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(54) SLEEPING BAG WITH SELF-SEALING, VENTED FOOTBOX

SCHLAFSACK MIT SELBSTVERSCHLIESSENDEM UND BELÜFTETEM FUSSFACH

SAC DE COUCHAGE COMPRENANT UN COMPARTIMENT POUR PIEDS AÉRÉ AUTO-ÉTANCHE

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EP 3 068 269 B1

Description

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This nonprovisional application claims priority to U.S. Provisional Patent Application Serial Number 61/902,628, filed on November 11, 2013.

FIELD

[0002] The field of this disclosure relates generally to sleeping bags, and more particularly to sleeping bags having a self-sealing vent opening selectively moveable from a closed configuration to an opened configuration for venting an inner volume of the sleeping bags.

BACKGROUND

[0003] Document US 7,752,690 B1 relates to a sleeping bag sized to enclose the body of a user from at least the neck to the toes having a plurality of transverse ingress/egress openings in the top cover disposed between the head end and foot end in parallel longitudinally spaced apart relation at locations corresponding generally to various body areas and segments of a human body that enable concurrent passage of selected parts or segments of the user's body into and out of the interior space such that at least one selected part or segment of the user's body can be extended into the interior space to be covered, while concurrently therewith, other selected parts or segments of the user's body can be left out or extended out of the interior space through other respective openings to be uncovered. The openings may be provided with closures and portions of the closures may be luminescent.

[0004] Document US 2,803,824 relates to an infant's sleeping garment comprising a tubular bag component comprising front and back sections of material joined along their side margins and unjoined along their top and bottom margins defining top. Bottom access openings are extending substantially the full width of the bag component. A centrally located neck opening is formed in the material defining the top margin of the bag component. A pair of shoulder flaps is disposed to opposite sides of the neck opening to embrace the shoulder regions of an infant within the bag. One margin of each flap is joined to the top margin of one of said sections of material. Each flap is joined to its associated section of material along a line of joinder extending inwardly from a point adjacent a side margin of the bag component toward said centrally located neck opening. Each flap is folded along its said line of joinder to an associated section of material inwardly through the top access opening of the bag component to lie contiguous against the opposite section of material. The outer side margin of each flap is secured interiorly of the bag component to an adjacent side margin of said bag component.

[0005] Document US 2009/0113628 relates to a sleeping bag having an elongated bottom mat formed of flexible material and having opposing head and foot edges. The main cover is formed of flexible material, has head and foot edges, and overlies the bottom mat, to which it is permanently secured. The main cover has a transverse slit between the head and foot edges of the cover at a location closer to the foot edge of the main cover than to the head edge, and is spaced from the foot edge by about one to three feet. The foot edge of the bottom mat is releasably secured to the foot edge of the main cover, and the head edge of the bottom mat is not joined to the head edge of the main cover to provide an entry into the sleeping bag for a user. A top cover, also formed of flexible material, is secured to the main cover and overlies only the portion of the main cover that includes the foot edge and the transverse slit of the main cover.

[0006] Typically, sleeping bags are used when conventional bed and bedding are unavailable. For example, sleeping bags are used by backpackers, hikers, campers, mountaineers, and other users as portable beds or coverings. Sleeping bags are often durable sleeping coverings that provide a soft surface, insulation, and weather resistance.

[0007] Consumers face a difficult task in finding a sleeping bag that is thermally efficient, comfortable, and lightweight. One type of sleeping bag is referred to as a "mummy bag", which tends to be shaped with a lateral taper to approximate the contour of the body of a user and thereby minimize the internal volume of the bag. Mummy bags attempt to conserve heat by minimizing air movement within and from the bag. As a result, mummy bags are often suited for use in outdoor, colder ambient temperatures. One drawback to the mummy bag is that some users may feel discomfort due to the tight fit of the bag. Some users may become too warm or the air within the bag may become stagnant. Such feeling of discomfort may be increased in the foot portion of the bag due to its distance from the opening of the bag. Thus, some users are unable to sleep comfortably in mummy bags.

[0008] Other sleeping bags, such as rectangular-type sleeping bags, are shaped with a generally constant lateral dimension and provide a greater range of motion for the user. Such bags also typically have a zippered portion to allow the user to more easily enter the bag. However, although rectangular bags are often more spacious than mummy bags, one drawback is that the larger internal volume reduces the thermal efficiency of the bag. Moreover, rectangular bags often do no insulate the head, and are typically too large to be thermally efficient. As a result, rectangular bags tend to be better suited for use indoors or in milder outdoor temperatures. When used in outdoor, colder ambient temperatures, air within the bag can more easily become chilled, especially in the foot portion of the bag.

[0009] Accordingly, a need exists for a sleeping bag that is both comfortable, thermally efficient, and allows the warm, stagnant air within the bag to escape and be replaced with fresh, ambient air.

BRIEF DESCRIPTION

[0010] The invention is set forth by the subject-matter of the independent claim. The subject-matter of the dependent claims are embodiments of the invention.

[0011] In one example, a sleeping bag generally comprises an elongate shell defining an inner volume sized and shaped to receive a user therein. The shell has a head portion, a foot portion, a middle portion extending longitudinally between the head and foot portions, an overlying portion adapted to overlie the user during use, an underlying portion adapted to underlie the user during use, and a vent. The vent is selectively moveable between a closed configuration and an opened configuration to enable the user to access the exterior of the sleeping bag from within the bag. The vent comprises an inner panel and an outer panel. The inner panel is positioned in overlapping face-to-face engagement with the outer panel in the closed configuration. The outer panel is spaced from the inner panel in the opened configuration to define a passage to enable the user to extend his or her feet through the vent.

[0012] In another example, a sleeping bag generally comprises an elongate shell defining a longitudinal centerline and an inner volume sized and shaped to receive a user therein. The shell has an overlying portion adapted to overlie the user during use, an underlying portion adapted to underlie the user during use, and a vent. The vent has an opening selectively moveable between a closed configuration and an opened configuration to enable the user to access the exterior of the sleeping bag from within the sleeping bag. The opening extends substantially perpendicular to the longitudinal centerline. The vent is fastener free.

[0013] In yet another illustrative example helpful for the understanding of the invention, a sleeping bag generally comprises an elongate shell defining a longitudinal centerline and an inner volume sized and shaped to receive a user therein. The shell has a head end panel, a foot end panel, and a pair of spaced side panels extending longitudinally between the head end panel and the foot end panel, an overlying portion adapted to overlie the user during use, an underlying portion adapted to underlie the user during use, and a pair of vents. Each of the vents is selectively moveable between a closed configuration and an
opened configuration to enable the user to access the exterior of the sleeping bag from within the sleeping bag. Each of the vents comprises an inner panel and an outer panel. The inner panel is positioned in overlapping face-to-face engagement with the outer panel in the closed configuration. The inner panel and the outer panel are generally perpendicular to the underlying portion in the closed configuration.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014]

FIG. 1 is a perspective view of one embodiment of a sleeping bag having a vent;

FIG. 2 is a top plan view of the sleeping bag of FIG. 1;

FIG. 3 is a bottom plan view of the sleeping bag of FIG. 1;

FIG. 4 is an end view showing a foot end panel of the sleeping bag of FIG. 1;

FIG. 5 is an end view showing a head end panel of the sleeping bag of FIG. 1;

FIG. 6 is a right side elevation of the sleeping bag of FIG. 1;

FIG. 7 is an enlarged top plan view of the foot portion of the sleeping bag of FIG. 1 illustrating the interior portion of a ventable foot portion in a closed configuration;

FIG. 8 is an enlarged perspective view of the foot portion of the sleeping bag of FIG. 1 illustrating the interior portion of a ventable foot portion in an opened configuration;

FIG. 9 is an enlarged top plan view of the foot portion of the sleeping bag of FIG. 1 illustrating the exterior portion of a ventable foot portion in a closed configuration;

FIG. 10 is an enlarged perspective view of the foot portion of the sleeping bag of FIG. 1 illustrating the exterior portion of a ventable foot portion in an opened configuration;

FIG. 11 is an enlarged section view of the foot portion of the sleeping bag of FIG. 1 taken along the longitudinal centerline;

FIG. 12 is an enlarged perspective view of the foot portion of the sleeping bag of FIG. 1 showing a user's feet inside the sleeping bag and the ventable foot portion in a closed configuration;

FIG. 13 is an enlarged perspective view of the foot portion of the sleeping bag of FIG. 1 showing a user's feet extending through the ventable foot portion external of the sleeping bag;

FIG. 14 is a perspective view of a sleeping bag having a vent as an illustrative example helpful for the understanding of the invention;

FIG. 15 is a perspective view of yet another a sleeping bag having a pair of vents as an illustrative example helpful for the understanding of the invention.

[0015] Corresponding reference characters indicate corresponding parts throughout the several views of the drawings.

DETAILED DESCRIPTION OF THE DRAWINGS

[0016] Referring now to the drawings and in particular to FIGS. 1-6, one suitable embodiment of a sleeping bag is designated in its entirety by the reference number 10. The sleeping bag 10 comprises an elongate shell 12 that defines an inner volume that is sized and shaped to receive a user therein. The shell 12 has a head portion 14, a foot portion 18, and a middle portion 16 that extends longitudinally between the head portion 14 and foot portion 18. In addition, the shell 12 has an overlying portion 20 that is configured to overlie the user and an underlying portion 22 that is configured to underlie the user during use of the sleeping bag 10. In the illustrated embodiment, the sleeping bag 10 is a "zipperless" sleeping bag, i.e., is free from any zippers. In other suitable embodiments, the sleeping bag 10 may have a zipper configured to selectively attach and detach at least a portion of the overlying portion 20 to at least a portion of the underlying portion 22 of the sleeping bag 10. In the illustrated embodiment, the sleeping bag 10 is a "regular" size sleeping bag configured to fit users up to about 6 feet tall. It is understood, however, that the sleeping bag 10 may have any suitable size (e.g., shorter, longer, wider, narrower) and may be configured specifically for men, women, or youths. It is also contemplated that the sleeping bag 10 can be sized and shaped to receive more than one individual (e.g., two individuals).

[0017] In the illustrated embodiment, the shell 12 comprises a head end panel 24 located in the head portion 14, a foot end panel 26 located in the foot portion 18, and a pair of spaced side panels 28 located in the middle portion 16. The side panels 28 extend longitudinally between the head end panel 24 and the foot end panel 26 and are symmetrical about a longitudinal centerline CL of the sleeping bag 10. The head end panel 24, the foot end panel 26, and the side panels 28 are stitched into the shell 12 between the overlying portion 20 and underlying portion 22. As a result, the panels 24, 26, 28 collectively provide vertical expansion of the shell 12, thus adding inner volume to the sleeping bag 10. It is contemplated that in some embodiments, the panels 24, 26, 28 can be omitted.

[0018] In the illustrated embodiment, the shell 12 is tapered toward the foot portion 18 to generally conform to the contours of the user, being broadest in the head portion 14 corresponding to the shoulders of the user and narrowest in the foot portion 18 corresponding to the feet of the user. The tapered shell 12 thus provides the user a generally snug fit. By generally conforming to the contours of the user and substantially receiving the user therein, air movement within the sleeping bag 10 is substantially reduced, thus making the bag thermally efficient. The illustrated sleeping bag 10 can be generally categorized as a semi-rectangular bag or a tapered bag. It is understood, however, that in other embodiments the sleeping bag 10 could have less taper (e.g., a rectangular-type bag) or have greater taper (e.g., a mummy type bag).

[0019] The shell 12 comprises an inner layer 30 that defines the inner volume of the shell 12 and an outer layer 32 that defines an exterior of the shell 12. The inner layer 30 is configured to receive the user occupying the inner volume of the sleeping bag 10. The inner and outer layers 30, 32 can be any suitable material (e.g., polyester). In some embodiments, the inner layer 30 can be made from a material different than the outer layer 32. The shell 12 also comprises an insulation material (not shown) that is located between the inner layer 30 and the outer layer 32 to facilitate providing warmth and softness to the sleeping bag 10. The insulation material can be attached to the inner and outer layers 30, 32 of the shell 12 using stitch-lines. It is understood that the insulation material can be any suitable material (e.g., goose down, CLOUDLOFT insulation, DRIDOWN insulation) and that the amount of insulation material can be selected to achieve the desired warmth and softness. The inner and outer layers 30, 32 are stitched together along their periphery edges to enclose the insulation material between the layers 30, 32.

[0020] In one suitable embodiment, the sleeping bag 10 has a hood 34 located at the head portion 14 of the shell 12. The hood 34 is configured to receive the head of the user. In addition, the shell 12 has a vent 40 for selectively opening and closing the foot portion 18 of the shell 12. The vent 40 is formed in the shell 12 at the foot portion 18 in the underlying portion 22. The vent 40 enables venting of the inner volume at the foot portion 18 of the sleeping bag 10.

[0021] With reference to FIGS. 7-13, the illustrated sleeping bag 10, and more specifically, the underlying portion 22 includes the vent 40, which defines a passage 42 through the shell 12 to enable the user to access the exterior of the sleeping bag from within the sleeping bag 10. The vent 40 of the illustrated sleeping bag 10 is located in the underlying portion 22 such that the user can selectively extend his or her feet through the vent 40 (FIG. 13). The vent 40 includes an inner panel 44 and an outer panel 46. A closed configuration, as illustrated for example in FIGS. 7, 9, and 11, is defined by the outer panel 46 overlapping in direct face-to-face relationship the inner panel 44. The overlapping relationship of the outer panel 46 and the inner panel 44 inhibits air from entering the inner volume of the sleeping bag 10 and enables the vent 40 to be self-sealing, i.e., to automatically seal without the use of fasteners. Moreover, the outer panel 46 and inner panel 44 are configured to inhibit the vent 40 from unintentionally opening during use of the sleeping bag 10. In another suitable embodiment, the vent 40 may include a fastener to facilitate maintaining the vent 40 in the closed configuration. For example, without limitation, the vent 40 may include a zipper, snaps, hook and loop

fasteners, magnets, or any other suitable fasteners to allow the vent 40 to be held in the closed configuration.

[0022] As illustrated for example in FIGS. 8, 10, and 13, an opened configuration is defined by the outer panel 46 being at least in part in spaced relationship to the inner panel 44. In the opened configuration, the user is able to extend his or her foot or feet through the passage 42 of the vent 40 to a location that is external to the inner volume of the sleeping bag 10 (FIG. 13). When the user draws his or her foot or feet back into the sleeping bag 10, the outer panel 46 and inner panel 44 are configured to move back to a face-to-face relationship wherein the vent 40 is moved back to the closed configuration without any additional effort by the user (FIG. 12), i.e., upon the foot or feet being withdrawn from one the vent 40, the outer panel 46 will automatically return to position overlying the inner panel 44.

[0023] As illustrated in FIG. 11, in the closed configuration, the outer panel 46 and the inner panel 44 cooperate to define part of the underlying portion 22. The inner panel 44 has an inner free edge 48 and the outer panel 46 has an outer free edge 50. In the illustrated embodiment, the inner panel 44 overlaps the outer panel 46 such that the inner free edge 48 of the inner panel 44 is spaced a predetermined distance L from the outer free edge 50 of the outer panel 46. Distance L is long enough to seal out drafts while still enabling the user to slide his or her foot or feet through the vent 40.

[0024] In the illustrated embodiment, the outer panel 46 and the inner panel 44 are made from the same material as the shell 12 (i.e., an inner layer, an outer layer, and an insulation material between the inner and outer layers). It is understood, however, that the outer and inner panels can be made from any suitable material or materials. The illustrated inner and outer panels 44, 46 have a width that is generally the entire width of the underlying portion 22, such that an opening 52 of the vent 40 extends the entire width of the underlying portion 22, substantially perpendicular to the longitudinal centerline CL. It is understood however that the width of the outer panel 46 and the inner panel 44 may be any width that enables the outer and inner panels to function as described herein.

[0025] In operation, the vent 40 provides ventilation to the foot portion 18 of the sleeping bag 10 without the need for fasteners (e.g., zippers, snap fasteners, or buttons). It is understood, however, that a fastener may be used to close the vent 40 in other suitable embodiments. The user slides his or her foot or feet under the inner panel 44, passing it through the passage 42 to the exterior of the sleeping bag 10, thereby moving the vent 40 to the opened configuration "hands free," i.e., the user can move the vent 40 to the opened configuration from inside the sleeping bag 10 without the use of his or her hands. In the opened configuration, the user's foot or feet are exterior to the sleeping bag 10 whereby they are exposed to the ambient air, and the passage 42 is at least partially opened enabling ambient air to circulate through the sleeping bag 10 (FIG. 13). To close the vent 40, the user draws his or her foot or feet inside the sleeping bag 10 and places his or her foot or feet on top of the inner panel 44. The inner panel 44 and the outer panel 46 are moved to a face-to-face relationship and the vent 40 is closed to create a seal. In the closed configuration, the user's feet rests on the inner panel 44, wherein the weight of his or her feet facilitates maintaining the vent 40 in the closed configuration (FIG. 12).

[0026] In another illustrative example helpful for the understanding of the invention illustrated in FIG. 14, the inner panel 44 and the outer panel 46 extend to the foot end panel 26. That is, the underlying portion 22 is continuous and extends longitudinally between the head end panel 24 and the foot end panel 26, and the vent 40 is located in the foot end panel. The passage 42 extends through the shell 12 to enable the user to access the exterior of the sleeping bag from within the sleeping bag 10. As described above, the closed configuration of the vent 40 is defined by the outer panel 46 overlapping in direct face-to-face relationship with the inner panel 44. The opened configuration is defined by the outer panel 46 being at least in part in spaced relationship to the inner panel 44. As illustrated in FIG. 14, in the closed configuration, the outer panel 46 and the inner panel 44 cooperate to define part of the foot end panel 26 and the underlying portion 22. The inner panel 44 has an inner free edge 48 and the outer panel 46 has an outer free edge 50. The inner panel 44 overlaps the outer panel 46 forming an L-shaped passage 42 such that the inner free edge 48 of the inner panel 44 is spaced a predetermined distance L from the
foot end panel 26, and the outer free edge 50 is spaced a predetermined distance H from the underlying portion 22. The combined distance of L and H is long enough to seal out drafts while still enabling the user to slide his or her foot or feet through vent 40.

[0027] As previously described, the outer panel 46 and the inner panel 44 are made from the same material as the shell 12 (i.e., an inner layer, an outer layer, and an insulation material between the inner and outer layers). It is understood, however, that the outer and inner panels can be made from any suitable material or materials. The illustrated inner and outer panels 44, 46 have a width that is generally the entire width of the underlying portion 22 and the foot end panel 26, such that an opening 52 of the vent 40 extends the entire width of the underlying portion 22 and the foot end panel 26, substantially perpendicular to the longitudinal centerline CL. It is understood however that the width of the outer panel 46 and the inner panel 44 may be any width that enables the outer and inner panels to function as described herein.

[0028] In another illustrative example helpful for the understanding of the invention illustrated in FIG 15, a pair of outer panels 46 is positioned in the foot portion 18 of the side panels 28 along with the inner panel 44. In this embodiment, the underlying portion 22 is continuous and extends longitudinally between the head end panel 24

and the foot end panel 26, and the sleeping bag comprises a pair of vents 40, one located in each side panel 28, generally perpendicular to the underlying portion 22 in the closed configuration. The vents 40 are symmetrical about the longitudinal centerline CL of the sleeping bag 10. In the illustrated embodiment, the passage 42 extends through the shell 12 to enable the user to access the exterior of the sleeping bag from within the sleeping bag 10. As described above, the closed configuration of the vent 40 is defined by the outer panel 46 overlapping in direct face-to-face relationship the inner panel 44. The opened configuration is defined by the outer panel 46 being at least in part in spaced relationship to the inner part 44.

[0029] As illustrated in FIG. 15, in the closed configuration, one of the outer panels 46 and the inner panel 44 cooperate to define part of one side panel 28 and the underlying portion 22. The other outer panel 46 cooperates with the inner panel 44 to define part of the opposite side panel 28 and the underlying portion 22. The inner panel 44 has an inner free edge 48 and each of the outer panels 46 has an outer free edge 50. The inner panel 44 overlaps the outer panels 46 forming a U-shaped passage 42 such that the inner free edge 48 of the inner panel 44 is spaced a predetermined distance L from the foot end panel 26, and the free edges 50 are spaced a predetermined distance H from the underlying portion 22. The overlap distance of L and H is long enough to seal out drafts while still enabling the user to slide his or her foot or feet through the opening 52 of the vent 40. The openings 52 of the vents 40 are substantially parallel to the longitudinal centerline CL of the shell 12. As previously described, the outer panels 46 and the inner panel 44 are made from the same material as the shell 12 (i.e., an inner layer, an outer layer, and an insulation material between the inner and outer layers). It is understood, however, that the outer and inner panels can be made from any suitable material or materials.

[0030] An advantage of the above embodiments is that the vents are lightweight because they do not require any fasteners for closure. Furthermore, the vents are self-sealing vents and enable the user to operate the vents from the inside of the sleeping bag using only his or her feet. In addition, the above disclosed vents provide a tortuous path to inhibit the introduction of air into the interior of the sleeping bag causing loss of heat.

[0031] When introducing elements of the present invention or the preferred embodiment(s) thereof, the articles "a", "an", "the" and "said" are intended to mean that there are one or more of the elements. The terms "comprising", "including" and "having" are intended to be inclusive and mean that there may be additional elements other than the listed elements.

[0032] As various changes could be made in the above constructions, it is intended that all matter contained in the above description and shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

[0033] This written description uses examples to disclose the invention, including the best mode, and also to enable any person skilled in the art to practice the invention, including making and using any devices or systems and performing any incorporated methods.

Claims

1. A sleeping bag comprising an elongate shell defining an inner volume sized and shaped to receive a user therein, the shell having a head portion, a foot portion, a middle portion extending longitudinally between the head and foot portions, an overlying portion adapted to overlie the user during use, an underlying portion adapted to underlie the user during use, and a vent, the vent being selectively moveable between a closed configuration and an opened configuration to enable the user to access the exterior of the sleeping bag from within the sleeping bag, the vent comprising an inner panel and an outer panel that cooperate to define at least a portion of the underlying portion of the shell, the inner panel being positioned in overlapping face-to-face engagement with the outer panel in the closed configuration, the outer panel being spaced from the inner panel in the opened configuration to define a passage to enable the user to extend his or her feet through the vent, wherein upon withdrawing the feet from the vent, the outer panel is configured to automatically return to the overlapping face-to-face engagement with the inner panel to self-seal the vent in the closed configuration.

2. The sleeping bag as set forth in claim 1 wherein the inner panel has an inner free edge and the outer panel has an outer free edge, the inner free edge being spaced a predetermined distance from the outer free edge.

3. The sleeping bag as set forth in claim 2 wherein the predetermined distance is adapted to enable sealing the vent and to enable the user to extend his or her feet through the vent.

4. The sleeping bag as set forth in claim 1 wherein the shell has a longitudinal centerline and the vent has an opening, the opening of the vent being located in the underlying portion of the shell, the opening extending across a portion of the underlying portion of the shell substantially perpendicular to the longitudinal centerline.

5. The sleeping bag as set forth in claim 4 wherein the opening of the vent extends the entire width of the underlying portion of the shell.

6. The sleeping bag as set forth in claim 1 wherein the

shell further comprises a head end panel, a foot end panel, and a pair of spaced side panels extending longitudinally between the head end panel and the foot end panel.

Patentansprüche

1. Schlafsack, der eine längliche Hülle umfasst, die ein Innenvolumen definiert, das so bemessen und geformt ist, dass es einen Benutzer darin aufnehmen kann, wobei die Hülle einen Kopfabschnitt, einen Fußabschnitt, einen mittleren Abschnitt, der sich in Längsrichtung zwischen dem Kopf- und Fußabschnitt erstreckt, einen bedeckenden Abschnitt, der angepasst ist, den Benutzer während der Verwendung zu bedecken, einen unterliegenden Abschnitt, der angepasst ist, während der Verwendung unter dem Benutzer zu liegen, und eine Belüftungsöffnung umfasst, wobei die Belüftungsöffnung wahlweise zwischen einer geschlossenen Konfiguration und einer geöffneten Konfiguration bewegbar ist, um dem Benutzer den Zugang zur Außenseite des Schlafsacks vom Inneren des Schlafsacks zu ermöglichen, wobei die Belüftungsöffnung eine Innenwand und eine Außenwand aufweist, die zusammenwirken, um mindestens einen Abschnitt des unterliegenden Abschnitts der Hülle zu bilden, wobei die Innenwand in der geschlossenen Konfiguration in überlappendem Flächeneingriff mit der Außenwand angeordnet ist, wobei die Außenwand von der Innenwand in der geöffneten Konfiguration beabstandet ist, um einen Durchgang zu definieren, um dem Benutzer zu ermöglichen, seine oder ihre Füße durch die Belüftungsöffnung hindurch auszustrecken, wobei die Außenwand ausgestaltet ist, um beim Zurückziehen der Füße aus der Belüftungsöffnung automatisch in den überlappenden Flächeneingriff mit der Innenwand zurückzukehren, um die Belüftungsöffnung in der geschlossenen Konfiguration selbst zu verschließen.

2. Schlafsack nach Anspruch 1, wobei die Innenwand einen inneren freien Rand und die Außenwand einen äußeren freien Rand aufweist, wobei der innere freie Rand einen vorbestimmten Abstand vom äußeren freien Rand angeordnet ist.

3. Schlafsack nach Anspruch 2, wobei der vorbestimmte Abstand angepasst ist, das Verschließen der Belüftungsöffnung zu ermöglichen und dem Benutzer das Ausstrecken seiner oder ihrer Füße durch die Belüftungsöffnung hindurch zu ermöglichen.

4. Schlafsack nach Anspruch 1, wobei die Hülle eine Längsmittellinie aufweist und die Belüftungsöffnung eine Öffnung aufweist, wobei die Öffnung der Belüftungsöffnung im unterliegenden Abschnitt der Hülle angeordnet ist, wobei sich die Öffnung über einen Abschnitt des unterliegenden Abschnitts der Hülle im Wesentlichen senkrecht zur Längsmittellinie erstreckt.

5. Schlafsack nach Anspruch 4, wobei sich die Öffnung der Belüftungsöffnung über die gesamte Breite des unterliegenden Abschnitts der Hülle erstreckt.

6. Schlafsack nach Anspruch 1, wobei die Hülle überdies eine Kopfendwand, eine Fußendwand und eine Paar beabstandete Seitenwände, die sich in Längsrichtung zwischen der Kopfendwand und der Fußendwand erstrecken, umfasst.

Revendications

1. Sac de couchage comprenant une enveloppe allongée définissant un volume interne dimensionné et formé pour y recevoir un utilisateur à l'intérieur, l'enveloppe ayant une partie pour la tête, une partie pour les pieds, une partie centrale s'étendant longitudinalement entre les parties pour la tête et pour les pieds, une partie de revêtement conçue pour recouvrir l'utilisateur pendant l'utilisation, et une partie sous-jacente conçue pour se trouver au-dessous de l'utilisateur pendant l'utilisation et un évent, l'évent étant sélectivement mobile entre une configuration fermée et une configuration ouverte pour permettre à l'utilisateur d'accéder à l'extérieur du sac de couchage depuis l'intérieur du sac de couchage, l'évent comprenant un panneau intérieur et un panneau extérieur qui coopèrent pour définir au moins une partie de la partie sous-jacente de l'enveloppe, le panneau intérieur étant positionné dans une mise en prise face-à-face chevauchante avec le panneau extérieur dans la configuration fermée, le panneau extérieur étant espacé du panneau intérieur dans la configuration ouverte pour définir un passage pour permettre à l'utilisateur d'étendre ses pieds à travers l'évent, dans lequel, lors du retrait des pieds de l'évent, le panneau extérieur est conçu pour retourner automatiquement à la mise en prise face-à-face chevauchante avec le panneau intérieur pour auto-sceller l'évent dans la configuration fermée.

2. Sac de couchage tel que décrit dans la revendication 1, dans lequel le panneau intérieur a un bord libre intérieur et le panneau extérieur a un bord libre extérieur, le bord libre intérieur étant espacé d'une distance prédéfinie du bord libre extérieur.

3. Sac de couchage tel que décrit dans la revendication 2, dans lequel la distance prédéfinie est conçue pour permettre une étanchéification de l'évent et permettre à l'utilisateur d'étendre ses pieds à travers l'évent.

4. Sac de couchage tel que décrit dans la revendication 1, dans lequel l'enveloppe a une ligne centrale longitudinale et l'évent a une ouverture, l'ouverture de l'évent étant située dans la partie sous-jacente de l'enveloppe, l'ouverture s'étendant à travers d'une partie de la partie sous-jacente de l'enveloppe sensiblement perpendiculaire à la ligne centrale longitudinale.

5. Sac de couchage tel que décrit dans la revendication 4, dans lequel l'ouverture de l'évent s'étend sur toute la largeur de la partie sous-jacente de l'enveloppe.

6. Sac de couchage tel que décrit dans la revendication 1, dans lequel l'enveloppe comprend en outre un panneau d'extrémité pour la tête, un panneau d'extrémité pour les pieds et une paire de panneaux latéraux espacés s'étendant longitudinalement entre le panneau d'extrémité pour la tête et le panneau d'extrémité pour les pieds.

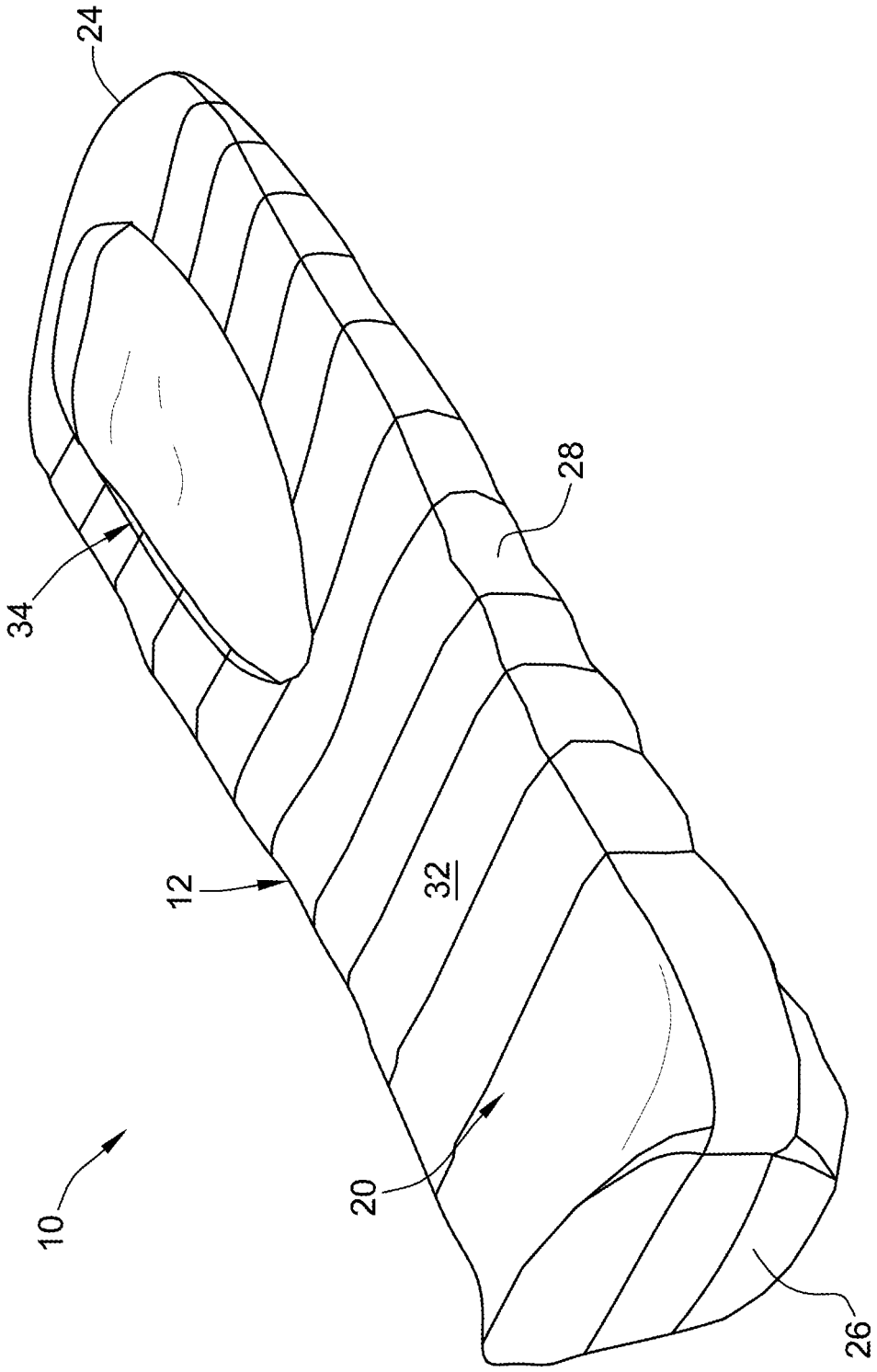

FIG. 1

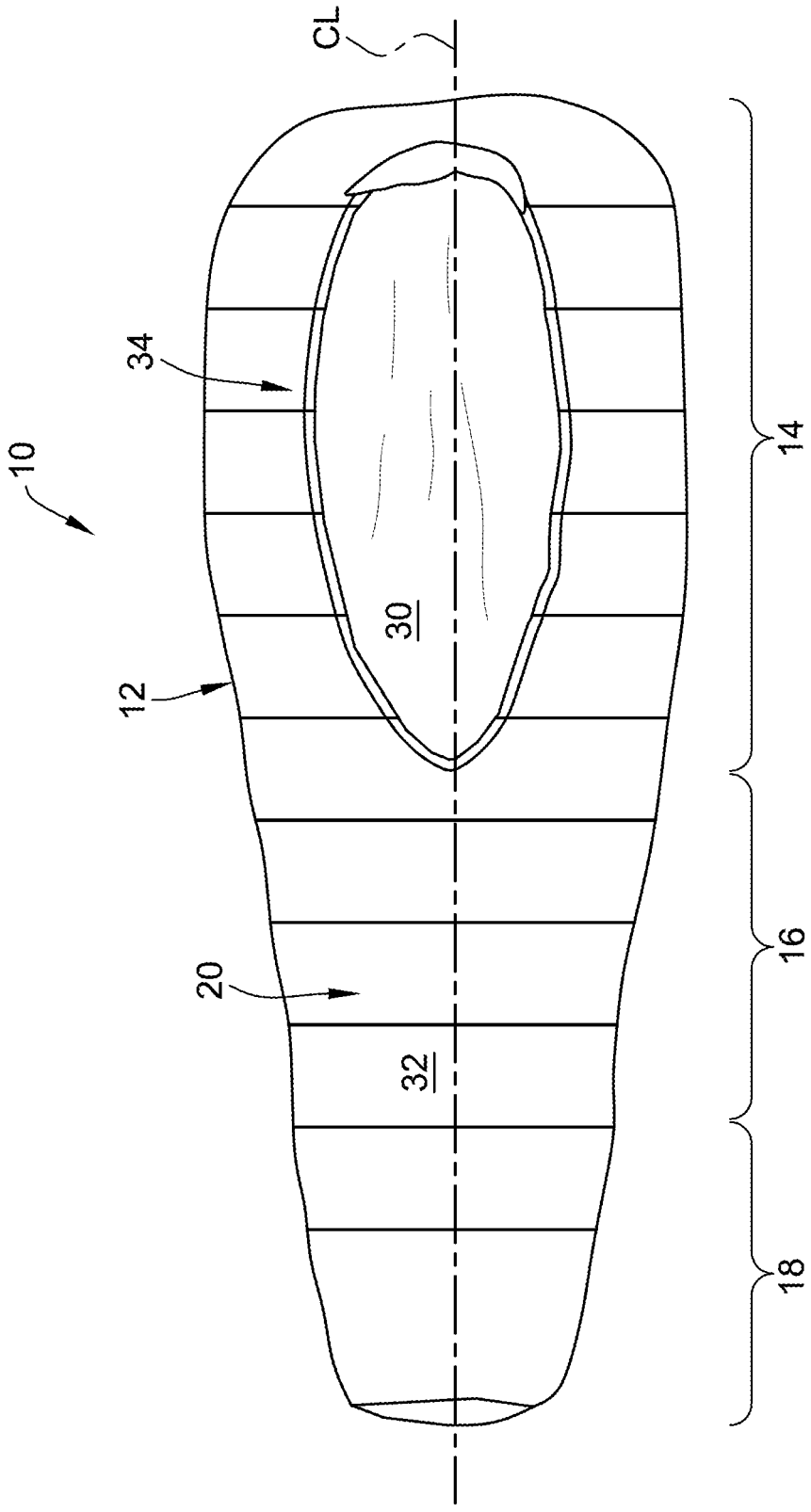

FIG. 2

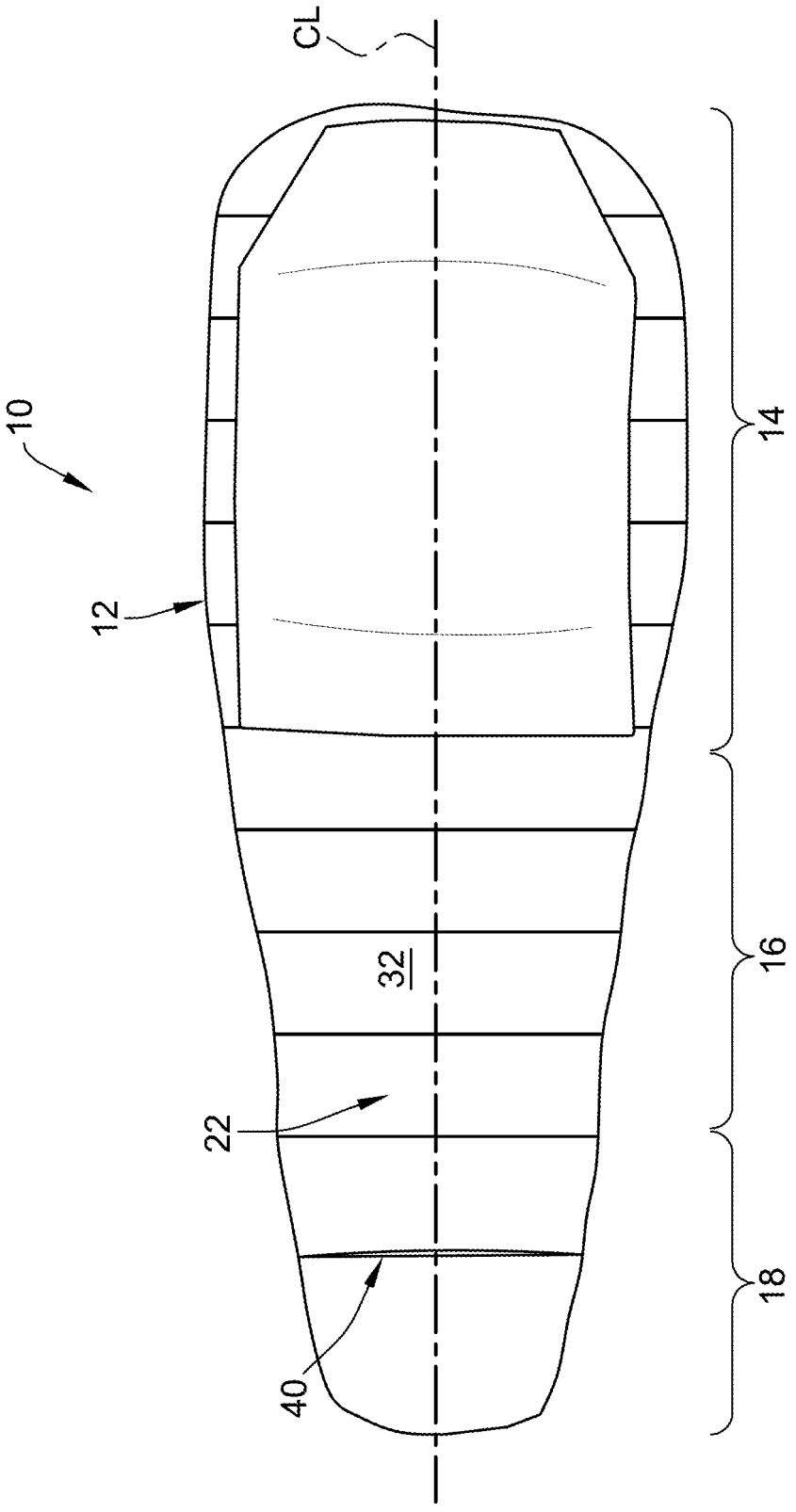

FIG. 3

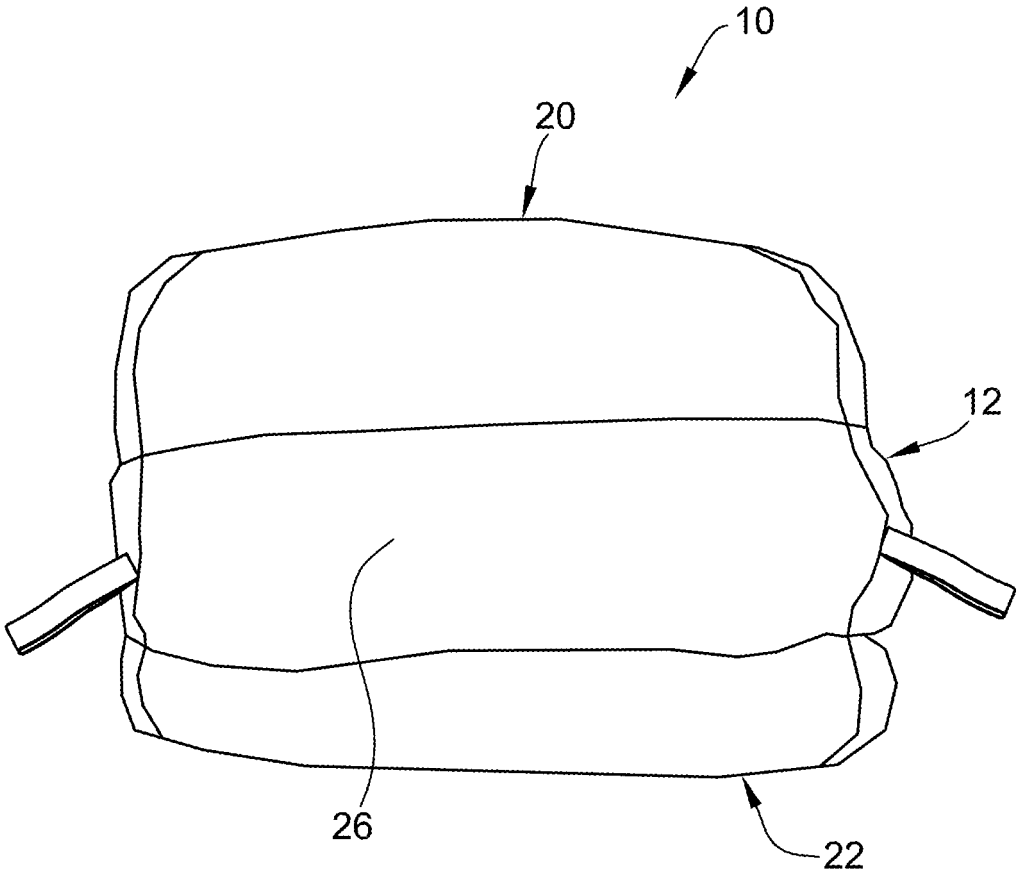

FIG. 4

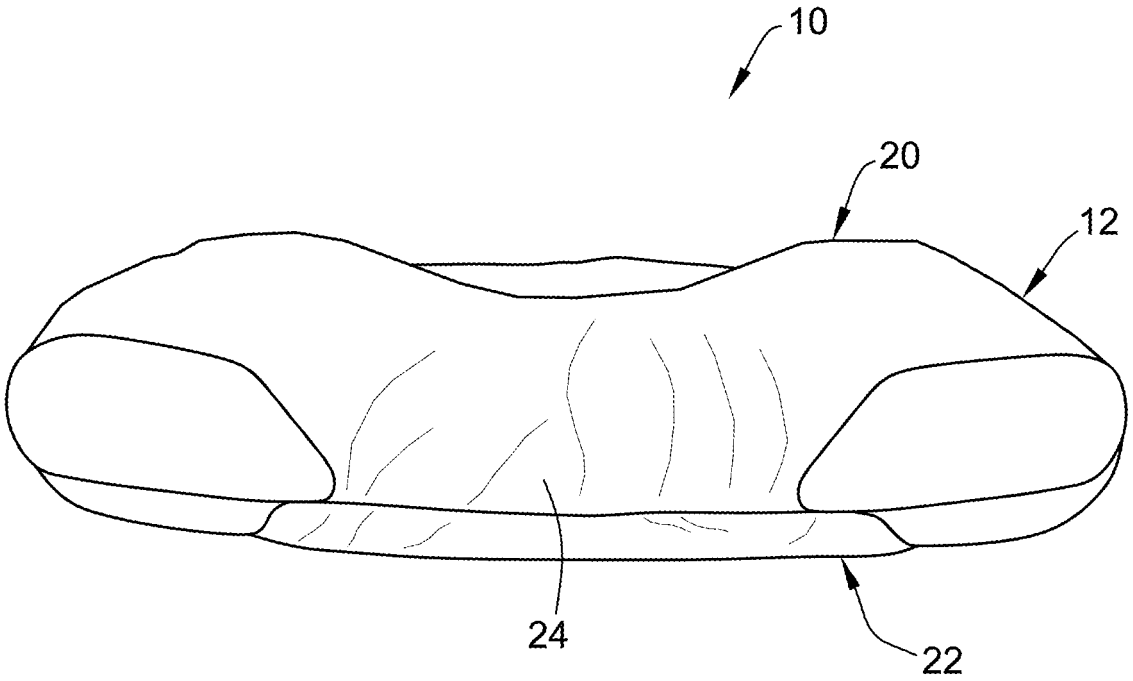

FIG. 5

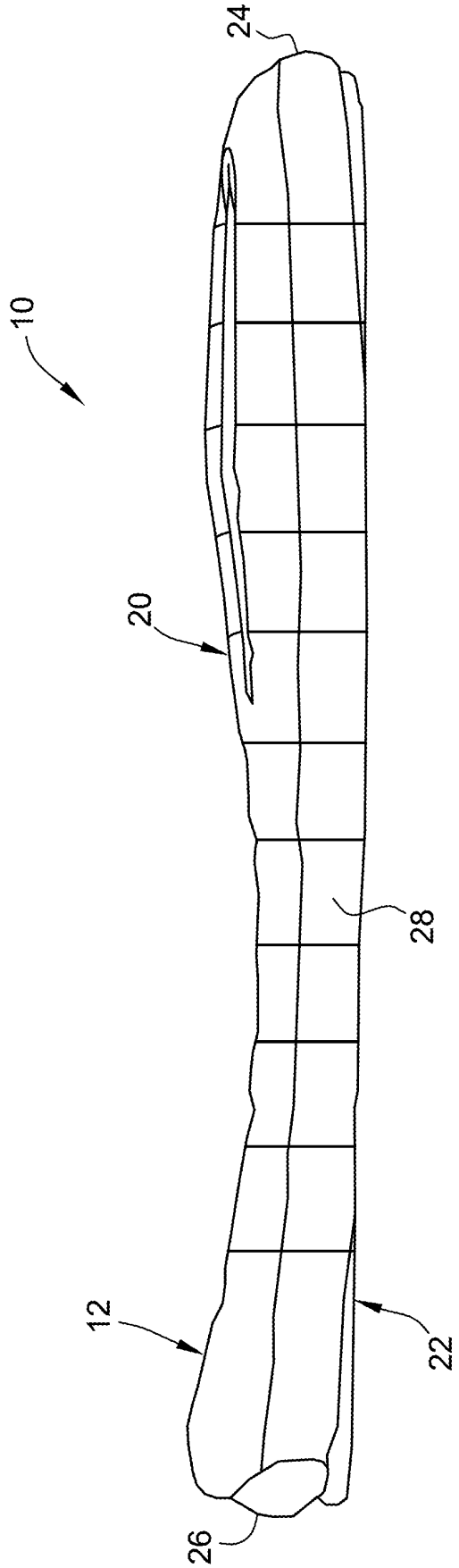

FIG. 6

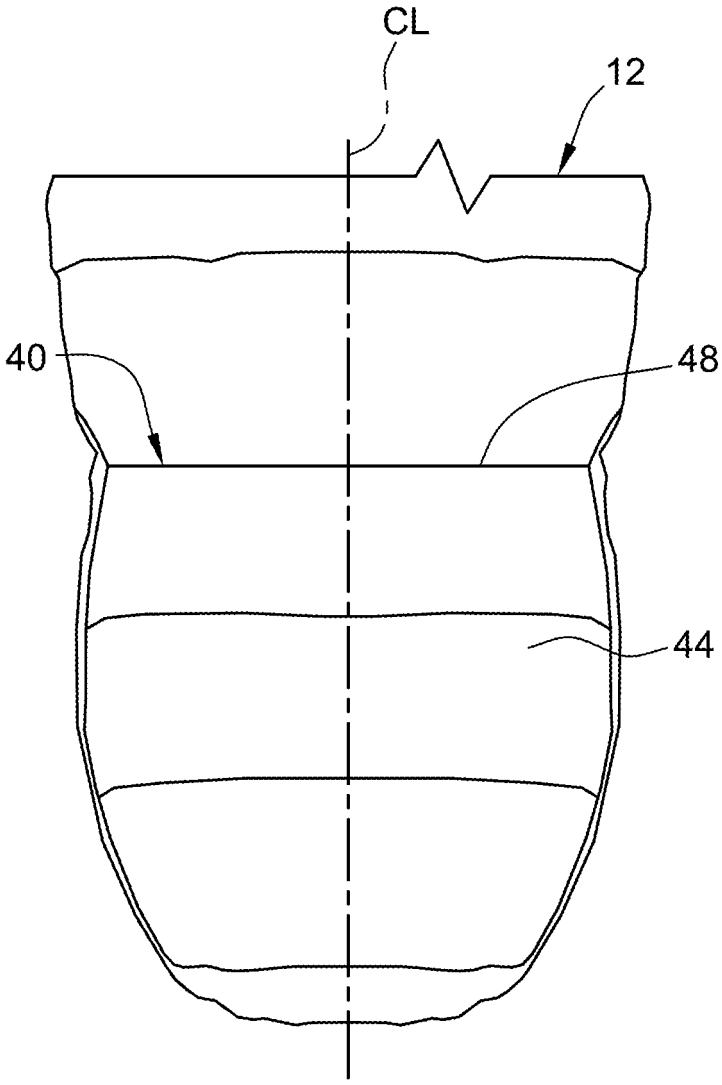

FIG. 7

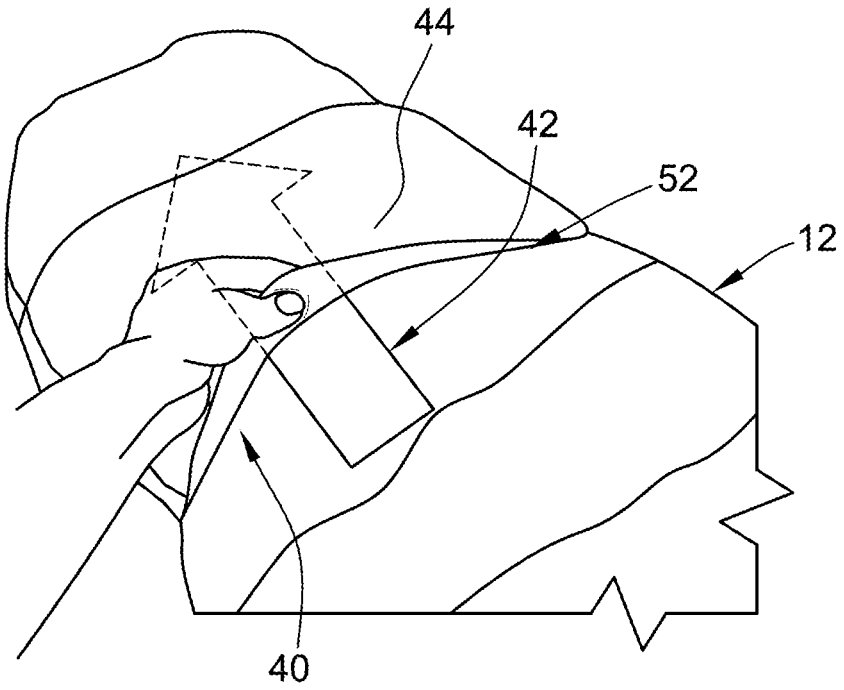

FIG. 8

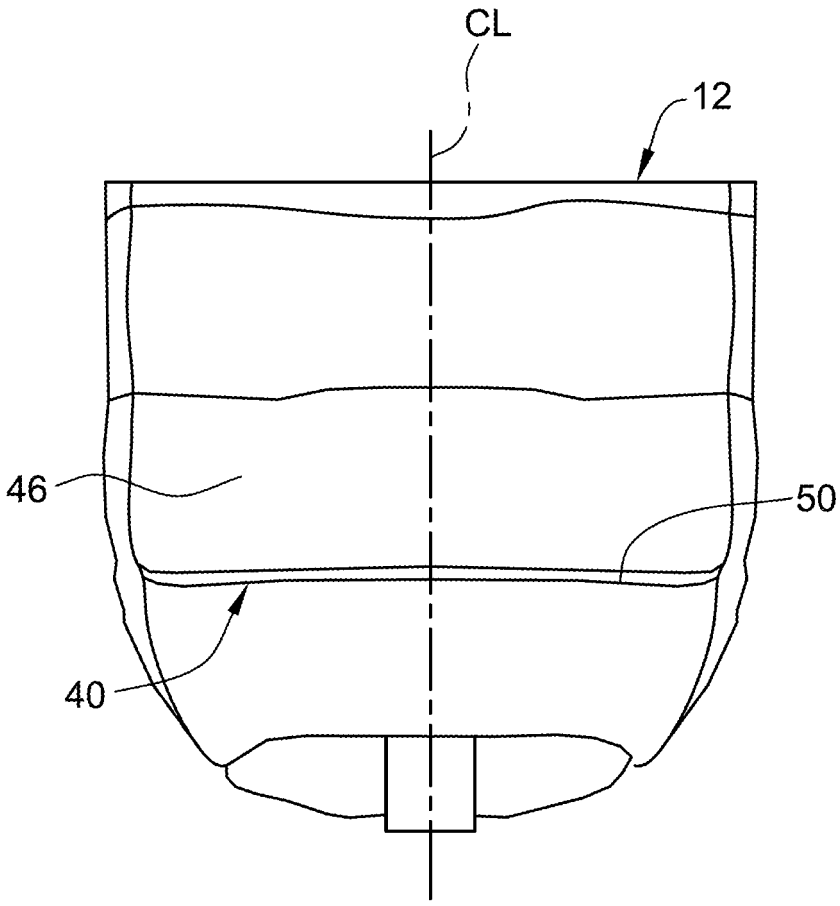

FIG. 9

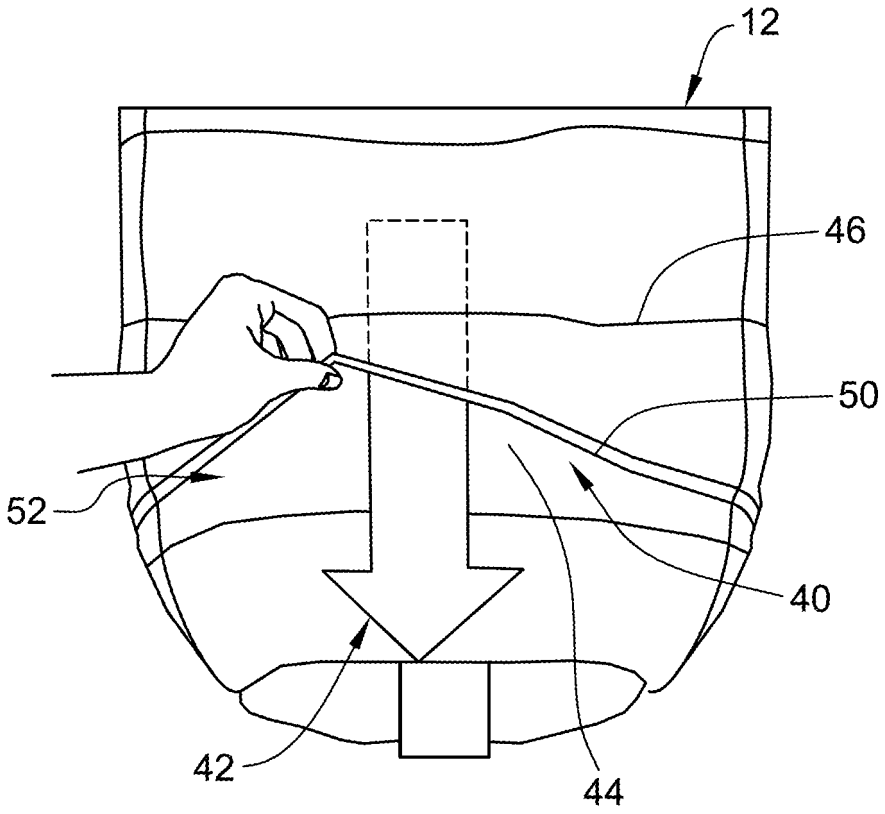

FIG. 10

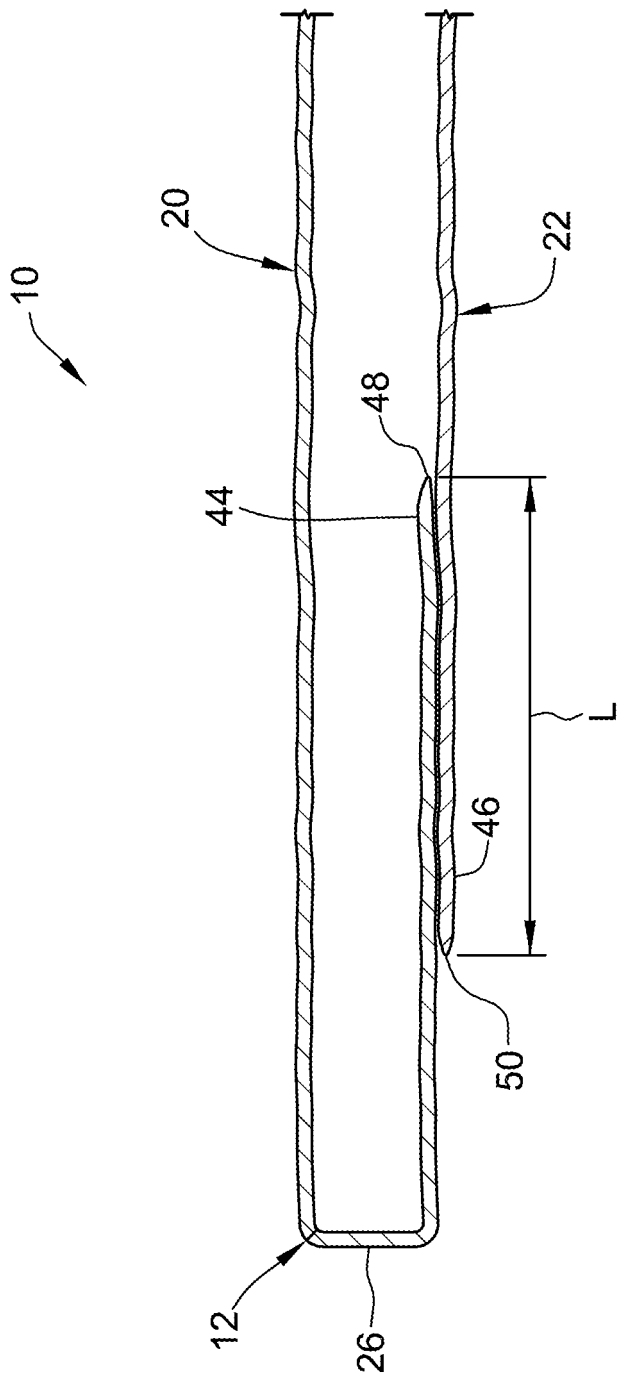

FIG. 11

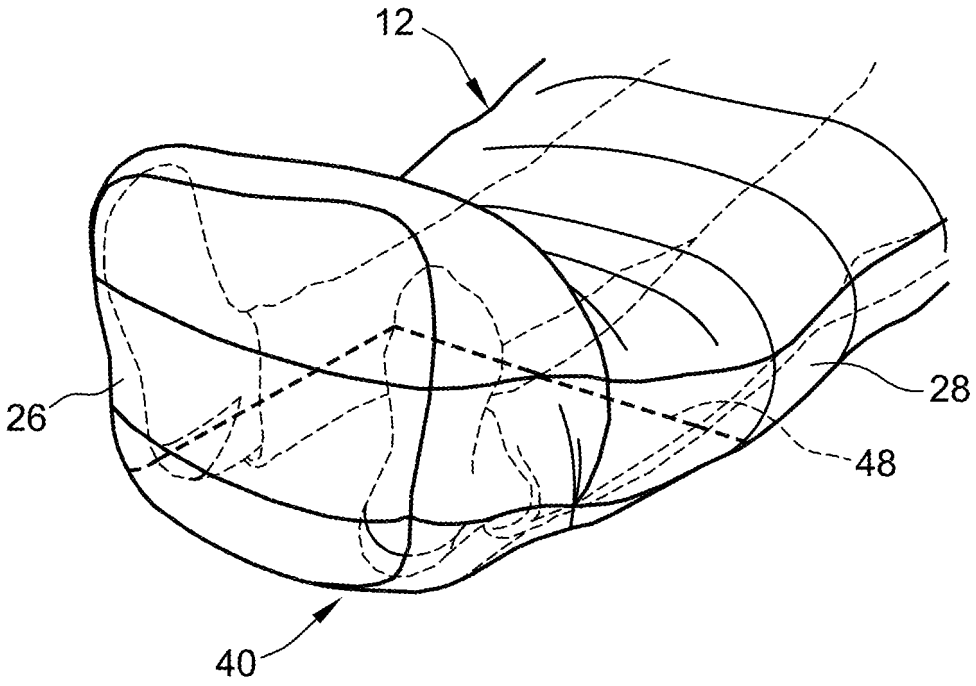

FIG. 12

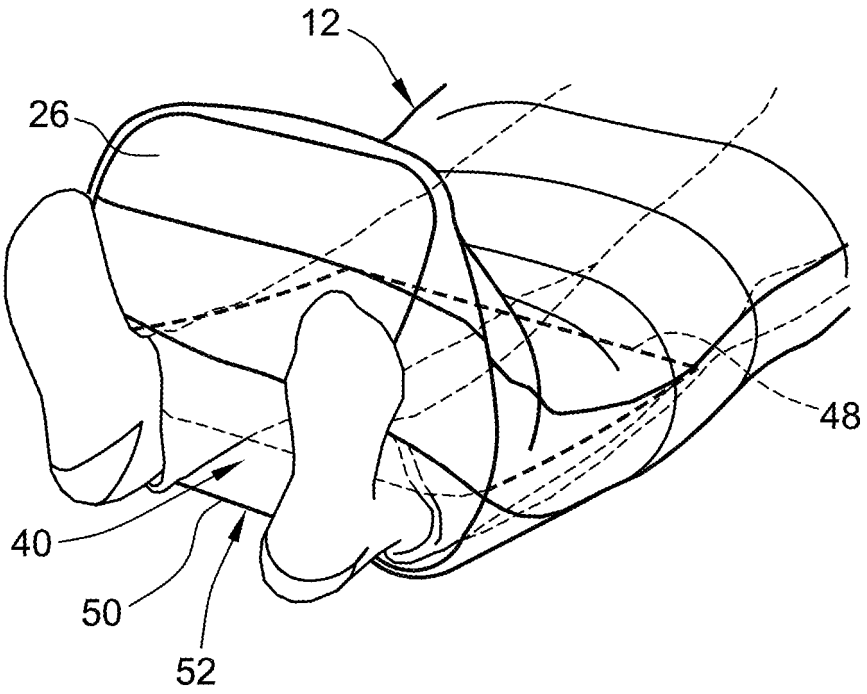

FIG. 13

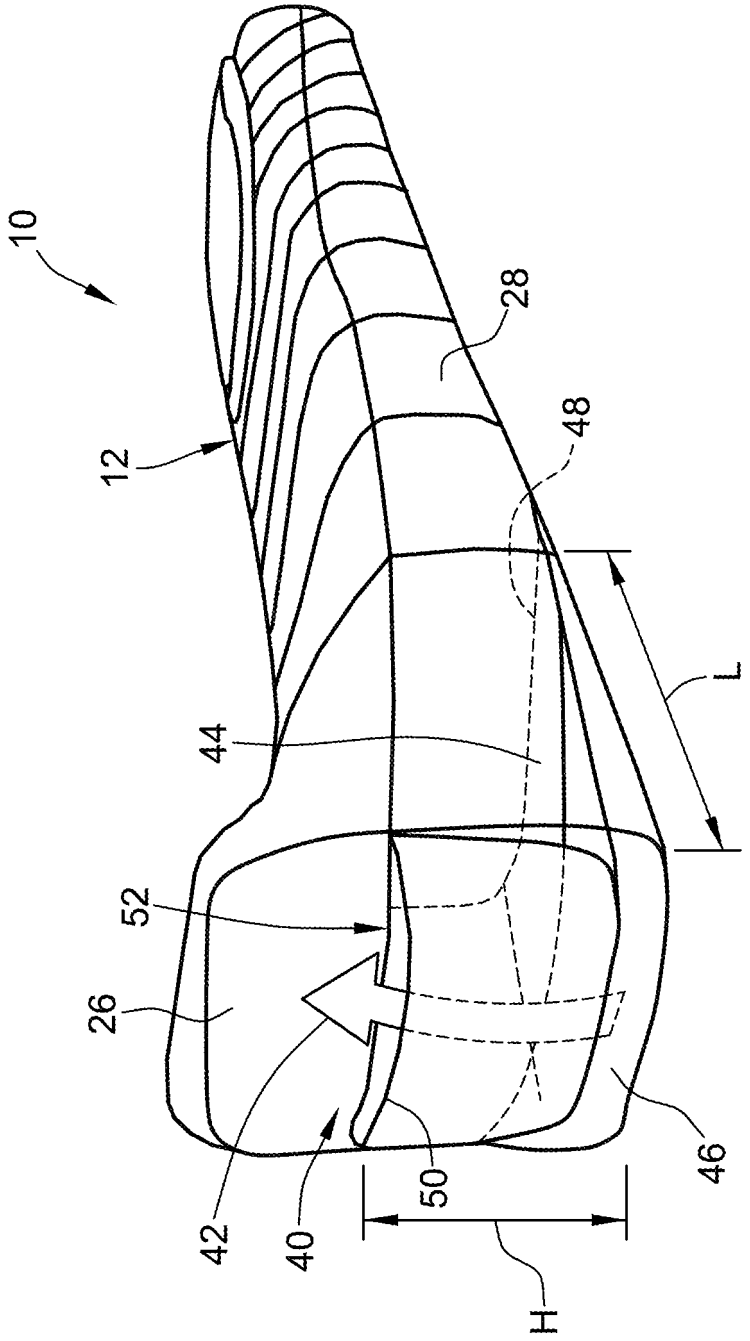

FIG. 14

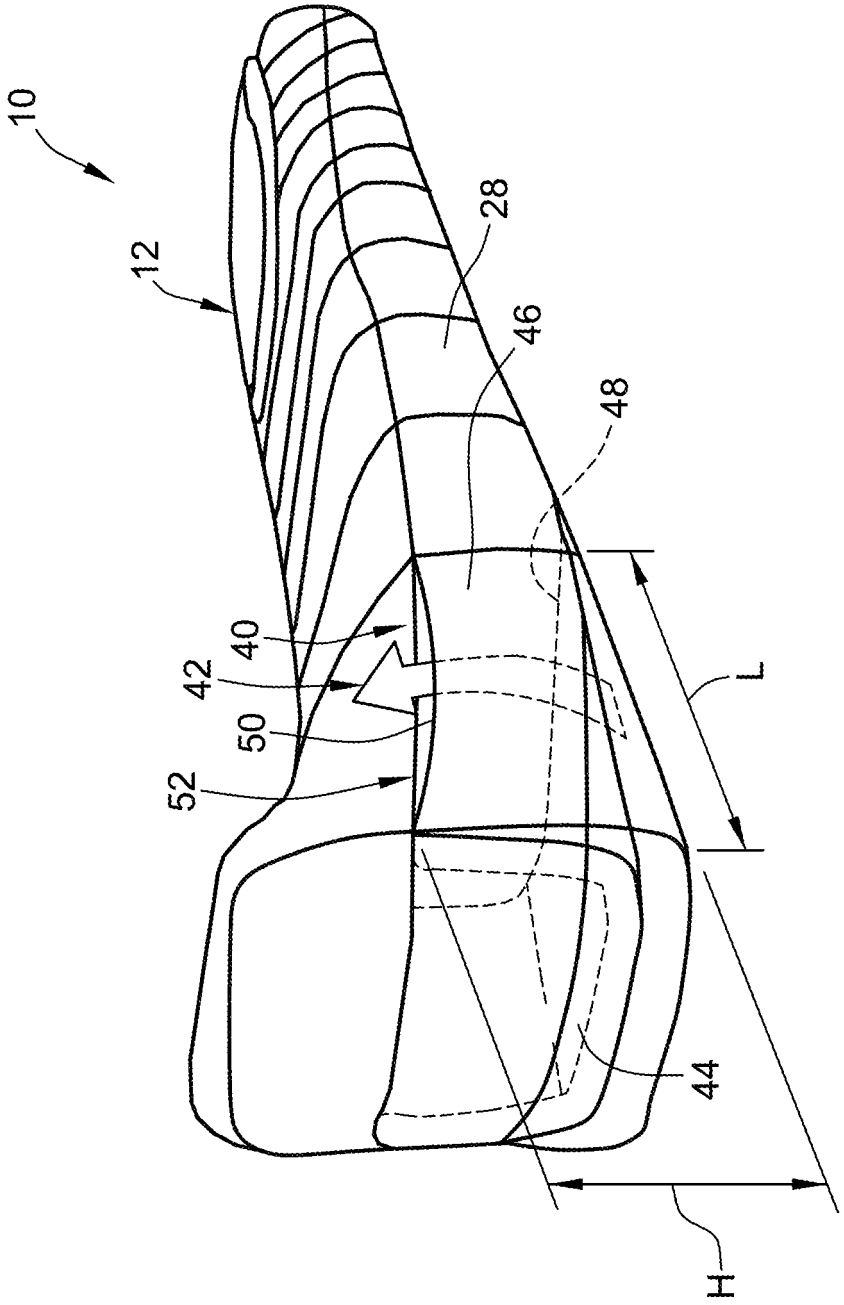

FIG. 15

REFERENCES CITED IN THE DESCRIPTION

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