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(54) **Protection element for footwear such as a ski boot, snowboarding boot, trekking boot or suchlike**

(57) Protection element (10) for footwear such as a ski boot, snowboarding boot, trekking boot or suchlike, having an upper (12) equipped with a front aperture (13) lying substantially on a median longitudinal axis ("X"). The protection element (10) comprises a shaped tongue (17) arranged above the front aperture (13) and having a first end attached to the upper (12) by means of first

attachment means (18). Elastic means (20) are superimposed above the tongue (17) and are attached to the upper (12) by means of the first attachment means (18) and by means of second attachment means (26) arranged in two attachment zones substantially equidistant from the median longitudinal axis ("X"), in order to keep the tongue (17) aligned with the median longitudinal axis ("X").

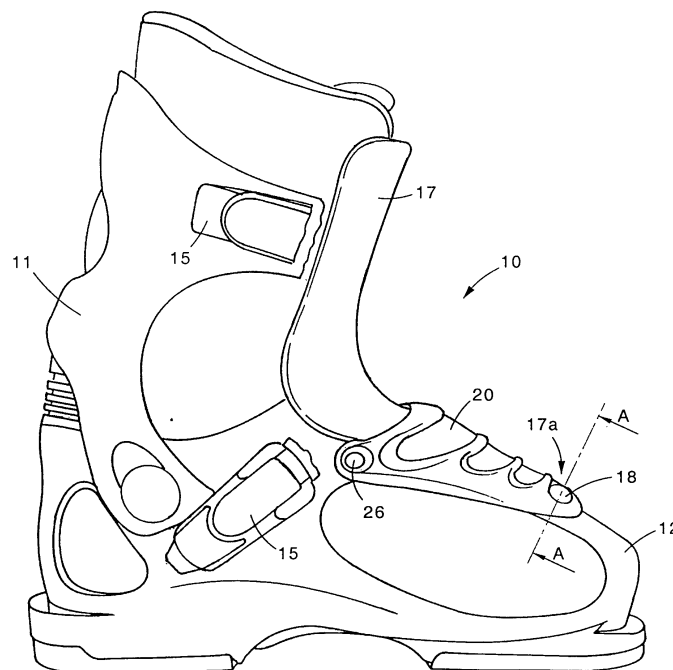


fig. 1

Description

FIELD OF THE INVENTION

[0001] The present invention concerns a protection element for footwear such as for example a ski boot, snowboarding boot, trekking boot or suchlike, by means of which the front part is protected from knocks and the boot is made water proof, that is, water, snow or earth is prevented from penetrating inside the boot. The protection element comprises a tongue with an end attached to the upper of the article of footwear, and watertight elastic means attached both to the upper and also to the tongue so that the latter always has a central and aligned position with the median longitudinal axis of the article of footwear.

BACKGROUND OF THE INVENTION

[0002] It is known that many articles of footwear, including mountain boots and particularly ski boots or snowboarding boots, normally consist of an upper, or casing, open at the front part to allow the foot to be inserted. This aperture is then closed by means of suitable closing mechanisms which guarantee the perfect adherence of the inner part of the article of footwear to the foot. Usually, however, these closing mechanisms leave the edges of the front aperture slightly detached from each other, and thus do not ensure a perfect watertight seal, nor any type of protection to the tarsal and metatarsal part of the foot.

[0003] This shortcoming is normally resolved by arranging a rigid shaped tongue on the front part of the article of footwear, so as to give protection from knocks and to prevent water, snow or suchlike from penetrating inside the article of footwear through the front aperture.

[0004] Conventional rigid tongues are usually attached to the upper, or casing, of the boot by means of screws, rivets or otherwise, in a front and central zone of the upper.

[0005] However, this conventional solution does not guarantee axial stability of the tongue since, every time the user acts on the closing mechanisms, the tongue tends to twist and move laterally, especially in the part distant from the point where it is attached to the upper, towards the outside of the article of footwear, that is, towards the zone where the levers commanding the closing mechanisms are arranged.

[0006] The movement of the tongue towards the outside of the article of footwear causes the tongue to lift up and, since it is no longer closely adherent to the upper, this allows water, snow or suchlike to penetrate inside the article of footwear.

[0007] The Applicant has devised and embodied the present invention to overcome these shortcomings of the state of the art, and to obtain further advantages.

SUMMARY OF THE INVENTION

[0008] The present invention is set forth and characterized in the main claim, while the dependent claims describe other innovative characteristics of the invention.

[0009] One purpose of the invention is to achieve a protection element for an article of footwear which, in every operating condition, has axial stability and which consequently guarantees a perfect watertight seal during use.

[0010] The protection element according to the present invention can be applied to an article of footwear such as for example a ski boot, snowboarding boot, trekking boot or suchlike, provided with an upper on which a front aperture, lying on a median longitudinal axis, is made.

[0011] In accordance with this purpose, the invention comprises a shaped tongue arranged above the front aperture, and having a first end attached to the upper by means of first attachment means, for example screws, rivets or similar, in two points equidistant with respect to a median longitudinal axis.

[0012] Moreover, the protection element comprises elastic means superimposed above the tongue and attached to the upper by means of the first attachment means and by means of second attachment means arranged in two attachment zones substantially equidistant from the median longitudinal axis so as to maintain the tongue aligned with the median longitudinal axis.

[0013] The attachment points where the tongue is attached to the upper are specular to the median axis and therefore constrain it to a substantially axial movement; the presence of elastic means attached to the upper in the same attachment points where the tongue is attached, and at other attachment zones, always specular to the median longitudinal axis, causes the tongue to remain always aligned with this median axis, since the elastic means tend to thrust the tongue centrally and constantly towards the upper, preventing it from twisting even when the article of footwear is being closed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] These and other characteristics of the present invention will become apparent from the following description of a preferential form of embodiment, given as a non-restrictive example with reference to the attached drawings wherein:

- fig. 1 is a lateral view of the protection element according to the present invention applied to a ski boot;
- fig. 2 is a side view of the protection element bent forwards;
- fig. 3 is a three-dimensional view of a detail of the protection element according to the invention;
- fig. 4 is a transverse section along the line from A

to A of fig. 1.

DETAILED DESCRIPTION OF A PREFERENTIAL FORM OF EMBODIMENT OF THE INVENTION

[0015] With reference to fig. 1, a protection element 10 according to the present invention is applied to a ski boot 11 of the type having at least an upper or casing 12, equipped with a front aperture 13 (fig. 2), which can be selectively closed by means of closing mechanisms 15 arranged in specific zones of the boot 11 to ensure a sufficient closure of the latter with respect to the user's foot.

[0016] The protection element 10 according to the present invention comprises a rigid tongue 17 and an elastic element 20.

[0017] The rigid tongue 17 (figs. 1 and 4) is shaped substantially like an L-shaped platelet, is arranged above the front aperture 13, so as to prevent water, snow or suchlike from penetrating inside the boot 11, and is attached to the casing 12 with a first end at two points 17a and 17b arranged at a zone of the casing 12 where the front aperture 13 is not present. These two attachment points 17a and 17b are equidistant with respect to a median longitudinal axis X of the boot 11, and some millimeters away from it.

[0018] The tongue 17 is attached to the casing 12 by two respective screws 18 which, apart from attaching it to the casing 12, allow it a slight forward flexion with respect to the latter, as shown in fig. 2, to facilitate the insertion of the foot, although the tongue 17 is still kept aligned with the median longitudinal axis X of the casing 12.

[0019] The elastic element 20 (fig. 3) comprises an upper wall 21 made of rubber, substantially trapezoid in shape, slightly rounded and converging downwards, and a lower wall 22, with which the front part of the upper wall 21 is able to define a pocket 23; the first end of the tongue 17 is inserted in this pocket 23 so that the elastic element 20 is attached to the tongue 17 and to the casing 12 in correspondence with the points 17a and 17b by means of the screws 18 (fig. 4).

[0020] The upper wall 21 also comprises, in every rear corner, two respective holes 24 and 25 able to be associated with respective attachment elements 26 arranged at points of the casing 12 equidistant from the median longitudinal axis, but more distant from the latter with respect to the points 17a and 17b, so that the elastic element 20 is held under tension, and constantly thrusts the tongue 17 close to the casing 12, keeping it always aligned with the median axis.

[0021] Thanks to the central thrust exerted by the elastic element 20, the protection element 10 as described heretofore allows to keep the tongue 17 always aligned with the median axis, even when the boot 11 is being closed by means of the relative closing mechanisms 15, in order to prevent the tongue 17 from twisting and lifting up on one side, and thus allowing the water

to filter inside the boot 11.

[0022] Moreover, the elastic element 20 guarantees a watertight seal of the boot in the front part of the casing 12, since its lower wall 22 is kept adherent to the casing 12 by the tension given by the upper wall 21 to the attachment elements 26, thus preventing the water, snow or suchlike from penetrating inside the boot 11.

[0023] It is clear however that modifications and/or additions of parts may be made to the protection element 10 as described heretofore, but these shall remain within the field and scope of the present invention.

[0024] It is also clear that, although the present invention has been described with reference to specific examples, a person of skill shall certainly be able to achieve many other equivalent forms of protection element for footwear, all of which shall come within the field of protection of the present invention.

Claims

1. Protection element for footwear such as a ski boot, snowboarding boot, trekking boot or suchlike, having an upper (12) equipped with a front aperture (13) lying substantially on a median longitudinal axis ("X"), said protection element comprising a shaped tongue (17) arranged above said front aperture (13) and having a first end attached to said upper (12) by means of first attachment means (18), **characterized in that** elastic means (20) are superimposed above said tongue (17) and are attached to said upper (12) by means of said first attachment means (18) and by means of second attachment means (26) arranged in two attachment zones substantially equidistant from said median longitudinal axis ("X"), in order to keep said tongue (17) aligned with said median longitudinal axis ("X").
2. Protection element as in claim 1, **characterized in that** said first attachment means (18) are arranged at two attachment points (17a, 17b) substantially equidistant from said median longitudinal axis ("X") of said upper (12).
3. Protection element as in the previous claims, **characterized in that** said tongue (17) has a rigid or semirigid structure.
4. Protection element as in claim 1, **characterized in that** said elastic means (20) comprise an element made of elastic material having an upper wall (21) substantially trapezoid in shape, slightly rounded and converging towards the front part of said upper (12), the corners of said upper wall (21) being attached to said first and second attachment means (18, 26).
5. Protection element as in claim 4, **characterized in**

that said elastic means (20) also comprise a lower wall (22) attached to the front part of said upper wall (21) so as to define a pocket (23) inside which said first end of said tongue (17) is partly positioned.

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6. Protection element as in claim 2, **characterized in that** the distance between each of said two attachment points (17a, 17b) of said first attachment means (18) and said median longitudinal axis ("X") is less than the distance of each of said attachment zones of said second attachment means (26) from said median longitudinal axis ("X"). 10
7. Protection element as in the previous claims, **characterized in that** said two attachment points (17a, 17b) are arranged in a zone included between the front end of said aperture and the tip of said article of footwear. 15
8. Protection element as in claim 4, **characterized in that** said second attachment means comprise two attachment elements (26) and **in that**, in correspondence with two of its rear corners, said upper wall (21) is provided with two holes (24, 25) able to be associated with said attachment elements (26). 20
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9. Protection element as in any claim hereinbefore, **characterized in that** said elastic means (20) are made of rubber. 30
10. Protection element as in any claim hereinbefore, **characterized in that** said tongue (17) is shaped like an L-shaped platelet. 35
11. Protection element as in any claim hereinbefore, **characterized in that** said first attachment means comprise screws (18) passing through said front corners of said upper wall (21) and said first end of said tongue (17). 40

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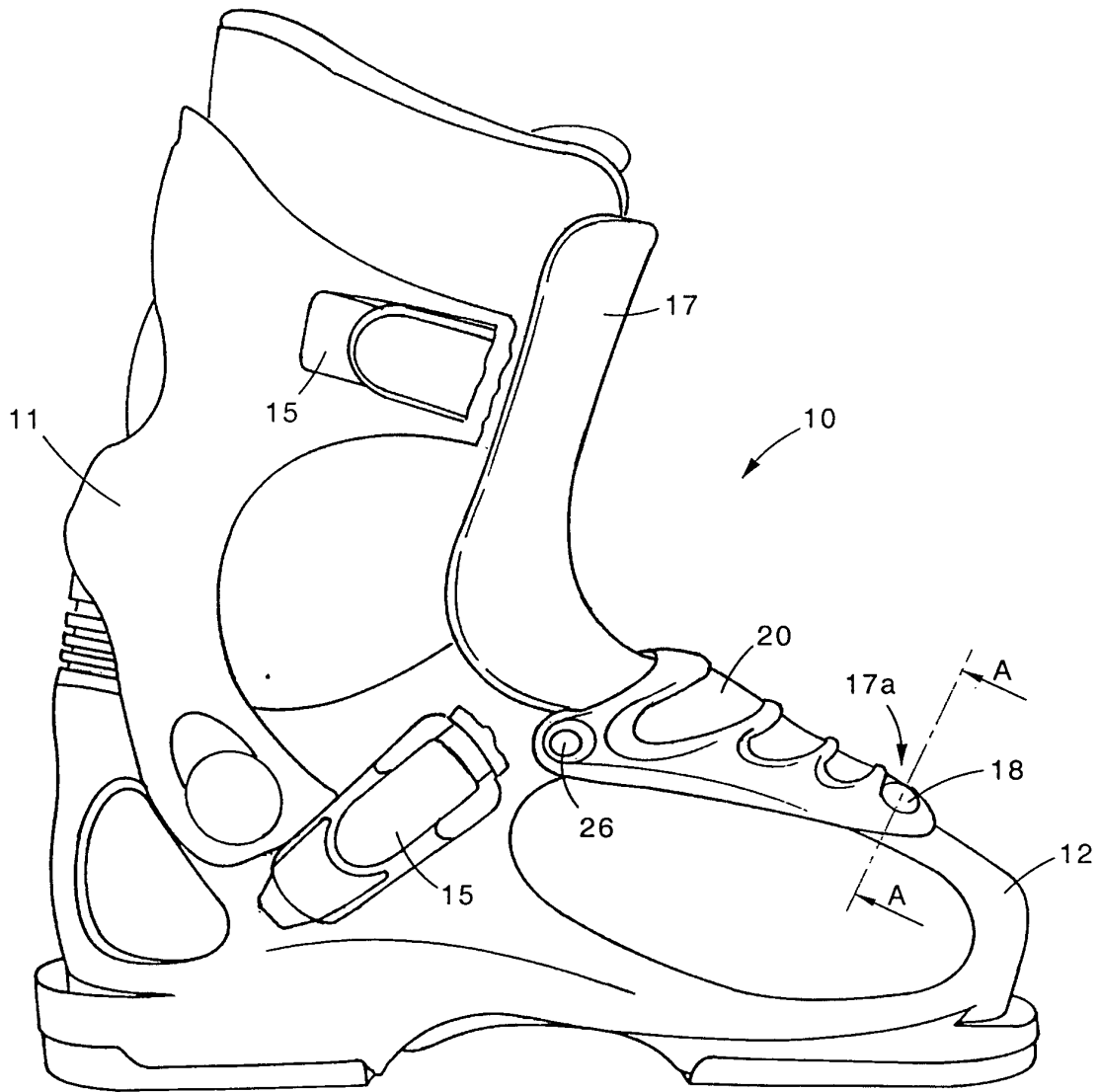


fig. 1

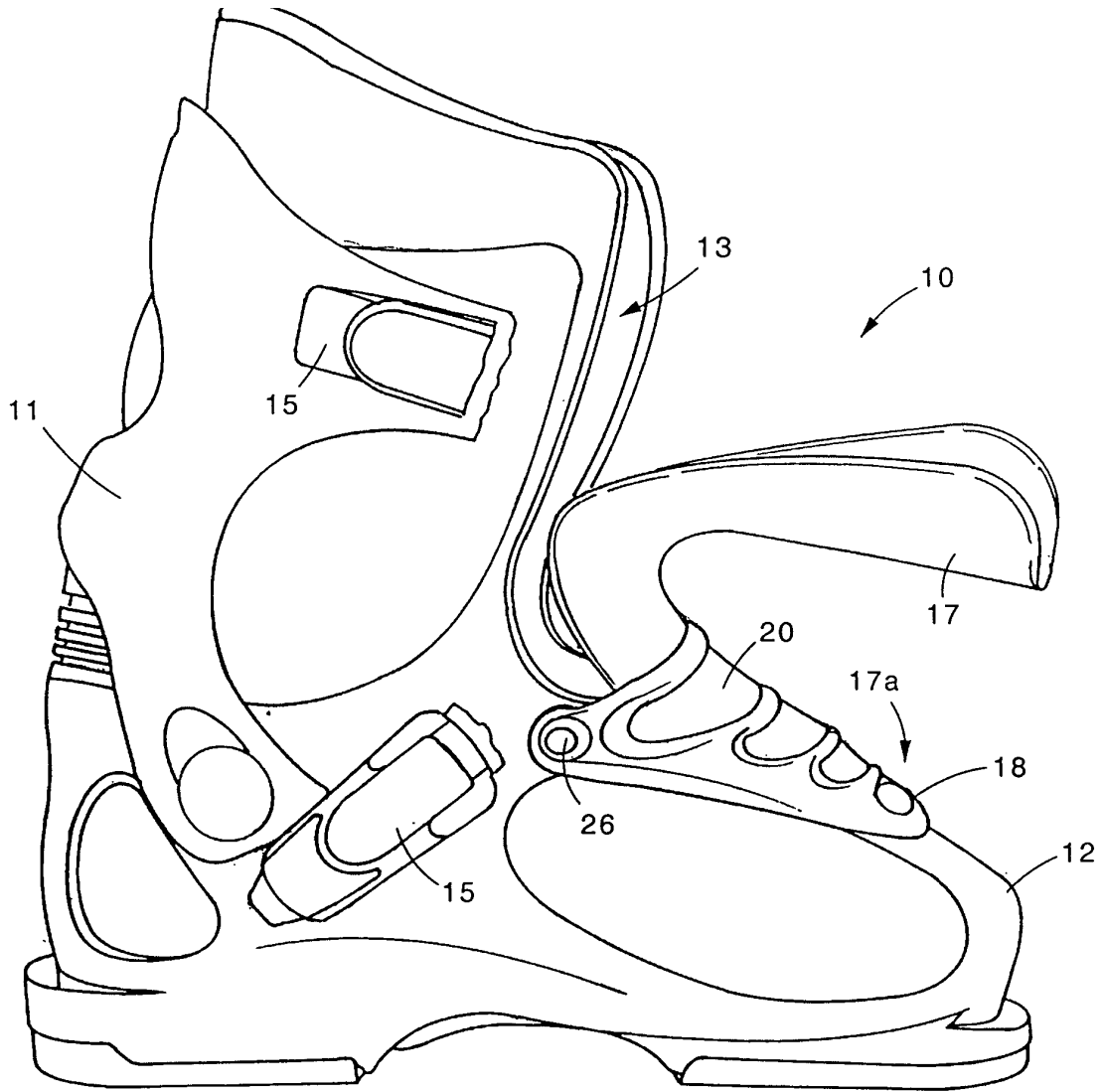
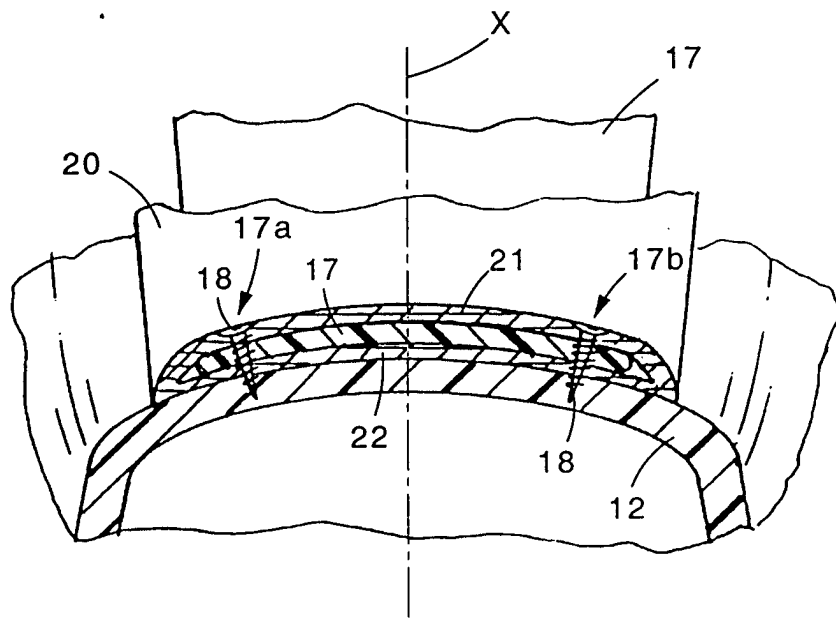
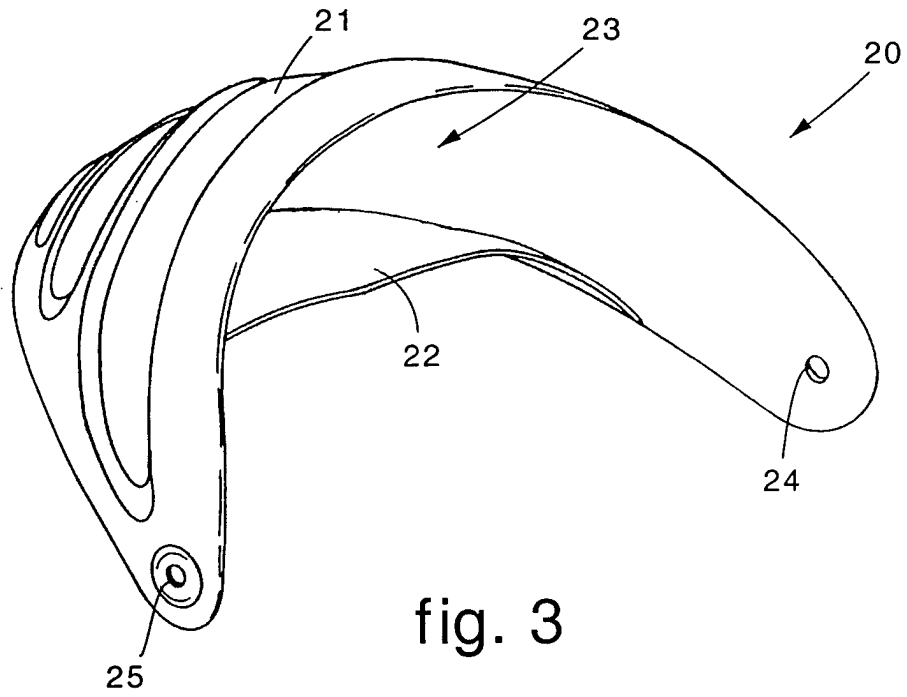


fig. 2





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 02 02 7946

DOCUMENTS CONSIDERED TO BE RELEVANT			
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A43B
Place of search	Date of completion of the search	Examiner	
THE HAGUE	18 March 2003	Claude1, B	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 02 02 7946

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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