(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 286 602**
A2

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: **88830122.3**

(51) Int. Cl.[4]: **A 43 C 11/00**

(22) Date of filing: **28.03.88**

(30) Priority: **10.04.87 IT 2138987**

(43) Date of publication of application:
12.10.88 Bulletin 88/41

(84) Designated Contracting States:
AT BE CH DE ES FR GB GR LI LU NL SE

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(54) **An article of footwear for distance skiing incorporating a self-locking quick fastening device.**

(57) A plate-like body (5) of a fastening device attached to an article of footwear for distance skiing is through-penetrated by a passageway (6) in which a shoelace (2) is engaged slidingly. The shoelace (2) is lockable by a constrictive action from a spring-loaded slider device (8,9,11) guided in the body (5).

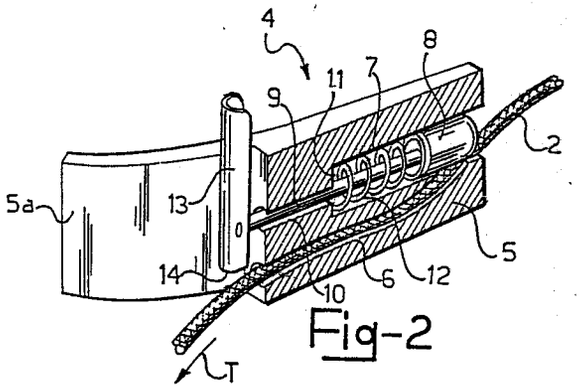

Fig-2

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Description

This invention relates to an article of footwear for distance skiing incorporating a quick fastening device.

It is known that in distance skiing practice, the closest fit should be ensured between the foot and the article of footwear if it is to be avoided that the foot, in swaying inside the same, can impair the outcome of the skier's exertion.

This is an essential condition in distance skiing, but also in other skiing activities, because it is through the footwear that the foot movements are transferred to the ski to control and direct it.

Of great importance becomes, therefore, the footwear fastening arrangement which, in the particular instance of distance skiing, is still embodied by conventional shoelaces engages through eyelets secured on the footwear, with opposing ends of the shoelaces which are ultimately tied together by means of a knot.

In an effort to improve the performance of such prior fastening arrangements, it has been proposed of covering them with mutually coupleable uppers flaps, e.g. by means of intervening layers of a hooked material and non-woven fabric, respectively, (of the kind generally available commercially under the VELCRO trade name).

Expedients of this type can only ensure short term fastening capabilities, since knotted-together shoelaces are apt to develop some looseness. Timely re-tying thereof, consequently to the loose condition, involves an evident loss of time and well-recognized inconvenience, if not an actual difficulty, especially in adverse weather environmental situations.

The problem that underlies this invention is to provide an article of footwear for distance skiing the fastening arrangement whereof has such constructional and operational features as to overcome the drawback noted above in connection with the background art.

The problem is solved, according to the invention, by an article of footwear for distance skiing, whose fastening arrangement includes a shoelace, being characterized in that it comprises at least one plate-like body attached to said article of footwear and through-penetrated by a passageway for said shoelace, a slider guided movingly within a seat formed in said body, said seat opening into said passageway at an angle thereto, and spring-loaded means adapted to bias said slider in a direction toward said passageway.

According to a second aspect of this invention, the slider is associated, externally of said seat, with a lever pivoted on said body and operable manually to shift the slider against the bias of said spring-loaded means.

Further features and advantages will be more readily understood from the following detailed description of an exemplary embodiment of an article of footwear for distance skiing according to the invention, to be taken in conjunction with the accompanying illustrative drawings, where:

Figure 1 shows in perspective an article of footwear for distance skiing according to the invention; and

Figures 2 and 3 show, in perspective and in section, a detail of a self-locking quick fastening device incorporated to the article of footwear for distance skiing according to the invention.

With reference to the drawing views, the numeral 1 schematically designates an article of footwear for distance skiing whose fastening arrangement includes a shoelace 2 conventionally threaded through a series of eyelets 3 mounted on mutually confronting flaps of the footwear article.

Generally indicated at 4 is a quick fastening device for said shoelace, which device comprises a body 5 having a base 5a whereby it can be secured on an article of footwear 1 under consideration, at a selected location thereon.

The body 5 is through-penetrated by a first hole 6 constituting a passageway for the shoelace 2. A second hole 7 provides a seat adapted to guide a cylindrical slider 8 slidingly therein, said seat 7 opening into the passageway 6 for the shoelace 2 at an angle thereto.

More specifically, the cylindrical slider 8 is provided with a straight stem 9 extending coaxially with it and being engaged slidingly through and guided by a hole 10 which forms an axial extension of the hole 7. Formed between the holes 7 and 10 is an annular shoulder 11 on which one end of a spring 12 is made to bear whose other end bears on the cylindrical slider 8. The spring 12 biases the slider 8 constantly in a direction toward the passageway 6 to intercept the shoelace 2 and provide a self-locking device therefor, as explained more clearly herein below.

The stem 9 is journalled with its free end, outside the body 5, to a lever 13 which has an end 14 arranged to bear against a wall of the body 5 and constituting a floating pivot center for the lever.

By manipulating the lever 13, the cylindrical slider 8 can be retracted into its respective seat 7 against the bias of the spring 12, thus enabling an end of the shoelace 2 to be threaded through a respective passageway 6, from that side of the body 5 where the passageway 6 and seat 7 have a portion in common (Figure 3).

Where the end of the shoelace 2 is available on the opposite side from the one previously considered, the lever 13 would be brought back to its original position. As a result, owing to the biasing action of the spring 12, the slider 8 is returned to the position shown in Figure 2, at which position it will be pressing on the shoelace 2. Under this condition, the shoelace can be slipped through the passageway 6 by having it pulled in the direction indicated by an arrow T in Figure 2, that is a direction which brings about increased fastening tension, but cannot be slipped in the opposite direction because of the constrictive action exerted by the slider 8 providing a reliable locking effect.

When one wants to slip the shoelace 2 fully off the quick fastening device according to the invention, all that is required is to retract the slider 8 into the seat 7 as previously described in connection with the shoelace threading through.

It should be noted that the other end of the shoelace 2 in question may be engaged, in turn, in a respective locking device, or otherwise secured on the article of footwear 1.

The advantages afforded by the quick fastening device of this invention may be readily appreciated from what has been described hereinabove and illustrated in the accompanying drawings.

Claims

1. An article of footwear for distance skiing, whose fastening arrangement includes a shoelace (2), characterized in that it comprises at least one plate-like body (5) attached to said article of footwear and through-penetrated by a passageway (6) for said shoelace (2), a slider (8) guided movingly within a seat (7) formed in said body (5), said seat (7) opening into said passageway (6) at an angle thereto, and spring-loaded means (12) adapted to bias said slider (8) in a direction toward said passageway (6).

2. An article of footwear for distance skiing according to Claim 1, characterized in that said slider (8) is associated externally of said seat (7) with a lever (13) pivoted to said body (5) and operable manually to shift the slider (8) against the bias of said spring-loaded means (12).

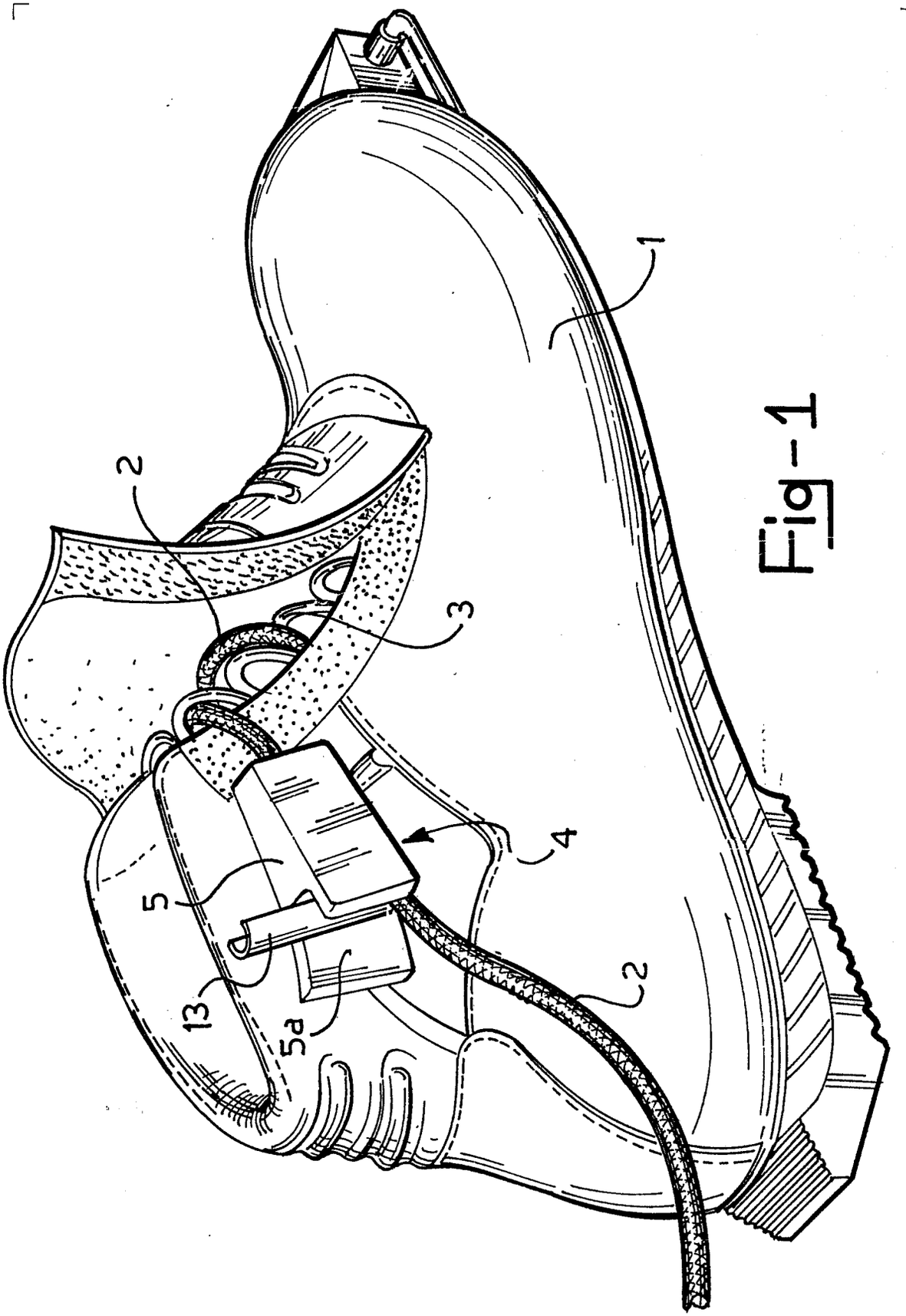

Fig-1

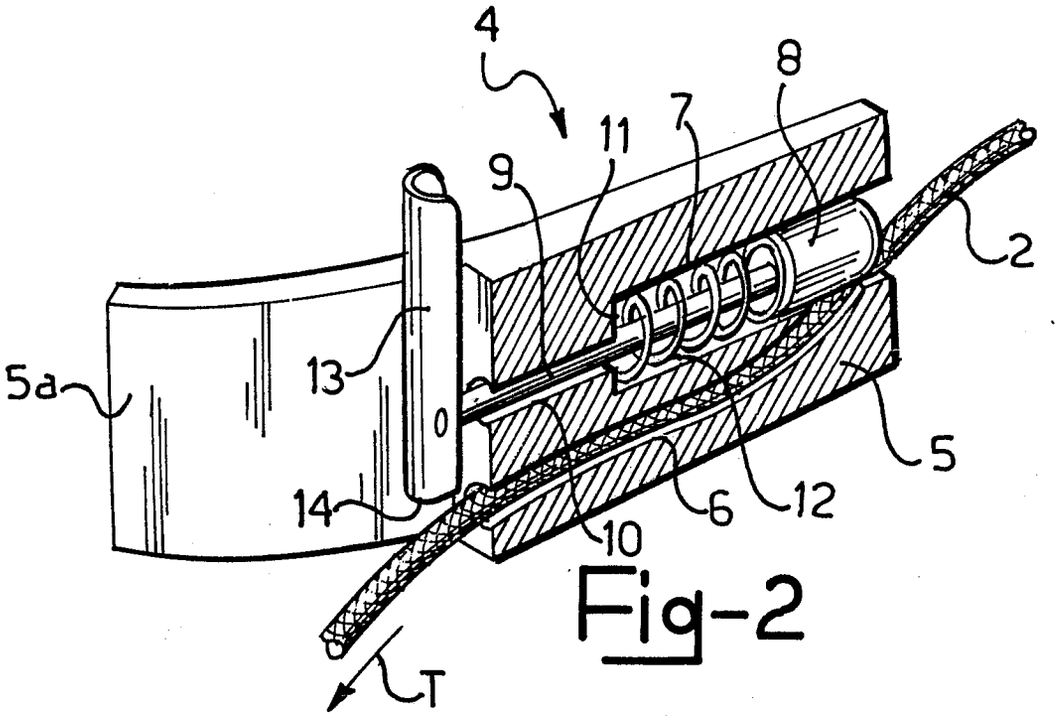

Fig-2

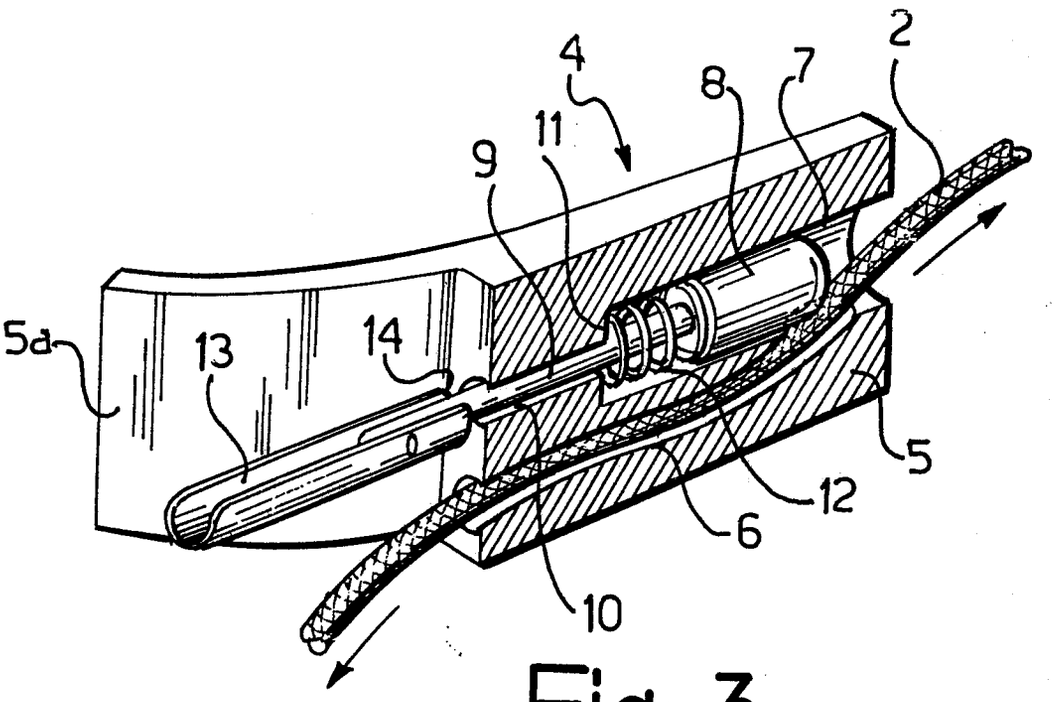

Fig-3