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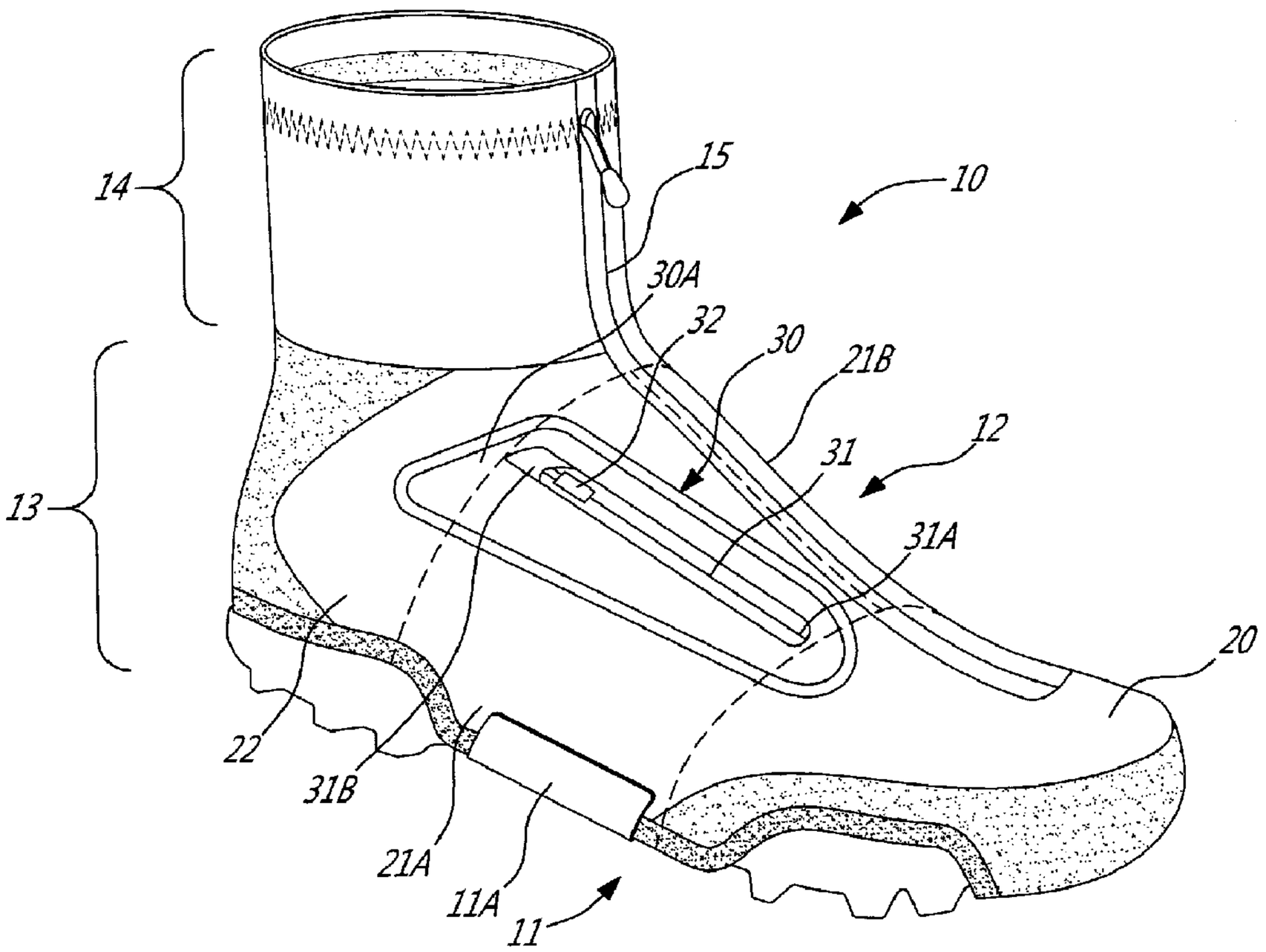
(54) Title: SPORT SHOE COVER WITH CLOSEABLE VENT



(57) Abrégé/Abstract:
A shoe cover comprising: a soft shell adapted to be worn over a shoe to cover at least partially the worn shoe. The soft shell having a front portion covering at least partially an upper toe region of the worn shoe, a metatarsal portion covering at least partially an

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(57) Abrégé(suite)/Abstract(continued):
upper metatarsal region of the worn shoe, and a heel portion covering at least partially an upper heel region of the worn shoe. A cutout is in the soft shell, the cutout having a substantial portion located in a lateral sub-portion of the metatarsal portion of the upper. A closure mechanism closes/opens access to the cutout from an exterior of the shoe cover.

ABSTRACT

A shoe cover comprising: a soft shell adapted to be worn over a shoe to cover at least partially the worn shoe. The soft shell having a front portion covering at least partially an upper toe region of the worn shoe, a metatarsal portion covering at least partially an upper metatarsal region of the worn shoe, and a heel portion covering at least partially an upper heel region of the worn shoe. A cutout is in the soft shell, the cutout having a substantial portion located in a lateral sub-portion of the metatarsal portion of the upper. A closure mechanism closes/opens access to the cutout from an exterior of the shoe cover.

SPORT SHOE COVER WITH CLOSEABLE VENT

TECHNICAL FIELD

[0001] The present application relates to sport shoe covers of the type worn to protect a cyclist's feet from water and/or cold, for instance as used in the sport of cycling or cross-country skiing.

BACKGROUND OF THE ART

[0002] Cycling shoe covers are commonly used by cyclists in given riding conditions. For example, cycling shoe covers may be made with a waterproof fabric so as to protect the feet from rain. Cycling shoe covers may also be used for thermal insulation and hence keep a cyclist's feet warm during the cycling activity. Cycling shoe covers are also known for their aerodynamic properties. Cycling shoe covers allow the cyclist to use cycling shoes in spite of the weather conditions, as an alternative to buying other gear such as winter cycling boots.

[0003] Because of these uses, and as drag must be minimized in cycling, cycling shoe covers are typically tight-fitting so as to closely conform to the shape of the foot, inclidung the cycling shoe worn under the cycling shoe cover. This allows the cyclists to use their cycling shoes in spite of bad weather conditions.

[0004] However, while cycling shoe covers are advantageously used for the conditions mentioned above, they may be considered to be impractical in that one's shoes are concealed by the cycling shoe covers. Hence, it is not possible to adjust the tightness of the shoe lacing system. Moreover, cycling shoe covers may be uncomfortable as sweat may accumulate in one's shoes as captured by the cycling shoe covers.

SUMMARY

[0005] It is an aim of the present disclosure to provice a sport shoe cover that addresses issues associated with the prior art.

[0006] Therefore, in accordance with an embodiment of the present disclosure, there is provided a shoe cover comprising: a soft shell adapted to be worn over a shoe to cover at least partially the worn shoe, the soft shell having a front portion covering at least partially an upper toe region of the worn shoe, a metatarsal portion covering at least partially an upper metatarsal region of the worn shoe, and a heel

portion covering at least partially an upper heel region of the worn shoe; a cutout in the soft shell, the cutout having a substantial portion located in a lateral sub-portion of the metatarsal portion of the upper; and a closure mechanism to close/open access to the cutout from an exterior of the shoe cover.

[0007] In accordance with another embodiment of the present disclosure, there is provided a shoe cover comprising: a soft shell adapted to be worn over a shoe to cover at least partially the worn shoe, the soft shell having a front portion covering at least partially an upper toe region of the worn shoe, a metatarsal portion covering at least partially an upper metatarsal region of the worn shoe, and a heel portion covering at least partially an upper heel region of the worn shoe; a cutout in the soft shell, the cutout extending from a front end limit to a rear end limit thereof, the rear end limit being in the metatarsal portion, the front end limit being in one of the metatarsal portion and the front portion; and a closure mechanism to close/open access to the cutout from an exterior of the shoe cover.

DESCRIPTION OF THE DRAWINGS

[0008] Fig. 1 is a perspective view of a cycling shoe cover in accordance with an embodiment of the present disclosure;

[0009] Fig. 2 is a bottom view of the cycling shoe cover of Fig. 1;

[0010] Fig. 3 is a first assembly view of the cycling shoe cover of Fig. 1;

[0011] Fig. 4 is a second assembly view of the cycling shoe cover of Fig. 1;

[0012] Fig. 5 is a perspective view showing access to a shoe lacing system; and

[0013] Fig. 6 is a top view of the cycling shoe cover of Fig. 1

DETAILED DESCRIPTION

[0014] Referring to drawings, more particularly to Figs. 1 and 2, there is shown a cycling shoe cover at 10. While the shoe cover 10 is a cycling shoe cover, a similar shoe cover in accordance with the present disclosure could be used in other sports. For instance, a shoe cover in accordance with the present disclosure could be used for cross-country skiing gaiters, with an opening in the toe portion of the shoe cover for attachment of the ski shoe or boot with the binding. However, for simplicity, reference is made hereinafter, with examples, to a use of the shoe cover 10 with a cycling shoe A (Fig. 5), although other uses are considered. A gaiter in included in the definition of shoe cover.

[0015] Referring to Fig. 1, the shoe cover 10 may have a sole 11 and an upper 12. The sole 11 and upper 12 is an integral soft shell piece made of one or numerous panels. The selection of the main material for the shoe cover 10 depends on the contemplated use and specifications of the shoe cover 10. For example, Neoprene™ is a material that is well suited for uses in colder weather, with different thickness of Neoprene™ impacting the insulating properties of the shoe cover. Another material considered is expanded PTFE, for water-resistant uses. Other materials given as example include polymeric waterproof fabrics, etc. The shoe cover 10 may have strategically located patches of specific material. For example, robust materials such as Kevlar™ may be used for the sole 11, or for the toe region of the shoe cover 10 as the toe region may require additional abrasion resistance. Reflective patches may also be used for safety issues, as well as elastics such as at the shin to have the shin opening conform to the shin, etc. Moreover, the shoe cover 10 may have a panel constituted of different layers, having different functions. For example, a fleece inner layer may be laminated to a Kevlar™ outer layer.

[0016] While the shoe cover 10 is described as having a sole 11, it is considered to have a large opening at the bottom periphery of the upper 12 instead of a sole as in Fig. 2. In such a case, straps 11A are used to attach the shoe cover 10 to an undersurface of the cycling shoe A. The straps 11A may have complementary Velcro™ patches. Accordingly, the underside of the shoe A is exposed, such that a cycling shoe cleat B is also exposed for engagement with an automatic pedal. In the embodiment of Fig. 2, a front tab 11B may extend across the toe region to conceal an underside of the front of the cycling shoe A. The front tab 11B may consist of a rubber tarpoline, to provide adequate elasticity for the front of the shoe cover 10 to conform to the front of the shoe A. A peripheral elastic 12A may delimit the bottom periphery of the large opening of the upper 12. The peripheral elastic 12A may be a Kevlar™ bias, for example, or any other suitable elastic.

[0017] Other configurations are considered, such as a full sole 11 with cutouts for the cycling shoe cleat B projecting from the undersurface of the cycling shoe A to be exposed for being used with automatic pedals. Cutouts may also be provided in the heel region, so as to allow a walking cycling to walk on his/her shoe heels. If the shoe cover 10 is used for other sporting activities, appropriate cutouts are made as a function of the sport shoe configuration.

[0018] Referring to Figs. 1 and 6, the upper 12 is generally divided in a foot portion 13 and an ankle and shin portion 14. The foot portion 13 of the upper 12 generally protects the shoe/foot, whereas the ankle and shin portion 14 covers the ankle and at least a portion of the shin of the user. The shoe cover 10 may have a front closure mechanism 15 as shown in Fig. 1. The front closure 15 may be a zipper-like or Velcro-like closure mechanism by which the front of the shoe cover 10 may be closed/opened for the foot and shoe to be inserted and removed from the shoe cover 10. Alternatively, the closure mechanism 15 may be a rear closure, although not shown. As another embodiment, the shoe cover 10 may not have any closure mechanism, and rely instead on the elasticity of the fabric for a foot to be inserted at the opening at the ankle and shin portion 14. Although not shown, a strap may be provided to overlap the end of the closure mechanism and add additional closure integrity to the shoe cover 10.

[0019] The upper 12, and more particularly the foot portion 13, may be generally separated in three areas, namely a front portion 20, a metatarsal portion 21 and a heel portion 22. Without being limited to a rigid boundary, and as loosely shown in the Figs., the front portion generally covers the toes of the cyclist, whereas the metatarsal portion covers the mid-portion of the foot, including the region encompassing the metatarsal bones of the wearer's foot, while the heel portion 22 protects and surrounds the heel of the wearer. The metatarsal portion 21 may be separated in an outer (or lateral) sub-portion 21A and an inner (or medial) sub-portion 21B. The outer sub-portion 21A generally goes from the second metatarsal bone to the side of the fifth metatarsal bone and is thus laterally positioned, whereas the inner sub-portion 21B goes from the second metatarsal bone to the first metatarsal bone and is medially positioned.

[0020] Still referring to Fig. 1, an access patch 30 is provided in the metatarsal portion 21. The access patch 30 has a panel 30A in which a slit 31 is defined. The slit 31 has a front end limit 31A and a rear end limit 31B. The slit 31 may be part of a closure mechanism 32, so as to be opened/closed. In the illustrated embodiment, the closure mechanism 32 is a zipper fastener system, although other closure mechanism could be used as well, such as slider zip fasteners, Velcro™ closing mechanism, foldover flaps with buttons, magnets, etc. The slit 31 is mostly, if not completely, positioned in the outer sub-portion 21A. In a more particular embodiment, the slit 31 is in register with the shoe region covering the third to fifth

metatarsal bones. In another particular embodiment, the rear end limit 31B is in the outer sub-portion 21A, and the front end limit 31A is also in outer sub-portion 21A or extends to a rear region of the front portion of the upper 12.

[0021] Referring to Fig. 5, the slit 31 is shown as being opened. It is observed that, because of the positioning of the slit 31 in the outer sub-portion 21A, the user of the shoe cover 10 has access to components of a shoe lacing system C. In Fig. 5 the shoe lacing system C is shown as being a Boa™ lacing system, with dials thereof being adjacent to slit 31, such that one's fingers can rotate the dials. The slit 31 could equally be used for accessing ratchet-type lacing systems or Velcro™ straps, among other common cycling lacing systems. Although the expression "lacing" is used, the shoe lacing systems C may not actually have laces.

[0022] Referring to Fig. 1, the panel 30A of the access patch 30 is shown as having an irregular shape with a fin 33. The panel 30A of the access patch 30 may be made of a material that has a greater elasticity than that of the soft shell fabric of the upper 12. For example, the panel 30A may consist of polyurethane, while the exposed surface of the soft shell shoe cover 10 is Neoprene™. The elasticity is desired so as to open up the slit 31 in the manner shown in Fig. 5, and give access to the lacing system C. Because of the presence of a fin 33, additional elasticity is provided. Stated differently, the panel 30A has a flaring shape in a direction of the rear end limit 31B.

[0023] The slit 31 may have any appropriate length. However, a length ranging between 9.0 cm and 13.0 cm (i.e., from 3.5" to 5.1") may be sufficient to provide suitable access to the lacing system and to enable ventilation through the open slit 31. The length is bound by the front end limit 31A and the rear end limit 31B.

[0024] Referring concurrently to Figs. 3 and 4, there is illustrated a sequence of steps by which the access patch 30 is added to a softshell shoe cover to form the shoe cover 10. As shown in Fig. 3, the shoe cover must have an elongated cutout 40 that will be in register with the slit 31. Accordingly, when access is provided to the lacing system as in Fig. 5, the user passes his/her fingers through the slit 31 and the panel of the upper 12 at the elongated cutout 40. According to an embodiment, the elongated cutout 40 results from a die cut.

[0025] The access patch 30 is fabricated when the closure mechanism 32 is glued (e.g., laminated) to the access patch panel 30A. The closure mechanism 32 therefore includes tape surrounding the slit 31, with a slider moving between the

front end limit 31A and the rear end limit 31B to open/close the slit. The access patch panel 30A has an elongated opening 30B of appropriate size pre-cut in it, for the closure mechanism 32 to be secured about the periphery of the elongated opening 30B. In embodiment, a lamination process is used in such a way that the joint between the closure mechanism 32 and the access patch panel 30A is waterproof.

[0026] Referring to Fig. 4, the resulting access patch 30 may then be laminated onto the soft shell Neoprene™, with polyurethane (panel 30A) being compatible with the Neoprene™ for lamination. Additional fixation methods are considered, such as stitching, ultrasound welding, etc., so long as the shoe cover 10 does not lose its desired properties (e.g., waterproofness, water resistance, windproofness). Other methods are considered as well for the fabrication of the shoe cover 10 of the present disclosure.

[0027] Moreover, while the use of a zipper fastener constitutes an embodiment of the present disclosure, other configurations are considered. For example, the closure mechanism 32 may be secured directly to the soft shell of the upper 12, instead of using the access patch panel 30A, with the closure mechanism 32 closing the elongated cutout 40. Alternatively, the closure mechanism 32 may be a foldable flap covering a simple slit in the soft shell material of the upper 12 instead of the cutout 40, with the foldable flap using Velcro™ or like means to releasably attach to the soft shell 12 while covering the elongated opening 40. In such a case, the cutout 40 need not be elongated, although the cutout 40 may be a slit. In any event, the cutout or slit is a closeable vent. For example, if the user of the shoe cover 10 desires ventilation, the closure mechanism 32 is used to open the slit 31 (in the embodiment with the slit 31), thereby creating an opening allowing the interior of the shoe cover to “breathe”, for instance by allowing perspiration and excess humidity to exhaust.

CLAIMS:

1. A shoe cover comprising:

a soft shell adapted to be worn over a shoe to cover at least partially the worn shoe, the soft shell having a front portion covering at least partially an upper toe region of the worn shoe, a metatarsal portion covering at least partially an upper metatarsal region of the worn shoe, and a heel portion covering at least partially an upper heel region of the worn shoe;

a cutout in the soft shell, the cutout having a substantial portion located in a lateral sub-portion of the metatarsal portion of the upper; and

a closure mechanism to close/open access to the cutout from an exterior of the shoe cover.

2. The shoe cover according to claim 1, wherein further comprising a panel, the closure mechanism being in the panel, the panel being secured to the soft shell peripherally to the cutout, with closure mechanism having an openable/closable slit in register with the cutout.

3. The shoe cover according to claim 2, wherein the panel is laminated to the soft shell.

4. The shoe cover according to claim 3, wherein the panel is made of polyurethane and an outer surface of the soft shell around the cutout comprises Neoprene™.

5. The shoe cover according to any one of claims 2 to 4, wherein the panel flares from a front to a rear relative to an orientation of the soft shell.

6. The shoe cover according to any one of claims 2 to 5, wherein the slit of the closure mechanism has a length ranging from 9.0 cm to 13.0 cm from a front end limit to a rear end limit thereof.

7. The shoe cover according to any one of claims 1 to 6, wherein the closure mechanism is a zipper mechanism.

8. The shoe cover according to any one of claims 1 to 7, wherein the cutout in the lateral sub-portion is in a zone covering at least partially the third to fifth metatarsal bones.

9. The shoe cover according to any one of claims 1 to 8, wherein the front portion completely covers the upper toe region of the worn shoe, and the heel portion completely covers the upper heel region of the worn shoe.

10. The shoe cover according to any one of claims 1 to 9, wherein the soft shell has an ankle and shin portion adapted to complete cover the ankle and partially cover the shin of a wearer of the worn shoe.

11. A shoe cover comprising:

a soft shell adapted to be worn over a shoe to cover at least partially the worn shoe, the soft shell having a front portion covering at least partially an upper toe region of the worn shoe, a metatarsal portion covering at least partially an upper metatarsal region of the worn shoe, and a heel portion covering at least partially an upper heel region of the worn shoe;

a cutout in the soft shell, the cutout extending from a front end limit to a rear end limit thereof, the rear end limit being in the metatarsal portion, the front end limit being in one of the metatarsal portion and the front portion; and

a closure mechanism to close/open access to the cutout from an exterior of the shoe cover.

12. The shoe cover according to claim 11, wherein further comprising a panel, the closure mechanism being in the panel, the panel being secured to the soft shell peripherally to the cutout, with closure mechanism having an openable/closable slit in register with the cutout.

13. The shoe cover according to claim 12, wherein the panel is laminated to the soft shell.

14. The shoe cover according to claim 13, wherein the panel is made of polyurethane and an outer surface of the soft shell around the cutout comprises Neoprene™.

15. The shoe cover according to any one of claims 12 to 14, wherein the panel flares from a front to a rear relative to an orientation of the soft shell.

16. The shoe cover according to any one of claims 12 to 15, wherein the slit of the closure mechanism has a length ranging from 9.0 cm to 13.0 cm from a front end limit to a rear end limit thereof.

17. The shoe cover according to any one of claims 11 to 16, wherein the closure mechanism is a zipper mechanism.

18. The shoe cover according to any one of claims 11 to 17, wherein the cutout in the lateral sub-portion is in a zone covering at least partially the third to fifth metatarsal bones.

19. The shoe cover according to any one of claims 11 to 18, wherein the front portion completely covers the upper toe region of the worn shoe, and the heel portion completely covers the upper heel region of the worn shoe.

20. The shoe cover according to any one of claims 11 to 19, wherein the soft shell has an ankle and shin portion adapted to complete cover the ankle and partially cover the shin of a wearer of the worn shoe.

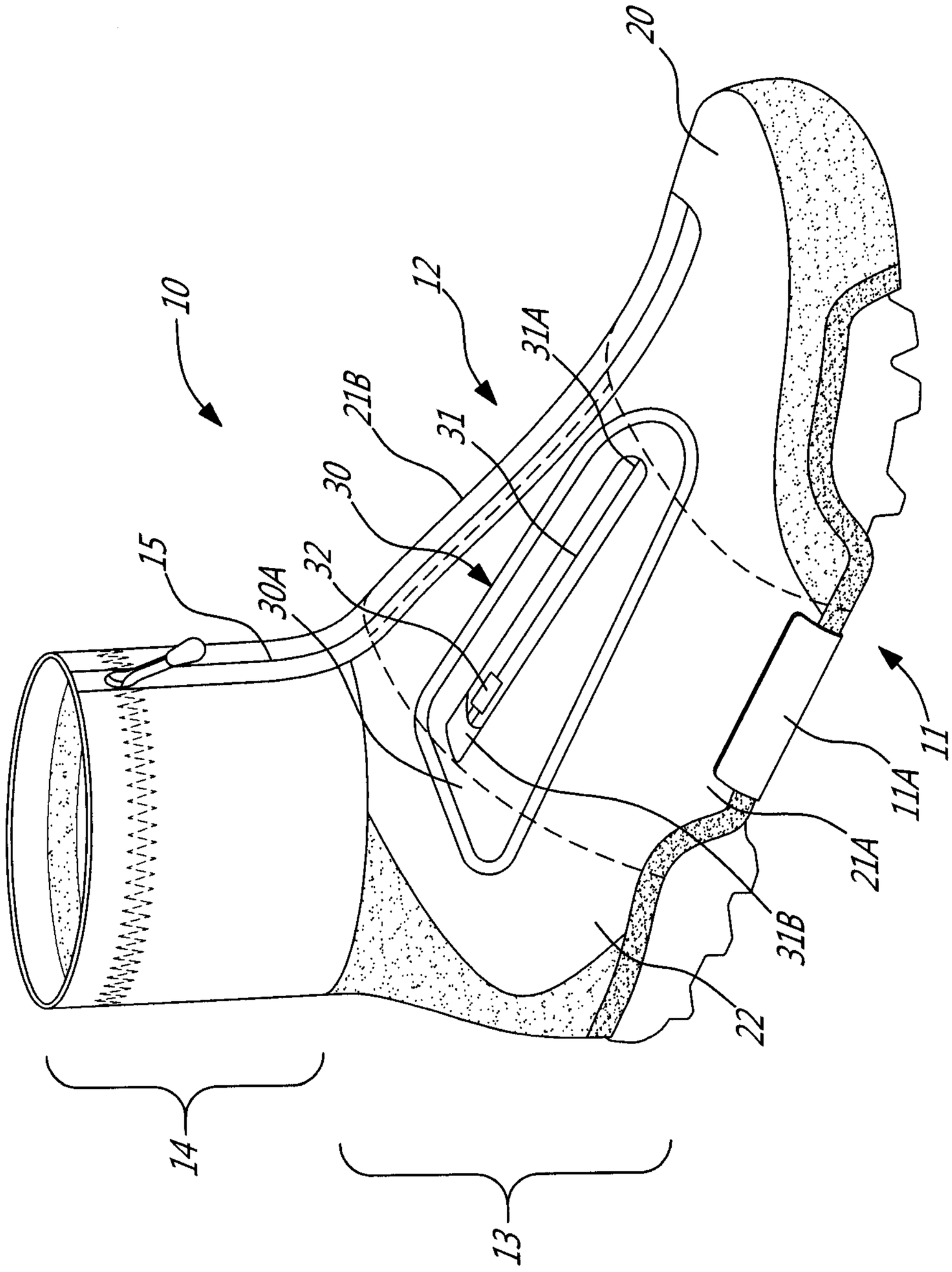


Fig. 1

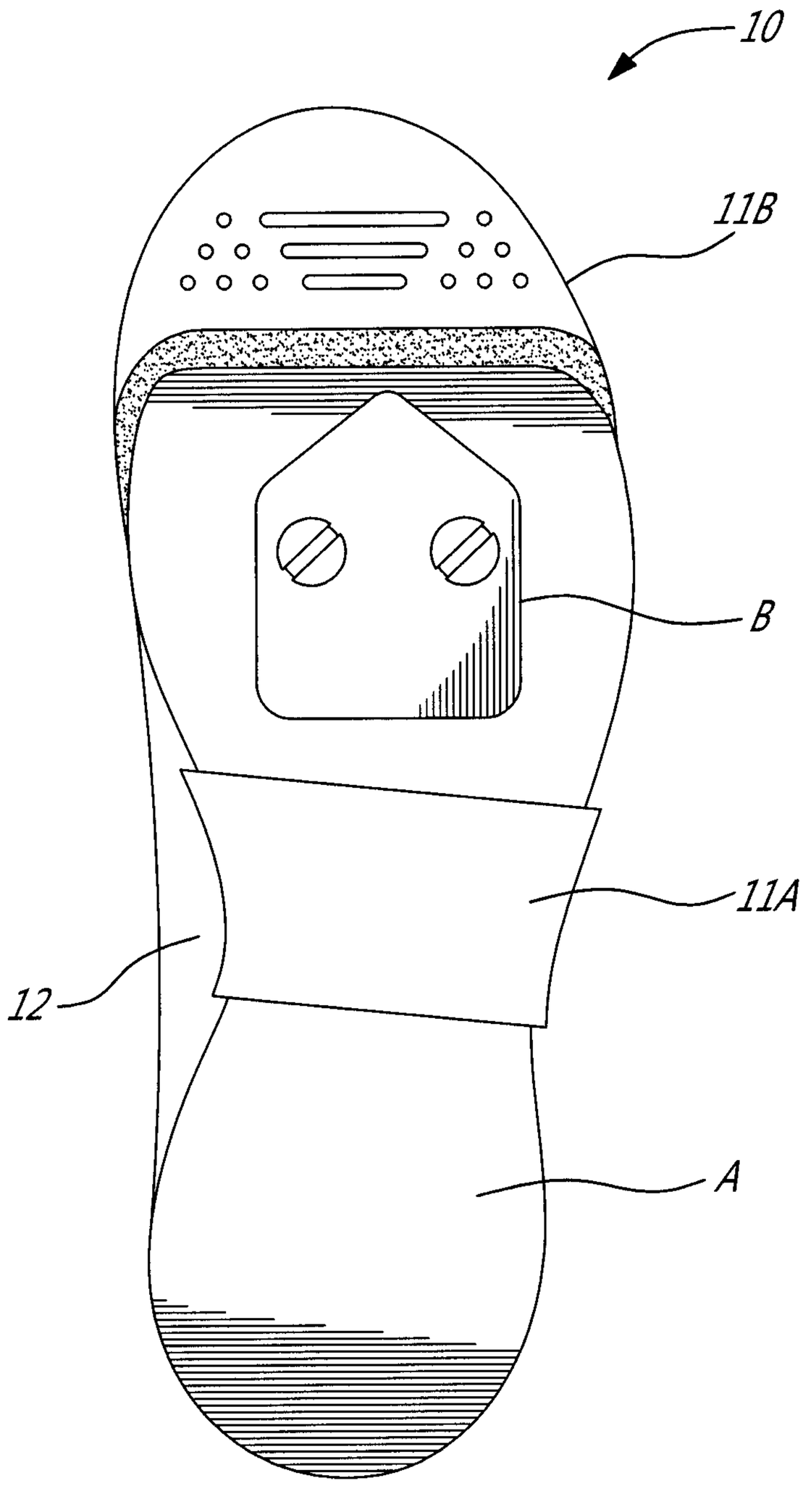


Fig. 2

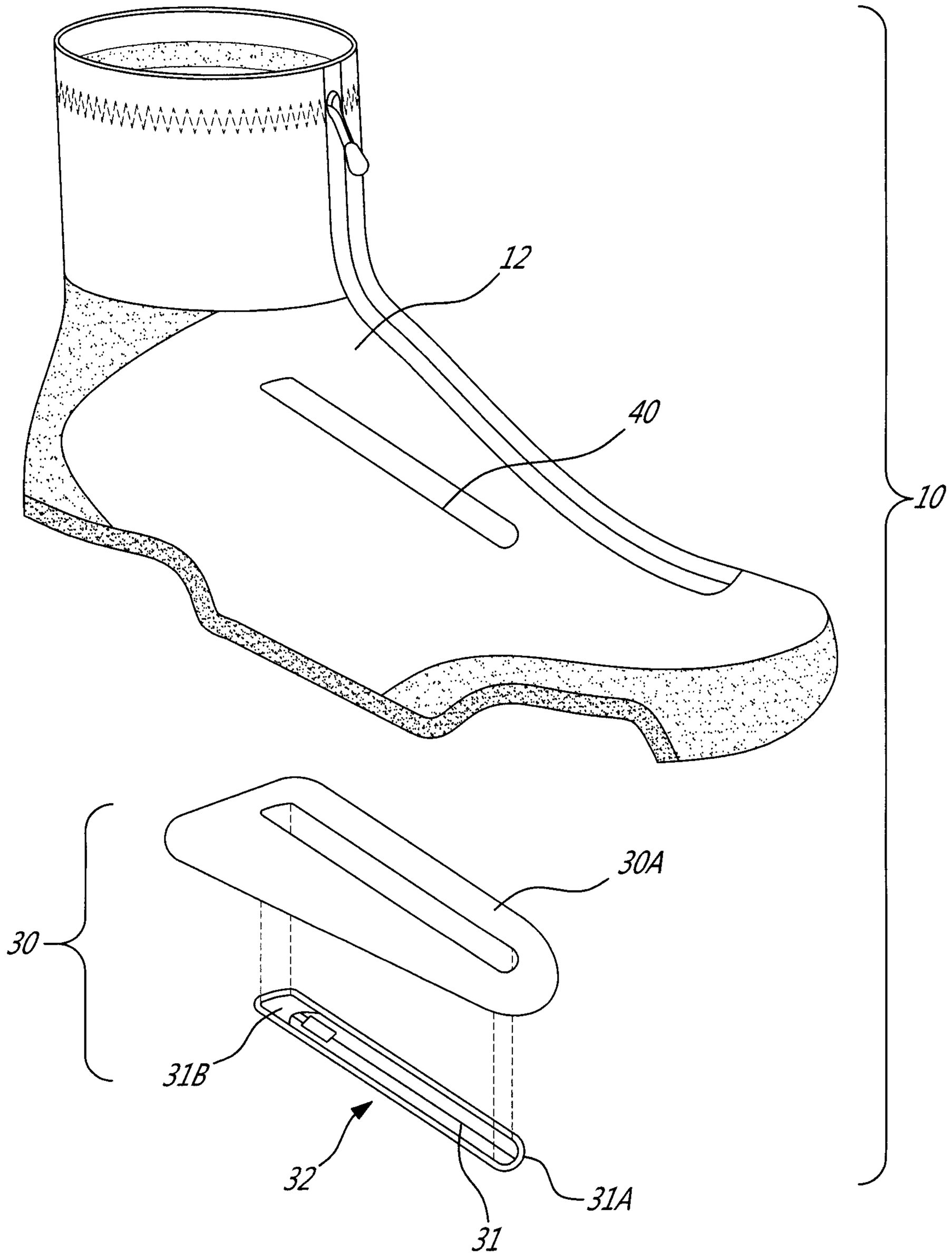
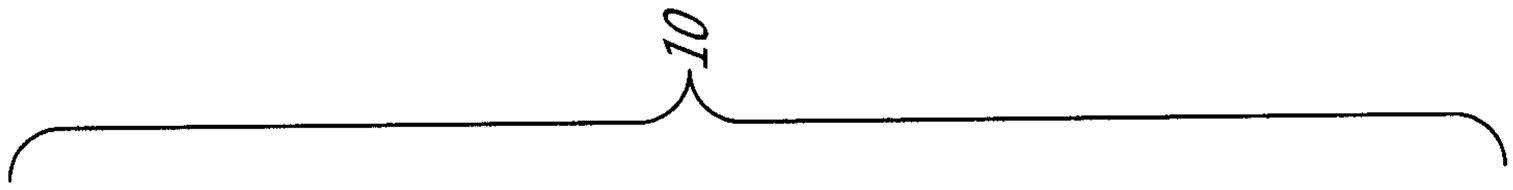


Fig. 3



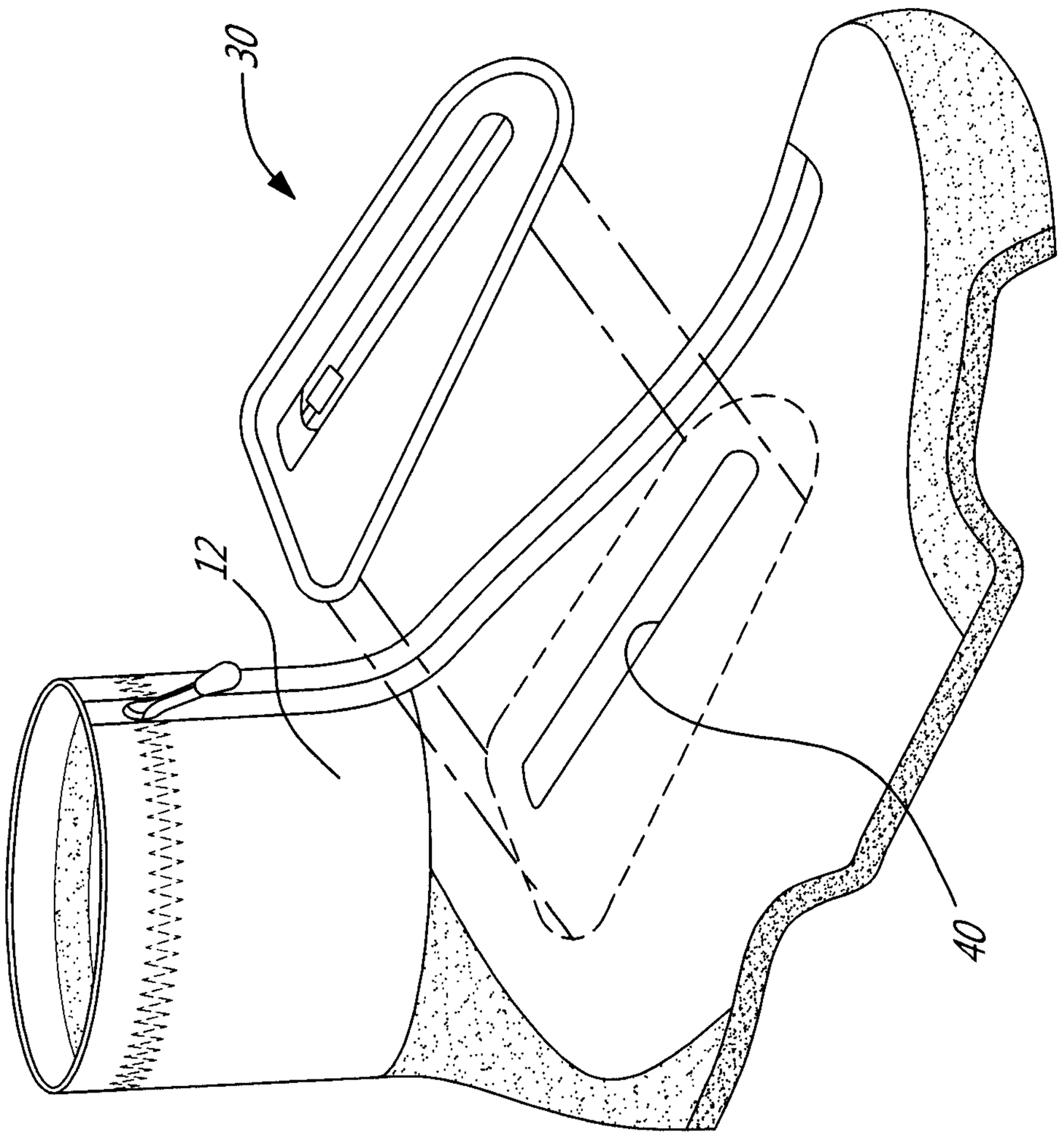


Fig. 4

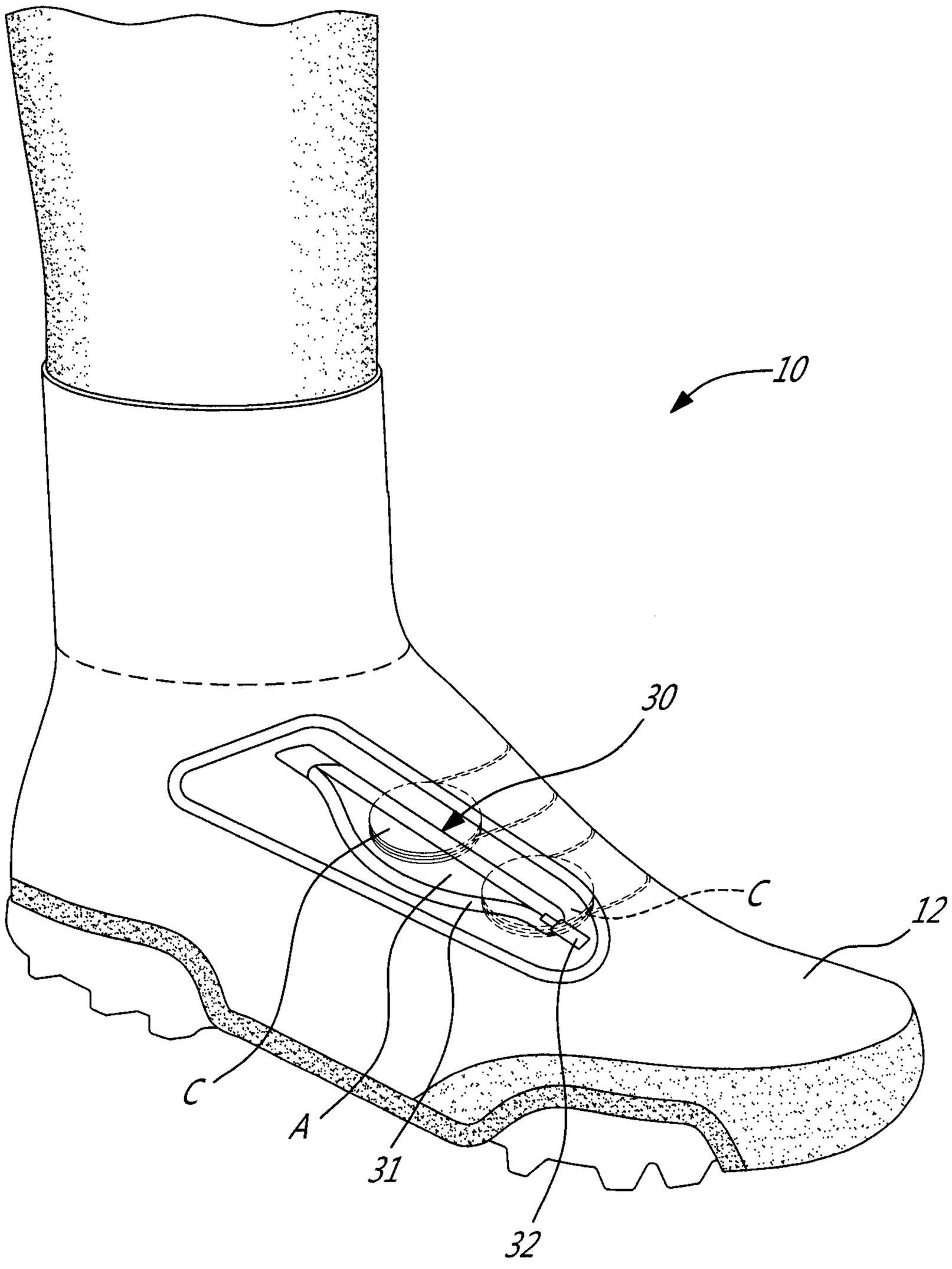


Fig. 5

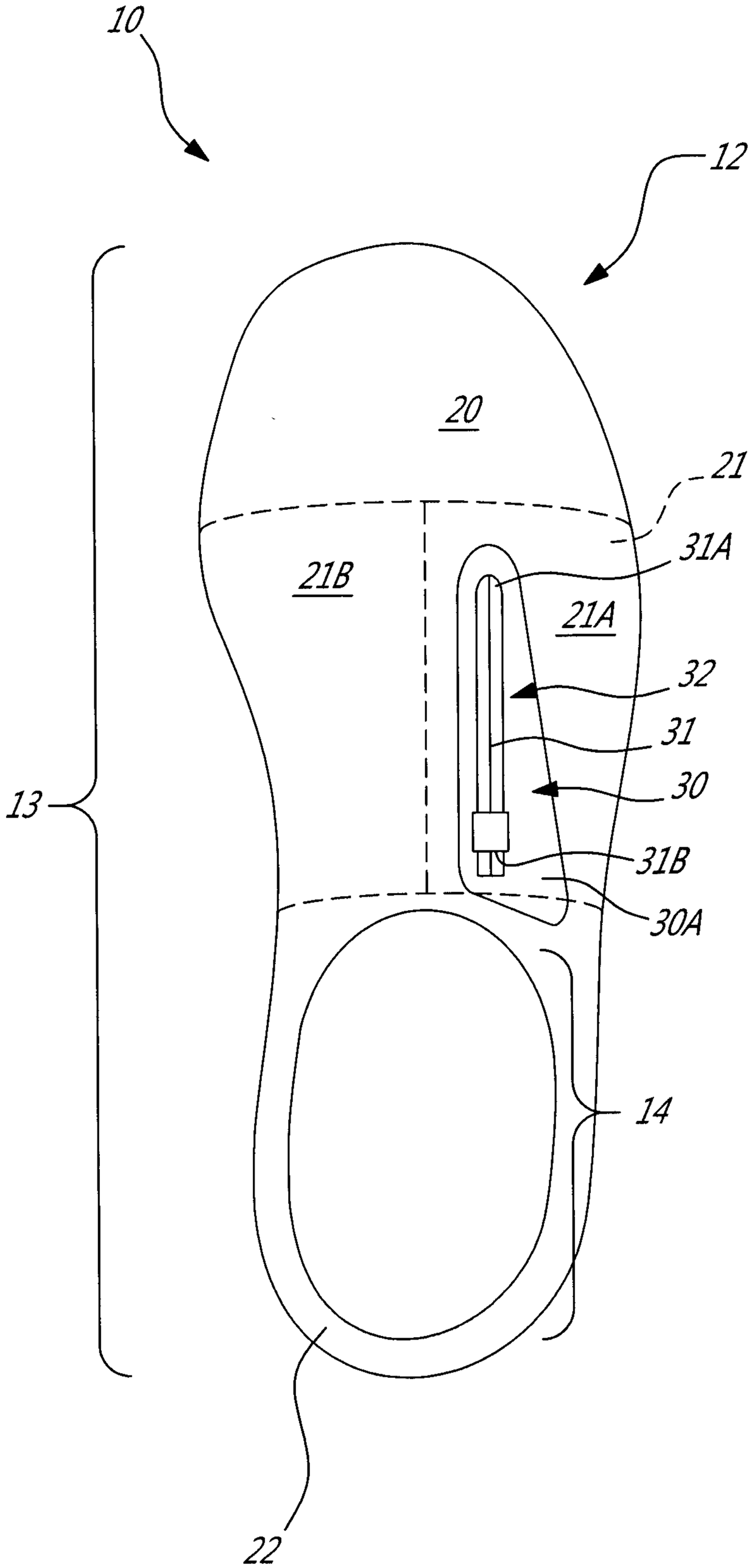
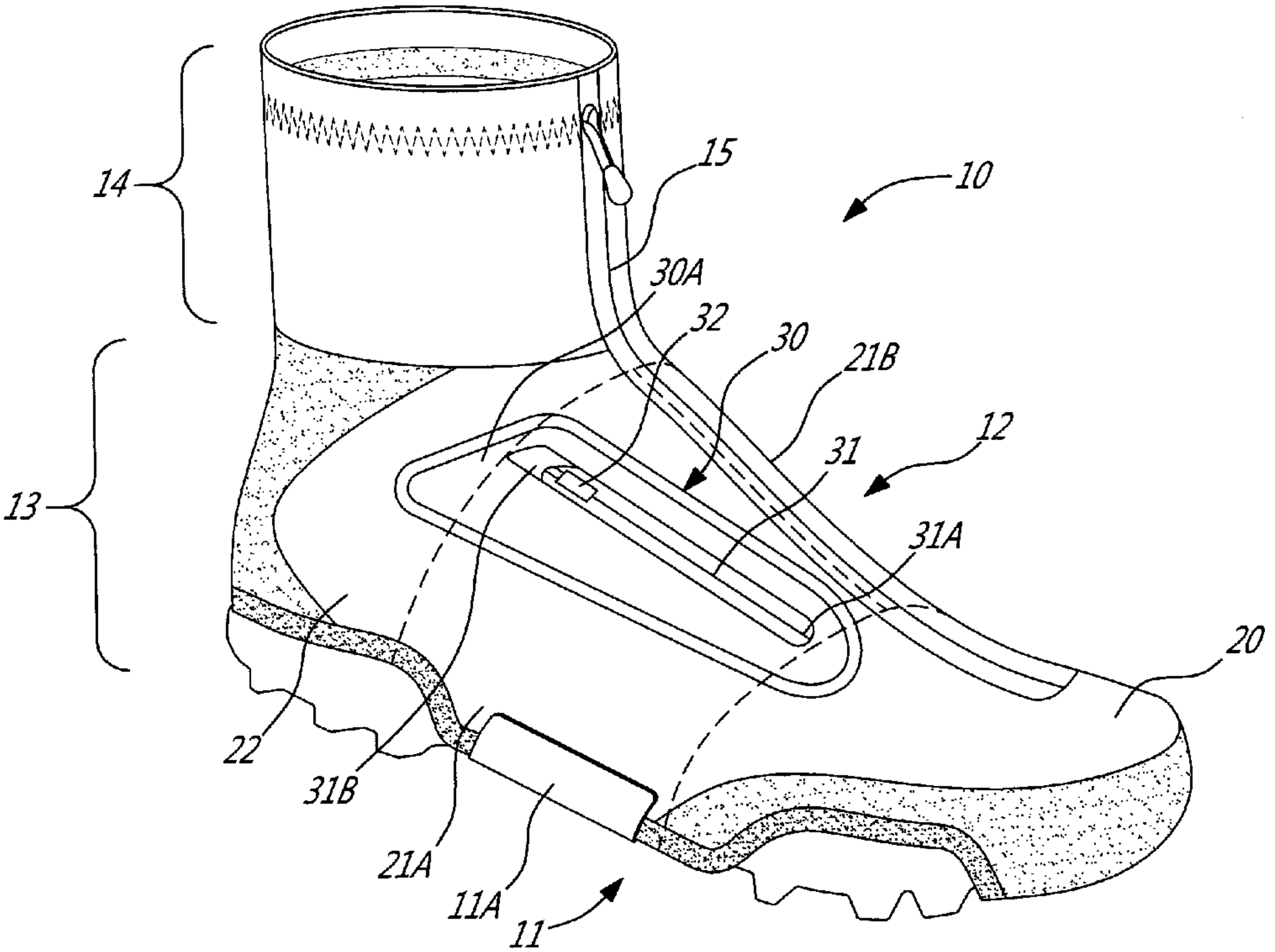


Fig. 6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