an 850 Fill goose down. In other implementations, other forms of down can be used. In some implementations, the down material may be water resistant. The first and second inner hood layers **442** and **444** can include a plurality of seam lines **452** that collectively form a plurality of baffles **454** for retaining or encapsulating the down fill material. The seam lines **452** attach the first and second inner hood layers **442** and **444** together and can be formed from stitches, adhesives, other bond lines and combinations thereof. The baffles **454** retain the down fill material at discrete locations about the inner hood **426** and prevent the down fill material from collecting in a lower region or other portion of the inner hood.

Referring to FIG. **15**, in other implementations, the inner insulated layer **502** can be formed by one or more sheets or panels of insulated material. When one or more sheets or panels of insulated material are used for the inner insulated layer **502** there is no need to form a plurality of baffles because the insulating material can be retained in the inner hood **426** in a manner that avoids bunching, collecting or other undesirable movement of the insulating material within the inner hood **426**.

In each of the embodiments of FIGS. **14** and **15** the second inner hood layer **444** of the inner hood **426** is attached to the outer hood **424**. In one implementation, the second inner hood layer **444** is attached to the outer hood **424** through a plurality of tacks **456**. The tacks **456** are discrete connection points positioned at two or more locations about the surface area of the second inner hood layer **444** and the outer hood **424**. In one implementation, the tacks **456** are stitches. In other implementations, the tacks can be formed by other means such as, for example, adhesive, welding, snaps, rivets or other fasteners. The number of tacks **456** can be within the range of 2 to 12. The tacks **456** attach the second inner hood layer **44** to the outer hood **424** at the discrete points thereby securing the inner hood **426** to the outer hood **424** while still providing for portions of the surfaces of the second inner hood layer **444** of the inner hood **426** to be unattached and free to move independently of the outer hood **424**. In other implementations, the second inner hood layer **444** of the inner hood **426** can be attached to the outer hood **424** through other means such as stitch lines, bonding lines,

welding lines, and/or bonding, welding or press molding regions of the layers together.

Lead 428 (shown in FIGS. 13-15) comprises one or more structures that serve as a connector connecting the inner hood 426 to an interior of outer hood 424 at a single location or multiple locations above body portion 422 and rearward of inner face opening 446 of inner hood 426. Lead 428 inhibits or restricts the entirety of outer hood 424 being moved or pulled off of the head of the person wearing garment 420 without also being moved or pulled off of the head of the person wearing garment 420. Lead 428 assists in retaining outer hood 424 about the head of the person wearing garment 420. Because outer hood 424 is connected to inner hood 426, outer hood 424 is better retained on the head of the person wearing garment 420.

In the example illustrated, lead 428 comprises a continuous elongate panel extending parallel to and/or along a majority of the inner face opening 446, but rearward of the inner face opening 446, wherein the panel faces in a forward direction (as indicated by arrow 448). In some embodiments, such as examples of FIGS. 14 and 15, the lead 428 extends over the forwardmost portion of the inner insulated layer 502, and formed as part of the inner hood 426. The upper and lower ends of lead 428 may be joined to outer hood 424 and the inner brim portion 462 of the inner hood 426 in various fashions. In some implementations, such ends may be secured by stitching, adhesives, welding, or the like. In FIGS. 14 and 15, the lower end of the lead 428 is connected to the inner brim portion 462 by a stitching 458 and the upper end of the lead 428 is integrated into the second inner hood layer 444 of the inner hood 426. In some implementations, one of such ends may be secured by a first technique while the other of such ends is secured by a different technique. In the example illustrated, the top portion or end of lead 428 may be secured to outer hood 424 by a glue, lamination or adhesive while the lower end of lead 428 may be secured to the inner brim portion 462 of the inner hood 426 by stitching. In other implementations, lead 428 may be integrally formed as a single unitary body with a material panel forming a portion of outer hood 424 and/or a material panel forming portions of inner hood 426.

In some implementations, lead 428 is inelastic. In other implementations, lead 428 is elastic or resilient stretchable. For example, in some implementations, the overall structure of outer hood 424 may be sufficiently rigid or stiff such that lead 428 may be resiliently stretched to accommodate a desired degree of constriction of inner hood 426 while the shape and size of outer hood 424 is maintained.

In some implementations, lead 428 may have a height H of at least 0.25 inch. In other implementations, the lead 428 can have a height H within the range of 0.25 to 2.0 inches. In some implementations, lead 428 may be connected to outer hood 424 at a distance D1 of at least 1 inch rearward of the forwardmost edge 506 of outer face opening 436. Distance D1 also defines the length of the outer brim portion 460. In other implementations, the distance D1 of the outer brim portion 460 can have a dimension within the range of 0.5 to 6 inches. In other implementations, the distance D1 can be within the range of 2.5 to 4 inches. In some implementations, lead 28 may be connected to inner hood 426 at a distance D2 of at least 1 inch rearward of the forward most point of inner face opening 446. The distance D2 corresponds to the length of the inner brim portion 462. In some implementations, the distance D2 can be within the range of 1 to 4 inches. In some implementations, the D1 is greater than or equal to distance D2. In some implementations, the height H of lead 428, and the length of the inner

brim portion 462 of inner hood 426 extending forward of lead 428, distance D2, has a combined length of at least 1.0 inches and no greater than 5 inches. In one implementation, the distance D1 is approximately 3.5 inches, the height H is approximately 1 inch and the distance D2 is approximately 2 inches. In some implementations, the combined length of the height H of lead 428 and the length of the inner brim portion 462 of inner hood 426, D2, has a combined length of at least 1.0 inches and no greater than 5.0 inches. In some implementations, combined length of the height H of lead 28 and the length of the inner brim portion 462, D2, has a combined length within the range of 1.5 to 3.5 inches. As will be described hereafter, this combined length impacts the ability of those portions of inner hood 426 along inner face opening 446 to be constricted without corresponding constriction of outer hood 424.

Inner face opening constrictor 432 comprises a mechanism by which the inner face opening 446 of inner hood 426 may be constricted or tightened about and against the head or face of the person wearing garment 420. In the example illustrated, outer hood 424 comprises an outer brim portion 460 that extends forwardly (in the direction indicated by arrow 448) from lead 428 and which terminates at the forward edge of outer face opening 436. Inner hood 426 includes the inner brim portion 462 that extends forwardly from lead 428 and which terminates at the forward edge of inner face opening 446. Inner face opening constrictor 432 comprises a mechanism that is configured to constrict inner brim portion 462 about and against the head or face of the person wearing garment 420 without corresponding constriction of outer brim portion 460.

In the example illustrated, outer brim portion 460 overhangs and extends forwardly beyond inner brim portion 462. Outer brim portion 460 has a bending stiffness, or a resistance to bending, that is greater than the bending stiffness of inner brim portion 462. In other words, outer brim portion 460 is less likely to bend or wrinkle and is more likely to retain a shape as compared to inner brim portion 462 when experiencing the same forces. At the same time, inner brim portion 462 may be more easily bent, deformed or constricted about the face or head of the person wearing garment 420.

Inner hood 426 comprises a sleeve 450 which extends along the inner face opening 446. Sleeve 450 comprise a tube which extends along the inner face opening 446. Sleeve 450 guides and slidably receives constrictor 432 which is in the form of a drawstring 466. Although illustrated as a continuous, uninterrupted sleeve, sleeve 450 may alternatively comprise a series of spaced sleeves along inner face opening 446 and through which drawstring 466 extends. In some implementations, sleeve 450 forms the edge of the inner face opening 446. In some implementations, sleeve 450 extends slightly rearward of the forward edge of inner face opening 446. Although sleeve 450 is illustrated as having drawstring openings 467 along body portion 22 as shown in FIG. 12, in other implementations, such drawstring opening 467 may be located at the lower end of face opening 446 or at other locations.

Drawstring 466 comprises an elongate, flexible band, rope, cord, string or the like which is threaded interior of sleeve 450, wherein opposite ends of drawstring 466 project through sleeve opening 467. Drawstring 466 is slidably movable within and along sleeve 450. As shown by FIG. 15, the ends of drawstring 466 may be pulled in a downward direction as indicated by arrow 469 to constrict inner face opening 446 about and into closer conformity with the face and head of the person wearing garment 420.

In some implementations, the pulled or drawn state of the drawstrings may be retained to better retain inner face opening 446 in the constricted state. For example, in some implementations, the opposite end portions of drawstring 466, those that project from sleeve opening 467, may be tied to one another. In some implementations, garment 420 may additionally comprise one or more cord locks 470 (shown in broken lines), such as a toggle spring cord lock, an ellipse toggle cord lock or a barrel toggle cord lock fastened to garment 420, wherein the opposite end portions of drawstring 466 pass through the cord lock 470 and are maintained in a selected pulled or drawn state to retain inner face opening 446 in the chosen constricted state. Release of the cord lock 470 may allow the inner face opening 446 to once again be unconstricted and expanded to facilitate removal of inner hood 426 (and outer hood 424) from the person's head or to provide greater air flow through inner face opening 446. Such expansion or on constriction of inner face opening 446 does not correspondingly change the shape or size of outer hood 424.

FIGS. 16-22 illustrate portions of an example hooded garment 620. FIGS. 16-22 illustrate an example of how the hood of a hooded garment may be constructed so as to allow a person wearing the hooded garment to independently constrict the top of an inner hood and also independently constrict sides of a face opening of the inner hood without correspondingly changing the shape or size of an outer hood. Hooded garment 620 comprises body portion 622, outer hood 624, inner hood 626, lead 628, inner face opening 646, inner hood top constrictor 632 and inner hood top constrictor 634.

Body portion 622 is similar to body portion 422 described above. As shown by FIG. 16, body portion 622 has a front opening with a closing mechanism in the form of a zipper 635. As discussed above with respect to body portion 422, body portion 622 comprises that portion of garment 420 that may cover at least portions of a person's back and chest. In the illustrated example, body portion 622 comprises sleeves 623 for receiving a person's arms. In some implementations, such sleeves may be omitted. Body portion 622 comprises a neck opening for receiving a person's neck and from which a person's head may project when garment 620 is being worn.

Outer hood 624 projects from body portion 622 and includes a face opening 636. Face opening 636 faces in a forward direction as indicated by arrow 648 and is located so as to at least partially expose the face of the person wearing garment 620. Outer hood 624 is configured to extend over the head of a person wearing the garment 620, covering the top, sides and rear of the head of the person wearing garment 620. Outer hood 624 has an outer weather resistant surface, a surface that is formed from a material so as to offer resistance to penetration of wind and/or moisture, such as rain or snow. In the example illustrated, outer hood 624 is formed from a material that is "breathable" yet is also weather resistant.

In the example illustrated, outer hood 624 is formed from a layer of material that is a continuation of an outer layer of material that also forms an exterior of body portion 622. In the example illustrated, outer hood 624 is formed from outer weather resistant layer such as a breathable water-resistant material such as Gore-Tex™. Inner hood 626 projects from body portion 622 within outer hood 624. Inner hood 626 comprises an inner face opening 646 that faces in a forward direction as indicated by arrow 648. Inner face opening 646 is configured (sized and located) to at least partially expose the face of the person wearing garment 620.

In the example illustrated, inner face opening 646 of inner hood 626 is rearwardly recessed with respect to face opening 636 about hood 624. In the example illustrated, a forward-most edge 606 of an outer brim portion 660 of outer face opening 636 of outer hood 624 extends forward (as indicated by arrow 648) and beyond the top forward edge of inner face opening 646 of inner hood 626. As a result, outer hood may better deflect or direct in a downwardly moving moisture (rain or snow) away from inner face opening 646 and the face of the person wearing garment 620. In some implementations, outer hood 624 may project forward of a top of inner face opening 646 by at least 1.0 inch. In other implementations, the top of inner face opening 636 and the top of outer face opening 646 may be coextensive or vertically aligned.

In the example illustrated, inner hood 626 is formed from a layer of material that is a continuation of the inner layer of material that also forms the interior layer of body portion 622. In the example illustrated, inner hood 626 comprises a layer of insulative material. In other implementations, outer hood 424 and inner hood 426 may be separately formed from components which are stitched, laminated or otherwise secured to the separate panels forming body portion 422.

Lead 628 comprises one or more structures that serve as a connector connecting the inner hood 626 to an interior of outer hood 624 at a single location or multiple locations above body portion 622 and rearward of inner face opening 646 of inner hood 626. Lead 628 inhibits or restricts the entirety of outer hood 624 from being moved or pulled off of the head of the person wearing garment 620 without the inner hood 626 also being moved or pulled off of the head of the person wearing garment 620. Lead 628 assists in retaining outer hood 624 about the head of the person wearing garment 620. Because inner hood 626 more closely fits about the head of the person wearing garment 620, it is less likely to be accidentally pulled back or off of the head of the person wearing garment 620.

FIG. 17 illustrates an inner brim portion 662 of the inner hood 626 (denoted with stippling) and its face opening 646, being pulled away from the inner surface of outer hood 624. As shown by FIGS. 16 and 22, lead 628 comprises a continuous elongate panel extending parallel to and/or along a majority of the inner face opening 646, but rearward of the inner face opening 646, wherein the lead 628 faces in a forward direction. In other words, lead 628 is a forwardly facing panel that extends at least 180 degrees about and rearward the inner face opening 646. The upper and lower ends of lead 628 may be joined to outer hood 624 and inner hood 626 in various fashions. In some implementations, such ends may be secured by adhesive, welding, stitching or the like. In some implementations, one of such ends may be secured by a first technique while the other of such ends is secured by a different technique. In the example illustrated, the lower end of the lead 628 is connected to the inner brim portion 662 by a stitching 658 and the upper end of the lead 628 is integrated into a second inner hood layer of the inner hood 626. In other implementations, the lower end and/or upper ends of the lead 628 may be secured to outer hood 624 by a glue, lamination or adhesive, stitching or combinations thereof. In other implementations, lead 628 may be integrally formed as a single unitary body with a material panel forming a portion of inner hood 626.

In some implementations, lead 628 is inelastic. In other implementations, lead 628 is elastic or resilient stretchable. For example, in some implementations, the overall structure of outer hood 624 may be sufficiently rigid or stiff such that lead 628 may be resiliently stretched to accommodate a

desired degree of constriction of inner hood 626 while the shape and size of outer hood 624 is maintained.

In some implementations, lead 628 may have a height H of at least 0.25 inch. In other implementations, the lead 628 can have a height H within the range of 0.25 to 2.0 inches. In some implementations, lead 628 may be connected to outer hood 624 at a distance D1 of at least 1 inch rearward of the forwardmost edge 606 of outer face opening 636. Distance D1 also defines the length of the outer brim portion 660. In other implementations, the distance D1 of the outer brim portion 660 can have a dimension within the range of 0.5 to 6 inches. In other implementations, the distance D1 can be within the range of 2.5 to 4 inches. In some implementations, lead 628 may be connected to inner hood 626 at a distance D2 of at least 1 inch rearward of the forward most point of inner face opening 646. The distance D2 corresponds to the length of the inner brim portion 662. In some implementations, the distance D2 can be within the range of 1 to 4 inches. In some implementations, the D1 is greater than or equal to distance D2. In some implementations, the inner brim portion 662 and the lead 628 having combined length that is equal to or less than the length of the outer brim portion 660. In some implementations, the height H of lead 628, and the length of the inner brim portion 662 of inner hood 626 extending forward of lead 628, distance D2, has a combined length of at least 1.0 inches and no greater than 5 inches. In one implementation, the distance D1 is approximately 3.5 inches, the height H is approximately 1 inch and the distance D2 is approximately 2 inches. In some implementations, the combined length of the height H of lead 628 and the length of the inner brim portion 662 of inner hood 626, D2, has a combined length of at least 1.0 inches and no greater than 5.0 inches. In some implementations, combined length of the height H of lead 628 and the length of the inner brim portion 662, D2, has a combined length within the range of 1.5 to 3.5 inches. As will be described hereafter, this combined length impacts the ability of those portions of inner hood 626 along inner face opening 646 to be constricted without corresponding constriction of outer hood 624.

Inner face opening constrictor 632 is similar to inner face opening constrictor 432 described above except that inner face opening constrictor 632 has more of an inverted U-shape to constrict the sides of the inner face opening inwards with a lesser degree of the inner face opening being constricted about or underneath the chin of the person wearing the hooded garment. Inner face opening constrictor 632 comprises a mechanism by which the inner face opening 646 of inner hood 626 may be constricted or tightened about and against the sides of the head or face of the person wearing garment 620.

In the example illustrated, outer brim portion 660 overhangs and extends forwardly beyond inner brim portion 662. Outer brim portion 660 has a bending stiffness that is greater than the bending stiffness of inner brim portion 662. In other words, outer brim portion 660 is less likely to bend or wrinkle and is more likely to retain a shape as compared to inner brim portion 662 when experiencing the same forces. At the same time, inner brim portion 662 may be more easily deformed or constricted about the face or head of the person wearing garment 620. In some implementations, the outer brim portion 660 has a bending stiffness that is at least 5 times as large as, or at least 5 times greater than, the bending stiffness of inner brim portion 662. In some implementations, the outer brim portion 660 has a bending stiffness that is at least 6 times as large as, or at least 6 times greater than, the bending stiffness of inner brim portion 662. In some

implementations, the outer brim portion 660 has a bending stiffness that is at least 8 times as large as, or at least 8 times greater than, the bending stiffness of inner brim portion 662. The degrees of bending stiffness and the relative degree of bending stiffness between outer hood 624 and inner hood 626 impact the ability of constrictor 632 to constrict inner brim portion 662 without correspondingly constricting outer brim portion 660.

Inner hood 626 comprises a sleeve 650 which extends along the inner face opening 646. Sleeve 650 comprise a tube which extends along the inner face opening 646. Sleeve 650 guides slidably receives constrictor 632 which is in the form of a drawstring 666. Although illustrated as a continuous, uninterrupted sleeve, sleeve 650 may alternatively comprise a series of spaced sleeves along inner face opening 646 and through which drawstring 466 extends. In some implementations, sleeve 650 forms the edge of the inner face opening 446. In some implementations, sleeve 650 extends slightly rearward of the forward edge of inner face opening 646.

In some implementations, the pulled or drawn state of the drawstrings may be retained to better retain inner face opening 646 in the constricted state. For example, in some implementations, the opposite end portions of drawstring 666, those that project from sleeve opening 667, may be tied to one another. In some implementations, garment 620 may additionally comprise a cord lock 670 (shown in broken lines), such as a toggle spring cord lock, an ellipse toggle cord lock or a barrel toggle cord, wherein the opposite end portions of drawstring 666 pass through the cord lock 670 and are maintained in a selected pulled or drawn state to retain inner face opening 646 in the chosen constricted state. Release of the cord lock 670 may allow the inner face opening 646 to once again be unconstricted and expanded to facilitate removal of inner hood 626 (and outer hood 624) from the person's head or to provide greater air flow through inner face opening 646. Such expansion or on constriction of inner face opening 646 does not correspondingly change the shape or size of outer hood 624.

As shown by FIG. 18, sleeve 650 exits the inner hood 626 and further extends along an inside face of body portion 622, exiting at drawstring opening 667. In the example illustrated, cord lock 670 is anchored along sleeve 650 at a location proximate to where the sleeve 650 exits the inner hood 626. The cord lock 670, although hidden and captured within or between the layers of material forming body portion 622, may be manually manipulated through the layers of material between and an at rest retaining state in which the cord lock 670 locks against the drawstring 666 to inhibit further drawing of the drawstring 666 through opening 667 and a loosened state, permitting drawstring 666 to be further pulled through the cord lock 670 and through the opening 667 for a greater degree of constriction. Although sleeve 650 is illustrated as having drawstring openings 667 along body portion 22 as shown in FIG. 18, in other implementations, such drawstring openings 667 may be located at the lower end of face opening 646 or at other locations.

Drawstring 666 comprises an elongate, flexible band, rope, cord, string or the like which is threaded interior of sleeve 650, wherein opposite ends of drawstring 666 project through sleeve opening 667. Drawstring 666 is slidably movable within and along sleeve 650. As shown by FIG. 21A, the ends of drawstring 666 may be pulled in a downward direction as indicated by arrow 669 to constrict inner face opening 646 about and into closer conformity with the face and head of the person wearing garment 620.

Inner hood top constrictor comprises a mechanism by which the top of inner hood **626**, covering the crown of the head of the person wearing garment **620**, may be constricted or tightened horizontally about and against the top of the head of the person wearing garment **620**. In the example illustrated, inner hood **626** comprises a sleeve **680** which extends from a portion of sleeve **650**, along the forehead of the person wearing inner hood **626**, and along the opposite sides of hood **626** above or otherwise proximate and above the ears of the person wearing hood **626**. In the example illustrated, the interior of sleeve **680** merges with the interior of sleeve **650** at the forehead portion of the inner hood such that two drawstrings extend side-by-side in and share the same channel or tube along the front of inner hood **626**. In other implementations, sleeve **680** comprises a tube separate and independent of the tube forming sleeve **650**. Sleeve **680** guides and slidably receives constrictor **634** which is in the form of a drawstring **681**.

Although illustrated as a continuous, uninterrupted sleeve, sleeve **680** may alternatively comprise a series of spaced sleeves along inner hood **626** and through which drawstring **681** extends. In some implementations, sleeve **680** extends about the person's head similar to a headband. Although sleeve **680** is illustrated as having a drawstring opening **683** at the rear of inner hood **626** as shown in FIG. **19A**, in other implementations, sleeve **680** may extend beyond inner hood **626** to an opening formed in outer hood **624**.

Drawstring **681** comprises an elongate, flexible band, rope, cord, string or the like which is threaded interior of sleeve **680**, wherein opposite ends of drawstring **680** project through sleeve opening **683** and further through a rear outer hood opening **685** (shown in FIG. **19A**). Drawstring **681** is slidably movable within and along sleeve **680**.

In some implementations, the pulled or drawn state of the drawstrings **681** may be retained to better retain inner face opening **646** in the constricted state. For example, in some implementations, the opposite end portions of drawstring **681**, those that project from opening **685**, may be tied to one another. In the example illustrated, garment **620** additionally comprises a cord lock **690**, such as a toggle spring cord lock, an ellipse toggle cord lock or a barrel toggle cord lock, wherein the opposite end portions of drawstring **681** pass through the cord lock **690** and are maintained in a selected pulled or drawn state to retain inner hood top constrictor **634** in the chosen constricted state. Release of the cord lock **690** may allow the inner hood top constrictor **634** to once again be unconstricted and expanded to facilitate removal of inner hood **626** (and outer hood **624**) from the person's head or to provide greater air flow. Other than at the rear of the outer hood **624**, such expansion or on constriction of inner hood top constrictor **634** does not correspondingly change the shape or size of outer hood **624** along its top or sides.

FIGS. **19A** and **19B** illustrate both the inner face side opening constrictor **632** and the inner hood top constrictor **634** in an unconstricted state. As a result, the top and sides of the inner hood **626** may be spaced from the top and sides of the person's head, providing greater air flow therebetween. FIGS. **20A** and **20B** illustrate constriction of the inner hood top, as result of the drawstring **680** being rearwardly pulled through the cord lock **690** in the direction indicated by arrow **693**. This occurs while the inner face side opening constrictor **632** remains unconstricted or in a lesser constricted state. As a result, the top portions of the inner hood are constricted against and about the top of the person's head while the sides may remain somewhat loose and spaced from the sides of the person's face to provide airflow. FIG.

20A further illustrates lead **628** located rearward the inner face opening **646** and extending between and connecting an exterior of the inner hood **626** and an interior of the outer hood **624** such that the lead **628** is connected to the interior of the outer hood **624** at a location that is higher than the uppermost edge of the inner face opening **646** when the inner hood **626** and the outer hood **624** extend over a head of a vertically oriented person wearing the hooded garment **620**. As shown by FIG. **21A**, lead **628** comprises a forwardly facing panel configured to have a lower portion connected to the exterior of the inner hood **626** and an upper portion, above the lower portion, connected to the interior of the outer hood **624** when the inner hood **626** and the outer hood **624** are positioned over a head of a vertically oriented person wearing the hooded garment **620**. FIGS. **21A**, **21B** and **22** illustrate both the inner face opening constrictor **632** and the inner hood top constrictor **634** in a constricted state. As result, the inner hood **626** may more closely conform to the top and sides of the head of the person wearing garment **620**, better retaining heat. At the same time, the outer hood **624** is substantially retained in shape and size to better block wind, sun, snow and/or rain. Garment **620** allows such constrictors **634**, **636** to be independently constricted or unconstricted.

Applicant measured the bending stiffness of the outer brim portion **60**, **460**, **660** and the inner brim portion **62**, **462**, **662**. Applicant worked with Assurance Technologies, Inc. ("ATI") of Bartlett, Illinois, an accredited lab that provides calibration services, dimensional inspection services, and testing services, to measure the bending stiffness of the outer brim portion **60**, **460**, **660** and the inner brim portion **62**, **462**, **662** in accordance with International Standard No. ISO 5628:2019, "Determination of Bending Stiffness—General Principles for Two-point, Three-point and Four-point Methods". ATI utilized the three-point testing method of ISO 5628:2019, which is schematically illustrated in FIG. **23**. ISO Standard 5628 provides test methods to enable the bending stiffness to be measured and described in a consistent way, despite variations in material type and instrument design. For low thickness specimens, the three-point bending test method is provided. ISO Standard 5628 defines bending stiffness as resistance that a test piece offers to bending, in the region of elastic deformation. FIG. **23** replicates FIG. 3 of ISO 5628:2019 in which a test piece is supported close to each end and is subjected to a force, $2F$, in the center of the test piece and acting perpendicular to the surface of the test piece at the start of the test. The distance between the end support locations $2l$, with l being the bending length. The linear deflection, f , of the test piece is the shift in the point of application of the force in the direction in which it acts. The bending stiffness, S_b , is calculated using the following formula. b is per unit sample thickness of the test piece (in the direction of the bending axis).

$$S_b = (F/f) \cdot (l^3/3b)$$

The bending stiffness, S_b , of 10 test pieces of the outer brim portion **460** and 10 test pieces of the inner brim portion **462** were measured using the three-point bending test method of ISO 5628:2019. The materials used to produce the outer brim portion **460** and the inner brim portion **462** were used to form test specimens having a length and a width of 102 mm. The linear deflection, f , was 15 mm and the bending length, l , was 38.1 mm. The sample thickness (b) of the samples of the outer brim portion **460** ranged from 0.84 mm to 0.97 mm, and the sample thickness (b) of the samples of the inner brim portion **462** ranged from 1.433

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mm to 1.693 mm. The bending stiffness S_b of the outer brim portion test specimens and the inner brim portion test specimens were measured and are listed in Table 1 below.

TABLE 1

BENDING STIFFNESS OF BRIM PORTIONS						
Sample	Sample No	Sample Thickness (b) mm	Force - (F) Newtons	Deflection (f) mm	Bending Length (l) mm	Bending Stiffness (S_b) N · mm
Inner Brim Portion	1	0.85	0.59158	15	38.1	855.382
	2	0.85	0.70278	15	38.1	1016.17
	3	0.84	0.68499	15	38.1	1016.17
	4	0.88	0.69389	15	38.1	969.101
	5	0.86	0.70723	15	38.1	1016.17
	6	0.84	0.74284	15	38.1	1016.17
	7	0.85	0.72058	15	38.1	1016.17
	8	0.97	0.70278	15	38.1	969.101
	9	0.97	0.59158	15	38.1	749.561
	10	0.89	0.67165	15	38.1	927.5
Avg. Range	Avg.	0.88	0.74284			959.152
	Range	0.13	0.15123			324.489
Outer Brim Portion	1	1.532	0.11565	15	38.1	92.7773
	2	1.497	0.1201	15	38.1	98.5982
	3	1.433	0.13789	15	38.1	118.261
	4	1.45	0.16902	15	38.1	143.266
	5	1.565	0.15123	15	38.1	118.766
	6	1.692	0.15568	15	38.1	113.082
	7	1.489	0.13344	15	38.1	110.142
	8	1.525	0.11565	15	38.1	93.2032
	9	1.534	0.16013	15	38.1	128.293
	10	1.49	0.13789	15	38.1	113.737
Avg. Range	Avg.	1.5207	0.13967			113.013
	Range	0.259	0.05338			50.4886

The bending stiffness, S_b , results demonstrate that the outer brim portion had bending stiffness that is significantly greater than the bending stiffness of the inner brim portion. In particular, the bending stiffness S_b of the samples of the outer brim portion was found to be at least 5 times greater than the bending stiffness S_b of the inner brim portion (5.23 times) when tested in accordance with ISO 5628:2019. Additionally, when the average bending stiffness S_b value obtained from the 10 outer brim portion samples is compared to the average bending stiffness S_b value obtained from the 10 inner brim portion samples, the average bending stiffness S_b of the outer brim portion was found to be over 8 times greater than the average bending stiffness S_b of the inner brim portion (8.487 times).

Accordingly in some implementations, outer brim portion **460** has a bending stiffness S_b value that is at least twice the bending stiffness S_b value of inner brim portion **462**. In some implementations, outer brim portion **460** has a bending stiffness S_b value that is at least 3 times the bending stiffness S_b value of inner brim portion **462**. In some implementations, outer brim portion **460** has a bending stiffness S_b value that is at least 5 times the bending stiffness S_b value of inner brim portion **462**. In other implementations, the outer brim portion **460** has a bending stiffness value that is at least 6 times the bending stiffness value of inner brim portion **462**. In other implementations, the outer brim portion **460** has a bending stiffness value that is at least 7 times the bending stiffness value of inner brim portion **462**. In still other implementations, the outer brim portion **460** has a bending stiffness value that is at least 8 times the bending stiffness value of inner brim portion **462**. The values or degrees of bending stiffness and the relative difference in bending stiffness between outer hood **424** and inner hood **426** impact the ability of constrictor **432** to constrict inner brim portion **462** without correspondingly constricting outer brim portion

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460. The hood thereby provides an inner brim portion that is readily constrictable and adjustable to meet the needs of the wearer while the outer brim portion is configured to generally retain its shape even in adverse weather conditions and when the wearer chooses to cinch, adjust and/or constrict the inner brim portion.

Although the present disclosure has been described with reference to example implementations, workers skilled in the art will recognize that changes may be made in form and detail without departing from the disclosure. For example, although different example implementations may have been described as including features providing various benefits, it is contemplated that the described features may be interchanged with one another or alternatively be combined with one another in the described example implementations or in other alternative implementations. Because the technology of the present disclosure is relatively complex, not all changes in the technology are foreseeable. The present disclosure described with reference to the example implementations and set forth in the following claims is manifestly intended to be as broad as possible. For example, unless specifically otherwise noted, the claims reciting a single particular element also encompass a plurality of such particular elements. The terms “first”, “second”, “third” and so on in the claims merely distinguish different elements and, unless otherwise stated, are not to be specifically associated with a particular order or particular numbering of elements in the disclosure.

What is claimed is:

1. A hooded garment comprising:

- a body portion;
- an outer hood projecting from the body portion and having an outer face opening;
- an inner hood projecting from the body portion within the outer hood, the inner hood having an inner face opening facing in a forward direction;
- a lead rearward the inner face opening and extending between and connecting an exterior of the inner hood and an interior of the outer hood such that the lead is connected to the interior of the outer hood at a location that is higher than an uppermost edge of the inner face opening when the inner hood and the outer hood extend over a head of a vertically oriented wearer wearing the hooded garment; and
- an inner face opening constrictor connected to the inner hood to constrict the inner face opening without constricting the outer face opening.

2. The hooded garment of claim 1, wherein the inner face opening constrictor comprises:

- a sleeve extending along the inner face opening forward of the lead; and
- a draw string slidably received within the sleeve, the draw string being pullable to constrict the inner face opening without constricting the outer face opening.

3. The hooded garment of claim 1, wherein the lead comprises a forwardly facing panel, the forwardly facing panel being configured to have a lower portion connected to the exterior of the inner hood and an upper portion, above the lower portion, connected to the interior of the outer hood when the inner hood and the outer hood are positioned over the head of the vertically oriented wearer wearing the hooded garment.

4. The hooded garment of claim 3, wherein the inner hood comprises an inner brim portion extending from the lead to a forward edge of the inner hood, the inner brim portion

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having a length of at least 1 inch, and wherein the outer hood comprises an outer brim portion having a length of at least 1.0 inch.

5 5. The hooded garment of claim 3, wherein the forwardly facing panel extends at least 180 degrees about and rearward the inner face opening.

6. The hooded garment of claim 5, wherein the inner hood comprises an inner brim portion having a first bending stiffness value and wherein the outer hood comprises an outer brim portion having a second bending stiffness value that is greater than the first bending stiffness value.

7. The hooded garment of claim 6, wherein the second bending stiffness value is at least two times greater than the first bending stiffness value.

8. The hooded garment of claim 6, wherein the second bending stiffness value is at least five times greater than the first bending stiffness value.

9. The hooded garment of claim 6, wherein the second bending stiffness value is at least eight times greater than the first bending stiffness value.

10. The hooded garment of claim 6, wherein the outer hood has a sufficient bending stiffness to retain a shape and size of the outer hood as the inner face opening is being constricted.

11. The hooded garment of claim 10, wherein the inner brim portion and the lead have a combined length within the range of 1.0 to 5.0 inches, and wherein the outer brim portion has a length within the range of 0.5 to 6 inches.

12. The hooded garment of claim 10, wherein the inner brim portion and the lead have a combined length that is equal to or less than the length of the outer brim portion.

13. The hooded garment of claim 1, wherein the inner hood comprises an insulation layer and wherein the outer hood omits any insulation layer.

14. The hooded garment of claim 1, wherein the body portion has a back region and wherein a single continuous panel of material forms the outer hood and the back region of the body portion, and wherein a second continuous panel of material forms the inner hood and the back region of the body portion.

15. The hooded garment of claim 1, wherein the outer hood comprises a generally rigid sculptural exterior hood and wherein the inner hood comprises a down-filled hood.

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16. The hooded garment of claim 1, wherein the inner hood comprises an inner brim portion extending forwardly from the lead and having a first bending stiffness, and wherein the outer hood comprises an outer brim portion extending forwardly from the lead and having a second bending stiffness greater than the first bending stiffness.

17. The hooded garment of claim 1 further comprising an inner hood top constrictor connected to the inner hood to constrict the inner hood about a top of the head of the wearer wearing the hooded garment.

18. The hooded garment of claim 17, wherein the inner face opening constrictor and the inner hood top constrictor can be adjusted independently by the wearer of the garment.

19. The hooded garment of claim 1, wherein the lead comprises at least one panel, the lead extending along a majority of the inner face opening rearward of the inner face opening.

20. A hooded garment comprising:

a body portion;

an outer hood projecting from the body portion and having an outer face opening;

an inner hood projecting from the body portion within the outer hood, the inner hood having an inner face opening facing in a forward direction;

a lead rearward the inner face opening and extending between and connecting an exterior of the inner hood and an interior of the outer hood such that the lead is connected to the interior of the outer hood at a location that is higher than an uppermost edge of the inner face opening when the inner hood and the outer hood extend over a head of a vertically oriented wearer wearing the hooded garment; and

an inner face opening constrictor connected to the inner hood to constrict the inner face opening without constricting the outer face opening,

wherein the lead comprises a forwardly facing panel and wherein the forwardly facing panel extends at least 180 degrees about and rearward the inner face opening.

21. The hooded garment of claim 20, wherein the inner hood comprises an inner brim portion having a first bending stiffness value and wherein the outer hood comprises an outer brim portion having a second bending stiffness value that is greater than the first bending stiffness value.

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