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(54) **COVERING DEVICE FOR AN ARTICLE OF FOOTWEAR**

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(57) **ABSTRACT**

The invention relates to a cover to be positioned against the upper of a shoe that includes a sole assembly and an upper, the cover comprising:

an outer surface and an inner surface;

a longitudinal opening and a device for opening and closing the opening;

a flap-forming structure comprising an outer surface and an inner surface, such structure making it possible to bring the opening/closing device between the outer surface of the cover and the inner surface of the flap.

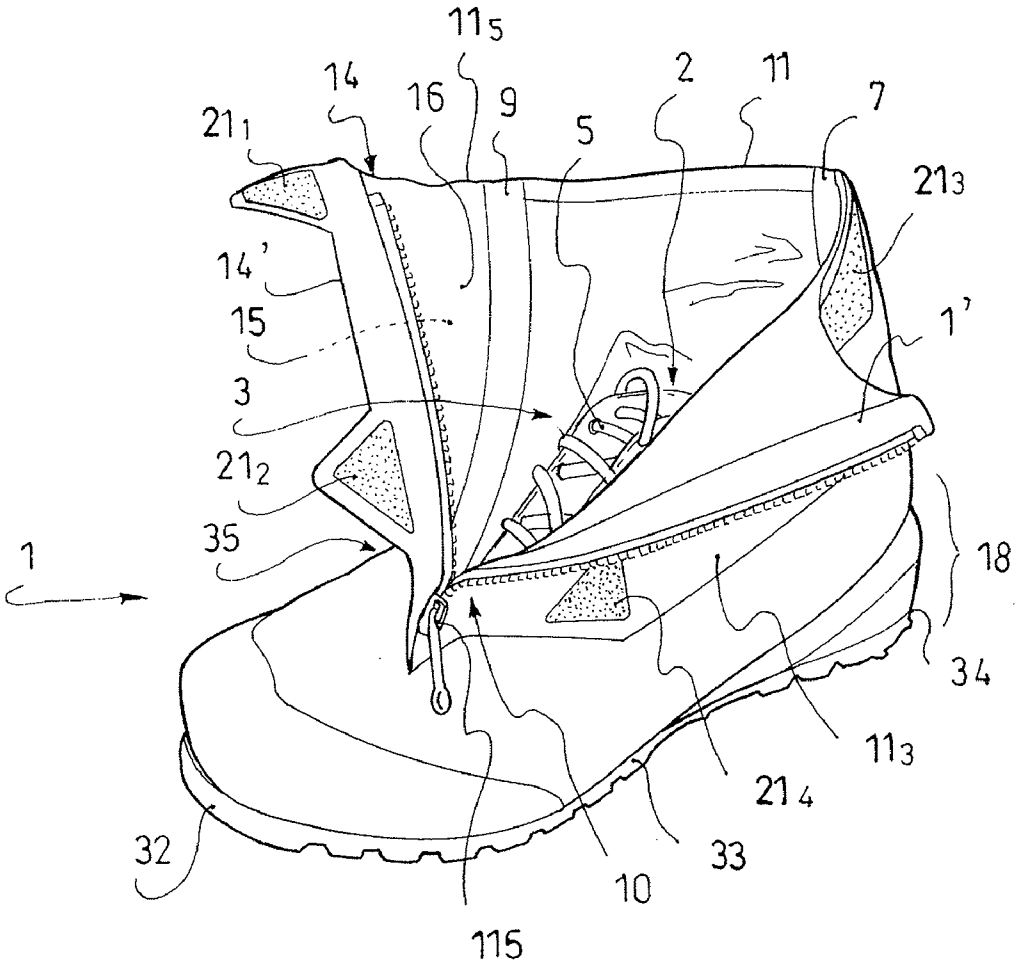


Fig. 1

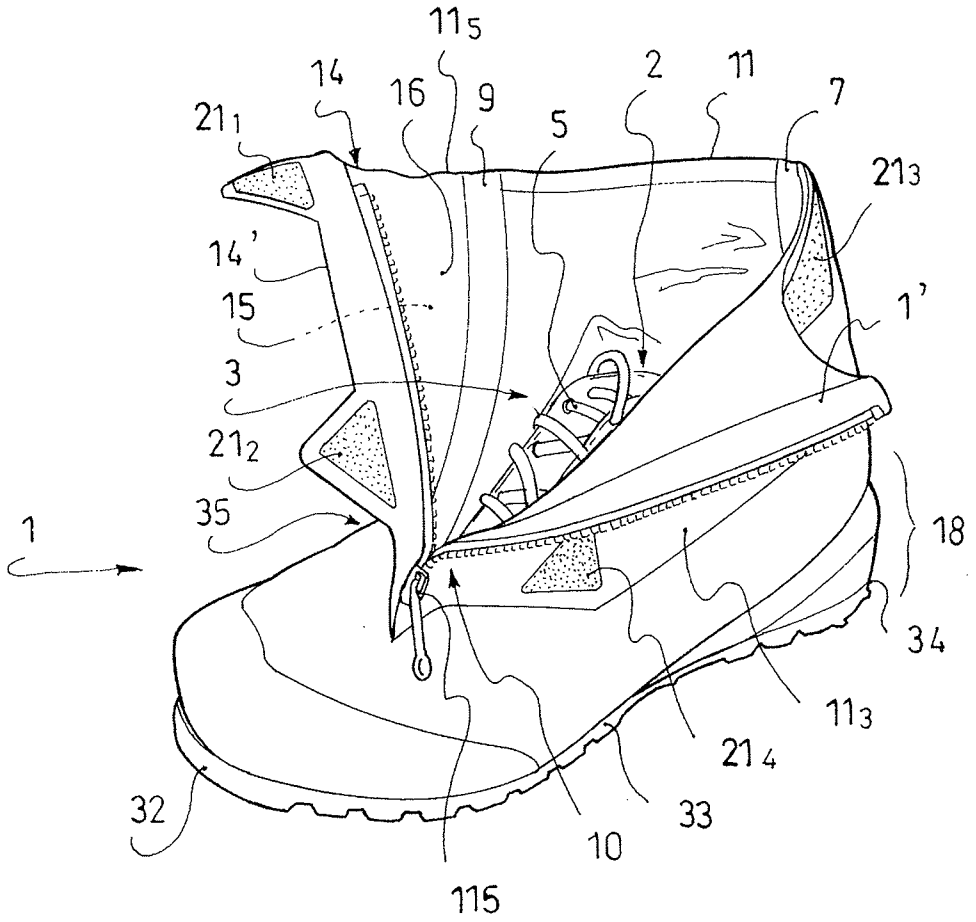

11 5
14
16
9
2
11
7
21 1
5
21 3
14'
15
1'
3
21 2
35
1
18
34
11 3
21 4
32
33
10
11 5

Fig. 2

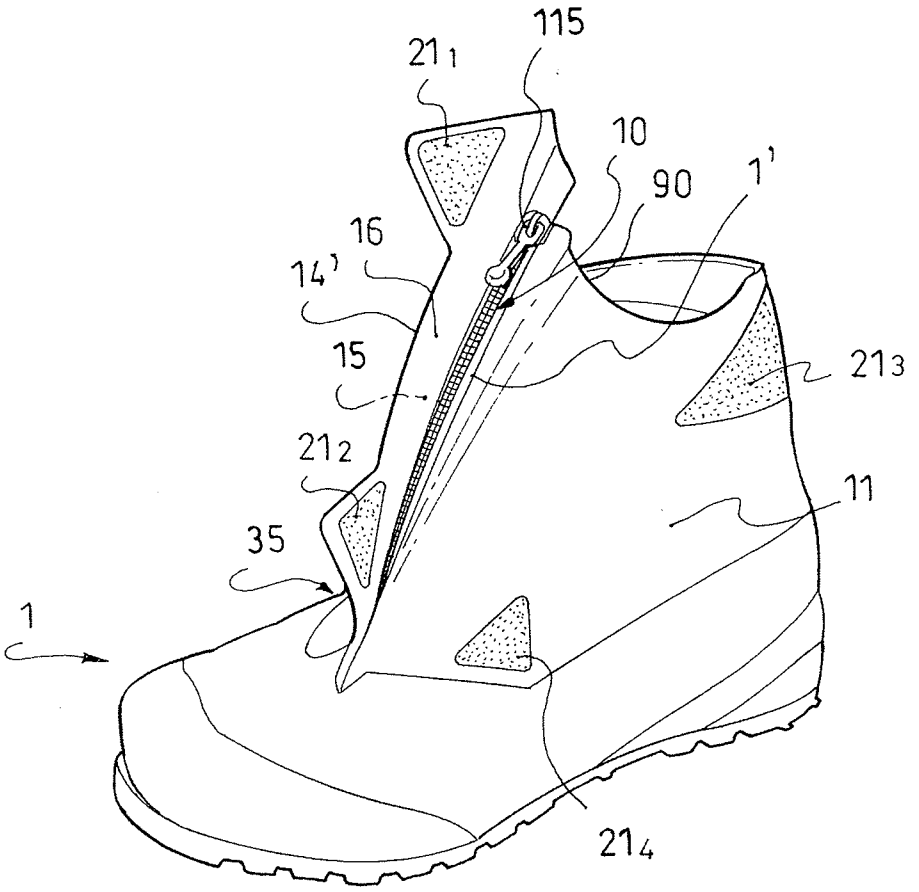
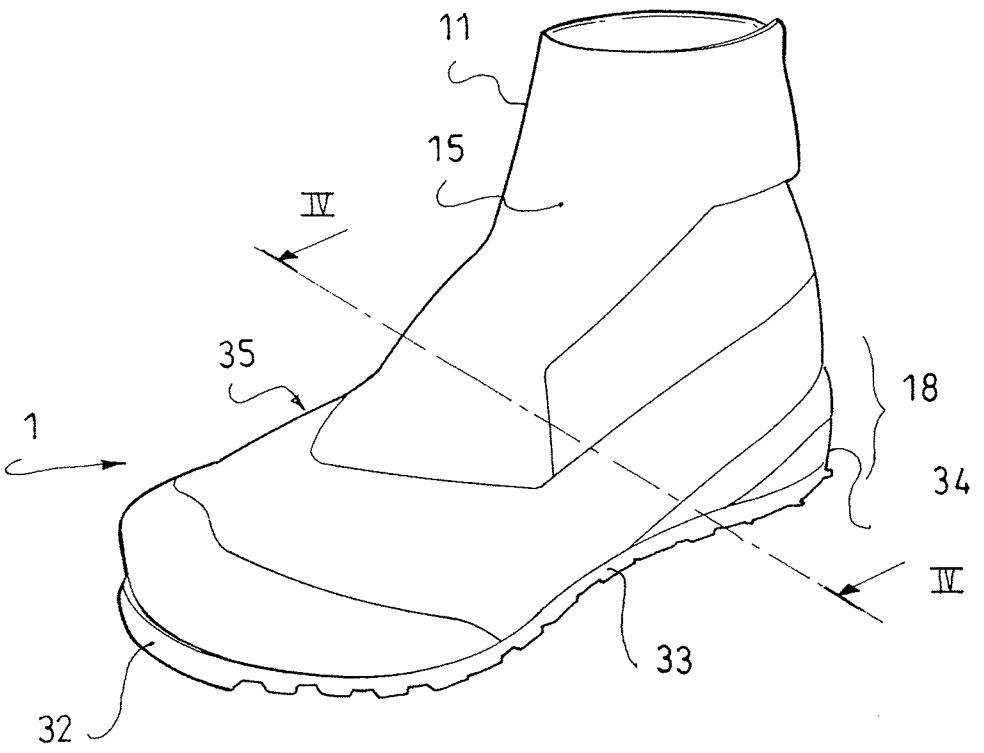


Fig. 3



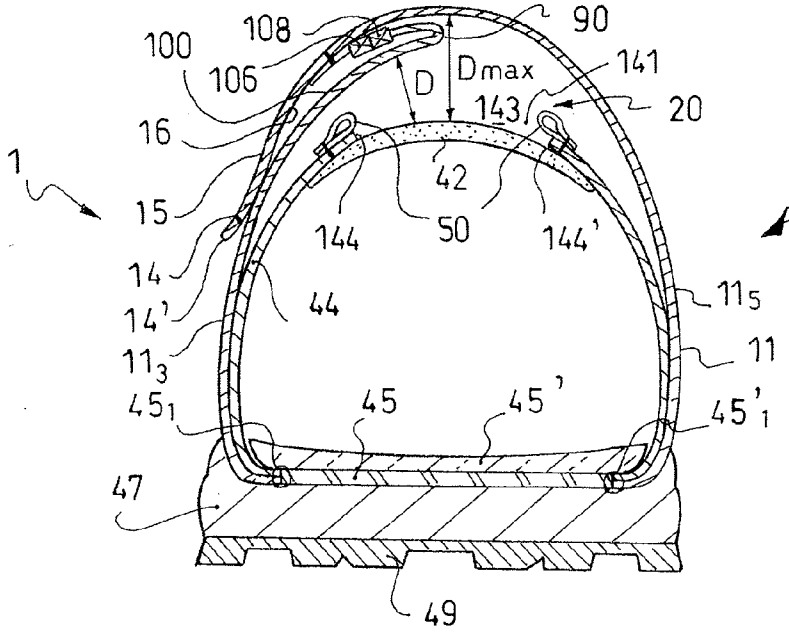


Fig: 4

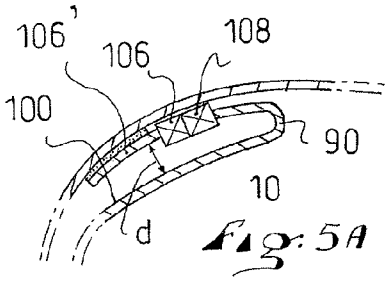


Fig: 5A

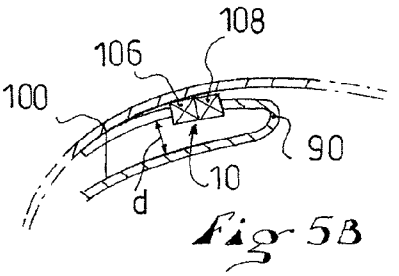


Fig: 5B

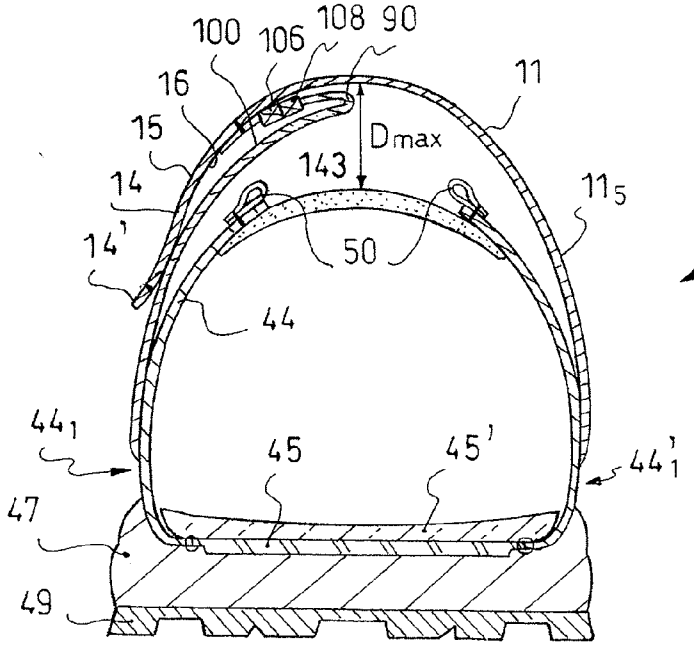


Fig: 6

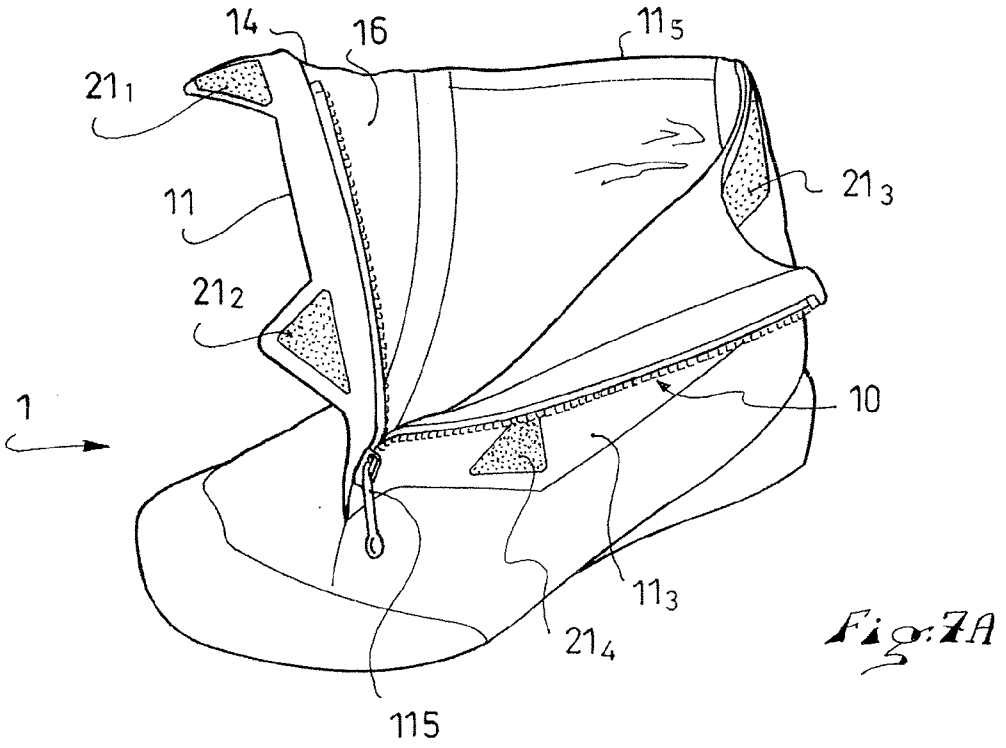

14
16
11_5
21_1
11
21_3
21_2
1
10
11_3
21_4
115

Fig. 7A

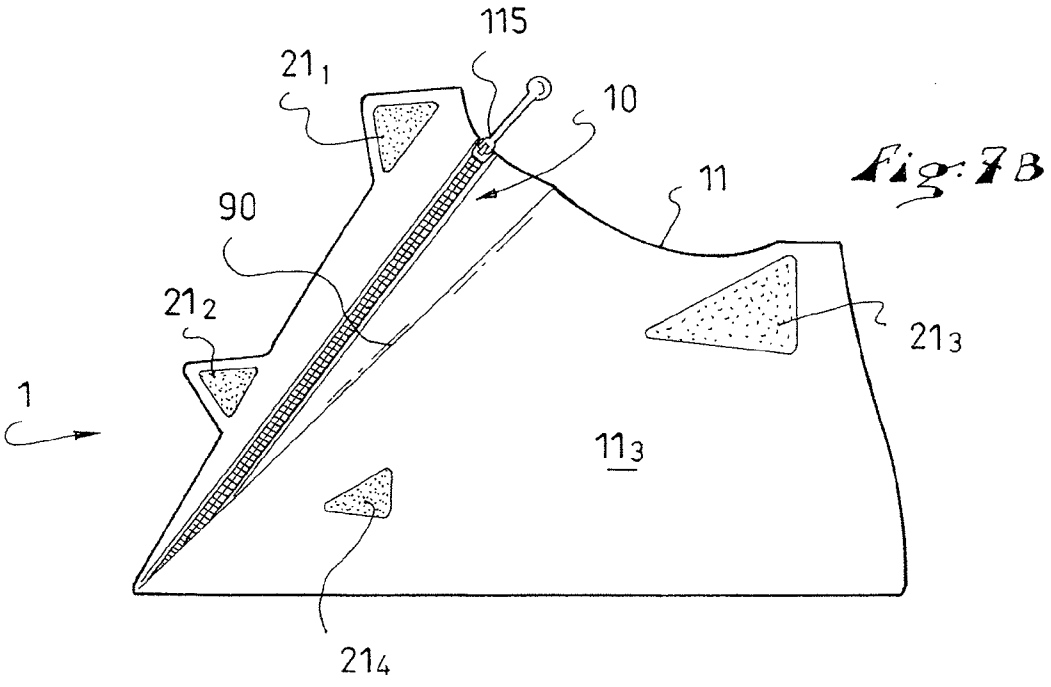

115
21_1
10
11
90
21_2
21_3
1
11_3
21_4

Fig. 7B

COVERING DEVICE FOR AN ARTICLE OF FOOTWEAR

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is based upon French Patent Application No. 12/03327, filed Dec. 7, 2012, the disclosure of which is hereby incorporated by reference thereto in its entirety, and the priority of which is claimed under 35 U.S.C. §119.

BACKGROUND

[0002] 1. Field of the Invention

[0003] The invention relates to a cover for an article of footwear.

[0004] 2. Background Information

[0005] Footwear articles that are desired to be weatherproof (in particular against snow and rain) and/or impermeable to debris, or more generally to external attacks and wear, can be provided with an integrated gaiter, which can also be referred to as a "cover."

[0006] The cover may be provided with a slide fastener or closure, such as a zipper, to facilitate foot insertion, on the one hand, and to allow access and to close access, selectively, to the shoelaces, on the other hand.

[0007] However, a zipper poses a number of problems.

[0008] In particular, it is often tensioned during and after its closure, particularly on large foot volumes. In fact, a zipper keeps the shoe upper tensioned, which is why it must have sufficient mechanical properties to withstand tension. Consequently, a zipper is relatively thick and bulky, which sometimes hinders the bending or the rolling movement of the foot during walking, such as the bending of the foot (and boot), such as at the joint between the metatarsal heads and respective toes of the foot.

[0009] A zipper can also cause injuries because the teeth thereof are rigid.

[0010] It is generally difficult to achieve imperviousness with a zipper, which can lead to the intrusion of foreign material, such as water.

[0011] Therefore, a problem of finding a new cover structure arises.

[0012] Such new cover structure should render it possible to overcome the aforementioned drawbacks, in particular those related to tension and stiffness.

SUMMARY

[0013] To this end, the present invention provides a cover to be positioned against the upper of a shoe, the shoe comprising at least a sole assembly and an upper, the cover comprising:

[0014] an envelope;

[0015] a longitudinal opening, and a device for opening and closing the latter;

[0016] flap-forming structure comprising an outer surface and an inner surface, such flap structure, when in the closed state, making it possible to bring the device for opening and closing the longitudinal opening between the envelope of the cover and the inner surface of the flap.

[0017] This cover offers multiple advantages.

[0018] First, the cover provides protection to the upper, when the latter is positioned in the envelope, against elements such as water, snow or ice.

[0019] The cover also allows access to the mechanism for closing the upper.

[0020] This cover further makes it possible to position the device for opening and closing the longitudinal opening in a substantially straight arrangement, which enables it to be assembled by gluing rather than stitching. In addition, this results in the device for opening and closing the longitudinal opening being highly reliable, because the tension exerted thereon is reduced, due of their position in the closed state.

[0021] Structure for fixing a free end of the flap may comprise, for example, at least one self-gripping fastener (such as a hook-and-loop fastener), or at least one snap-fastener, or at least one magnet. These structures comprise a first portion arranged on or against the inner surface of the flap, and a second portion arranged on or against the outer surface of the envelope, the first portion and second portion cooperating with one another to maintain the free end of the flap against the surface of the envelope or in the vicinity thereof.

[0022] Once the flap is folded and held by the fixing structure, the device for opening and closing the longitudinal opening is positioned laterally with respect to a median plane of the shoe, and not on top of the foot. Again, this results in reduced mechanical stresses on these structures, and greater comfort for the user because, during bending of the foot, these structures are not in support on the foot instep.

[0023] Finally, imperviousness is improved because, once the flap is brought to the surface of the envelope, the device for opening and closing the longitudinal opening is located on an upper portion in relation to the envelope itself. The possibilities for water, snow, or ice to penetrate into the upper are very low.

[0024] The device for opening and closing the longitudinal opening may comprise a zipper or buttons or snaps. In the case of a zipper that, as explained above, is under very slight or no tension, and therefore is not caused to open, it is also possible to eliminate the need for any system for locking the slider of the zipper.

[0025] As already explained above, the device for opening and closing the longitudinal opening can be fixed, for example by gluing, welding, or stitching to the inner surface of the flap-forming structure.

[0026] The invention also relates to a shoe comprising at least a sole and an upper, as well as a cover, or gaiter, of the type described above.

[0027] The shoe may further comprise a device for closing the upper, for example a lace up fastener or a zipper or other slide fastener.

[0028] The cover can be fixed by gluing or welding or by stitching into the sole assembly, or in or against a lower portion of the upper.

[0029] A portion of the cover is at a distance (D) from the upper portion of the upper when the flap-forming structure is in the closed state.

[0030] The device for opening and closing the longitudinal opening is at a distance (d) from the envelope of the cover when the flap-forming structure is in the closed state.

BRIEF DESCRIPTION OF DRAWINGS

[0031] Other characteristics and advantages of the invention will be better understood from the description which follows, with reference to the annexed drawings illustrating, by way of non-limiting embodiments, how the invention can be embodied, and in which:

[0032] FIG. **1** is a perspective front view of an assembly including a cover, in the open state, mounted on a low-upper shoe;

[0033] FIG. **2** shows the same cover as in FIG. **1**, in the closed state, with the flap not yet folded on the cover;

[0034] FIG. **3** shows the same cover as in FIG. **2**, with the flap being folded back on the cover;

[0035] FIG. **4** shows a view, along a cross-section IV-IV identified in FIG. **3**;

[0036] FIGS. **5**A and **5**B show a detail of the fixing of a zipper against the inner surface of the flap of a cover according to the invention;

[0037] FIG. **6** shows a variation of a cover structure according to the invention; and

[0038] FIGS. **7**A and **7**B show a cover according to the invention, prior to assembly on a shoe, in perspective and planar views, respectively.

DETAILED DESCRIPTION

[0039] FIGS. **1-3** show a first embodiment of a system comprised of a gaiter **1**, or cover, according to the invention (the term "cover" is used hereinafter), at various stages of its use. This cover is mounted here on a low-upper shoe **2**, of which the sole assembly is designated by the reference numeral **18**. But the invention is also applicable to a high-upper shoe and to a mid-upper shoe, i.e., a shoe in which the upper extends above or at, respectively, the ankle of the wearer.

[0040] Longitudinally, or parallel to the direction of extension of the foot, the shoe extends between a tip, or front end **32**, and a heel, or rear end **34**. The front end **32** and the heel **34** define an extension axis of the shoe. A longitudinal, median plane is substantially perpendicular to the sole assembly and contains the axis of extension of the shoe.

[0041] Transversely, the shoe is demarcated by a lateral side, or outer side **33**, and by a medial side, or inner side **35**.

[0042] FIG. **1** shows that the cover can cover most of the upper, which is why only a small portion of the upper portion of the upper is visible in FIG. **1**. Also visible is a mechanism **5** for closing the shoe, which, in this case, takes the form of shoelaces, but may alternatively include a zipper (or other slide fastener), or one or more rows of buttons or snaps. In the illustrated embodiment, such mechanism also includes keepers **50** for the shoelaces, shown in the cross-sectional views of FIGS. **4** and **6**. However, the invention also applies to the case of a shoe with no closure mechanism, in which the upper can have elastic zones to enable easy insertion of the foot, the cover protecting all or part of these elastic zones, which are less impervious than non-elastic zones. This is the case, for example, of certain high boots.

[0043] The cover **1** comprises an envelope **11** made, for example, with one or more layers of synthetic materials such as polyethylene, polyamide, rubber, or the like, and which can be made in a single piece, or in a plurality of pieces assembled along assembly or connecting lines **7**, **9**, ... These lines, such as lines of stitching, can optionally be provided with bands of a material that makes them impervious, such as water-resistant or waterproof, such as by means of adhesive sealing tape. In the following description, the reference numeral **11** is used interchangeably to designate the envelope of the cover or the outer surface of this envelope. Generally, the envelope **11** substantially has the shape of a shoe, for example a high-upper shoe (such as that shown in FIGS. **1-3**), while having a volume for receiving the upper of the shoe **2**. As for the shoe itself, the envelope **11** comprises a lateral or outer portion $\mathbf{11}_3$, and a medial or inner portion $\mathbf{11}_5$.

[0044] The bottom of the envelope **11** may be fixed, for example by stitching zones, in a portion located in the sole assembly, for example along the lasting board as shown in FIG. **4**. Alternatively (FIG. **6**), it is fixed, for example via gluing zones, against a lower portion $\mathbf{44}_1$, $\mathbf{44'}_1$ of the upper.

[0045] The envelope has an opening **3** which allows access to the upper of the shoe, in particular to the closure mechanism of the boot itself, if provided therewith. It is substantially demarcated by free edges, **1'**, **14'** of the envelope **1**, which, in this case, respectively are a free edge arranged in the front zone of the lateral portions **113** and the free edge of a flap **14**, described in more detail below. This opening can be closed, as shown in FIGS. **2** and **3**, using the closure device **10** (or opening/closing device) that, in this example, is in the form of a zipper.

[0046] This closure device is arranged on a free edge **1'** of the envelope of the cover, which, when the cover is in the closed state, is located substantially in the median plane (as defined above) or in the vicinity of this plane, on the one hand, and on a portion of the cover forming the flap, on the other hand.

[0047] Indeed, as it appears clearly in FIG. **1**, the cover **1** further comprises structure, or a portion, forming a flap **14**, which extends the medial portion $\mathbf{11}_5$, and which includes:

[0048] a surface **15**, i.e., an outer surface, adapted to face outward, on the side opposite the upper, when the flap is in the closed position;

[0049] a surface **16**, i.e., an inner surface, adapted to be turned toward the envelope of the cover, or toward the upper, when the flap is in the closed position.

[0050] An edge **14'** of the flap is free, that is to say, a user can move it away from the outer surface of the envelope, or, conversely, closer thereto, depending upon whether the user wishes to open or close the envelope.

[0051] The closed state of the flap is shown in FIG. **3**, FIG. **2** showing an intermediate position in which the closure device **10** is closed, but the flap is still in the open position.

[0052] The flap **14** here extends the medial or inner portion $\mathbf{11}_5$ of the envelope **11** of the cover. The flap, when in the open position, is then arranged on one side of the cover; this is the medial side in the case illustrated in the drawing figures. In the closed position (FIG. **3**), it covers a portion of the lateral or outer portion $\mathbf{11}_3$ of the envelope **11** of the cover. In an alternative, the position of the flap can be reversed: in the open position, it extends the lateral side $\mathbf{11}_3$ of the envelope **11** and is on the side thereof; in the closed position, it covers a portion of the medial side $\mathbf{11}_5$ of the envelope **11**.

[0053] Structures $\mathbf{21}_1$-$\mathbf{21}_4$ are provided to fix and maintain the edge **14'** of the flap against or close to the envelope **11**. For example, such structures are self-gripping surfaces (hook-and-loop fasteners of the "Velcro®" type, for example) provided on the inner surface **14** of the flap, on the one hand, and on the outer surface of the envelope (here on the lateral side $\mathbf{11}_3$ of the envelope **11**), on the other hand, and which cooperate so that one is fixed to the other when they are brought in the vicinity of one another by the user. Alternatively, other types of structures such as snap-fasteners, magnetic elements, etc., may be provided. In the alternative embodiment mentioned above, the structures $\mathbf{21}_3$ and $\mathbf{21}_4$ are arranged on the outer surface of the envelope, on the medial side $\mathbf{11}_5$ thereof, when the flap is connected to the outer portion $\mathbf{11}_3$ of the envelope.

[0054] The device for closing the opening **3** is connected to the inner surface **16** of the flap, on the one hand, and to the free edge **1'** of the cover, on the other hand. When the user closes this device, the inner surface **16** of the flap and the free edge **1'** come closer to one another (see FIG. **2**).

[0055] The flap can then be brought into contact with the outer surface of the envelope, using the structures $\mathbf{21}_1$-$\mathbf{21}_4$, which results in the completely closed state of FIG. **3**.

[0056] In the illustrated embodiment, the device **10** for closing the opening **3** essentially comprises a zipper, which includes:

[0057] a first band **106**, provided with teeth and fixed or connected laterally to the inner surface **16** of the flap, for example by gluing or stitching;

[0058] a second band **108**, also provided with teeth and fixed to the free edge **1'** of the cover.

[0059] These bands **106**, **108** are more clearly shown in FIGS. **4**, **5**A, **5**B and **6**.

[0060] The teeth of the two bands cooperate with one another due to a slider **115** that makes it possible to nest or separate the teeth and, therefore, to close or open the zipper of the opening **3**.

[0061] In the state of FIG. **2**, the closure device **10** is substantially aligned in the median plane, as defined above. It is also arranged essentially between the free end **14'** of the flap **14** and a zone **90** of the envelope, which forms a line or a fold or pivot zone (line or zone that is also shown in FIG. **7**B) along which the flap **14** is roughly pivoted or folded, in order to be brought into its closed position, with its inner surface **16** that faces a portion **100** (FIGS. **4**, **5**A, **5**B and **6**) of the outer surface of the lateral portion $\mathbf{11}_3$ of the envelope, but in the illustrated embodiment (see FIGS. **5**A and **5**B) at a certain distance d therefrom.

[0062] In its closing movement, the flap **14** brings the closure device **10** beyond its initial position to a final position in which it is turned over, that is to say, turned toward the portion **100**. Its final position is shown in FIGS. **4**-**6**, the device **10** then being arranged between the portion **100** of the envelope and the inner surface **16** of flap-forming structure.

[0063] When the flap is folded, the closure device **10**, or zipper, is subject to only low or no lateral pulling forces (which are perpendicular to the extending direction of the zipper and applied to both sides thereof). This ensures a long useful life for the closure device.

[0064] In addition, when the flap is folded and, as can be clearly understood from FIGS. **4**-**6**, the closure device **10** is in a "high" position in relation to the portion **100** of the outer surface of the cover that it faces (at a certain distance therefrom). Therefore, it is less likely to be subject to the action of water, snow, or ice. As clearly shown in the cross-sectional views of FIGS. **4**-**6**, a path in the form of a "baffle" prevents the penetration of water drops, snow, or ice chips. The upper **44** of the shoe that is under the cover **1** is then properly protected against these elements, by the envelope of the cover **1**, and by the flap **14** arranged above the closure device **10** when the flap is in the folded or closed position, as shown in FIGS. **3**, **4**-**6**.

[0065] The zipper-extending direction can then be in a position substantially spaced apart from the median plane of the shoe. The closure device **10** is therefore less subject to tension or stress during movement of the foot.

[0066] Finally, the zipper-extending direction remains substantially straight, including in its final closed position.

[0067] FIG. **4** shows a view, taken along the line IV-IV of FIG. **3**, of the upper of the shoe and of the cover.

[0068] This drawing figure clearly shows an outer envelope constituted by the cover **1**, and the inner envelope **44** formed by the outer surface of the upper. In this example, the latter rests on the sole **45** (for example made of a fabric such as polyethylene or polyamide) or lasting board, and, possibly, on a damping layer **47**, for example made of EVA, ethylene-vinyl acetate copolymer, and a wear layer **49**, for example made of rubber. Possibly, an inner sole **45'**, which may be removable, provides comfort. This drawing figure shows that the envelope **11** of the cover can be retained, for example, by stitching in the sole assembly, for example along the sole **45**. The reference numerals $\mathbf{45}_1$, $\mathbf{45'}_1$ designate the seam lines. In an alternative (FIG. **6**), it is held by gluing or stitching in the lower portion of the upper **44**, the reference numerals $\mathbf{44}_1$, $\mathbf{44'}_1$ then designating the gluing or seam lines. Given that this assembly zone is then more exposed to the weather elements than in the case of FIG. **4**, it can be further covered with a band or an additional insulating layer. In both cases (FIGS. **4** and **6**), the lateral side and medial side of the envelope are shown to be applied onto a portion of the outer surface of the upper. But, in a zone which substantially corresponds to the upper portion of the upper, on both sides of an opening zone **141**, and above the latter, the envelope is at a distance D (variable depending upon the zone in which it is measured) from this outer surface of the upper.

[0069] In both FIGS. **4** and **6**, the reference numeral **42** designates a tongue whose lateral ends, on both sides of the median plane of the shoe, are positioned beneath the upper portions of the portions **144**, **144'** of the inner envelope, which are on both sides of the opening **141**. The latter is finally closed by the tongue **42**. When the shoe is to be closed (as in FIGS. **4** and **6**), closing elements, for example shoelaces **5** (see FIG. **1**), guided by keepers **50** (see FIGS. **4** and **6**), bring the two portions **144**, **144'** closer to one another and to the foot of the user. Such elements can also be tightening elements for tightening the shoe upon the foot of the wearer. Alternatively, buttons, a slide fastener (or "zipper"), or snap-fasteners may replace the shoelaces. In another alternative, the inner envelope is continuous, without an opening such as opening **141**, but has elasticity zones that justify a protection using the cover **1**.

[0070] Measured from the medial side to the outer side, the distance D changes from a zero value, in the vicinity of the zone in which the envelope **11** is against the outer surface of the upper, to a Dmax value, above the tongue **42**, and then decreases when the envelope **11** again moves closer to the outer surface of the upper.

[0071] Thus, an air volume **143** is defined between the envelope **11** and the upper, in the upper portion thereof.

[0072] When the cover **1** is in position on the shoe **2**, as in FIG. **4**, it protects the latter and especially its closure mechanism, comprising the tongue **42** and the closing elements (shoelaces **5** and keepers **50** in the example).

[0073] The cover makes it possible to protect the lacing zone (or more generally the closure zone) of the upper and, when in the open position, to allow access to this lacing zone after opening the zipper.

[0074] FIGS. **5**A and **5**B show an enlarged view of the zones around the closures device **10**, when the flap **14** is in its closed position (i.e., as in FIG. **3**).

[0075] The reference numerals in these two drawing figures have already been described above in connection with FIG. **4**.

However, these two drawing figures make it possible to illustrate a particular aspect of the invention:

[0076] In FIG. **5**A, the edge **106** of the closure device **10** is connected to a band **106'** made of textile material, or made of the same material as the envelope **11**, the band **106'** being glued against the inner surface **16** of the flap **14**;

[0077] In FIG. **5**B, the edge **106** of the closure device **10** is also connected to the band **106'** made of textile material, or made of the same material as the envelope **11**, but the latter is stitched against the inner surface **16** of the flap **14**.

[0078] FIG. **7**A shows the cover alone, prior to assembly on a shoe, in which the same elements as above are found, designated by the same reference numerals. In this drawing figure, the cover is shown in perspective, without the shoe.

[0079] FIG. **7**B illustrates a flattened cover, the visible side being the outer side $\mathbf{11}_3$, which is then superimposed on the medial side, not visible in the drawing figure. In particular, also recognizable in this figure is the line or the zone **90** around, or along, which the flap and the closure device **10** is moved to make the closure elements $\mathbf{21}_1$-$\mathbf{21}_2$ coincide with the closure elements $\mathbf{21}_3$-$\mathbf{21}_4$.

[0080] The invention is not limited to the embodiments described above, and includes all equivalents that fall within the scope of the claims that follow.

[0081] At least because the invention is disclosed herein in a manner that enables one to make and use it, by virtue of the disclosure of particular exemplary embodiments of the invention, the invention can be practiced in the absence of any additional element or additional structure that is not specifically disclosed herein.

1. A cover to be positioned against the upper of a boot, the boot comprising at least a sole assembly and an upper, said cover comprising:
- an envelope;
- a longitudinal opening and an opening/closing device for selective opening and closing the opening;
- a flap comprising an outer surface and an inner surface, the flap facilitating positioning the opening/closing device between the envelope and the inner surface of the flap.

2. A cover according to claim **1**, wherein:
the opening/closing device comprises a zipper.

3. A cover according to claim **1**, further comprising:
fastening structure for fixing a free end of the flap to the envelope of the cover.

4. A cover according to claim **3**, wherein:
the fastening structure for fixing the free end of the flap to the envelope comprises at least one self-gripping device.

5. A cover according to claim **1**, wherein:
the opening/closing device is fixed by glue or stitches to the inner surface of the flap.

6. A shoe comprising:
a sole assembly;
an upper;
a cover comprising:
- an envelope;
- a longitudinal opening and an opening/closing device for selective opening and closing the opening;
- a flap comprising an outer surface and an inner surface, the flap facilitating positioning the opening/closing device between the envelope and the inner surface of the flap.

7. A shoe according to claim **6**, further comprising:
closing mechanism for closing the upper.

8. A shoe according to claim **7**, wherein:
the closing mechanism for closing the upper comprises a laces.

9. A shoe according to claim **6**, wherein:
the cover is fixed by gluing or by stitching in the sole assembly or in a lower portion of the upper.

10. A shoe according to claim **6**, wherein:
a portion of the cover is spaced from the upper portion of the upper by a distance when the flap is in a closed state.

11. A shoe according to claim **6**, wherein:
the opening/closing device is at a distance from the envelope of the cover upper when the flap is in the closed state.

* * * * *