Oct. 19, 1971 N. EIE 3,613,270

SOLE FOR A SKI BOOT

Original Filed Dec. 6, 1968

Fig. 1.

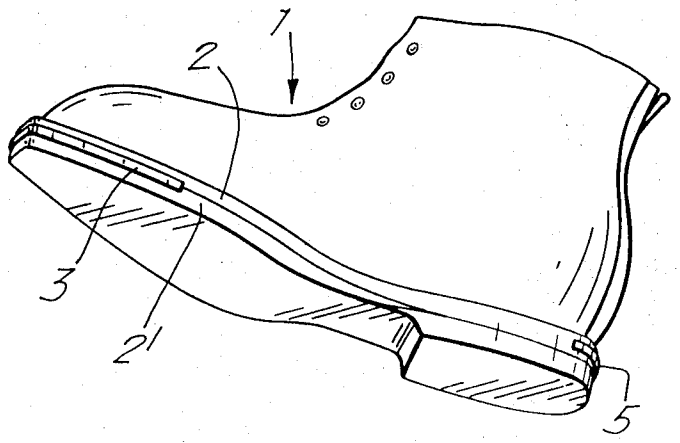


Fig. 2.

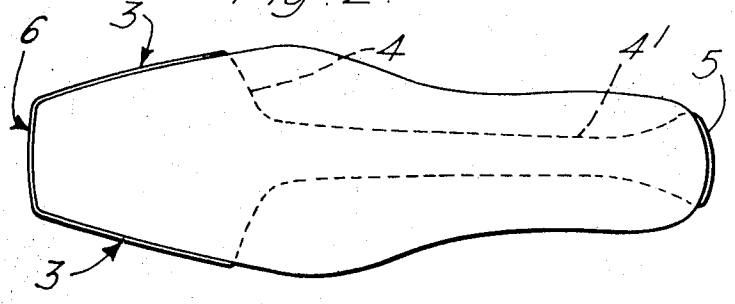


Fig. 3.

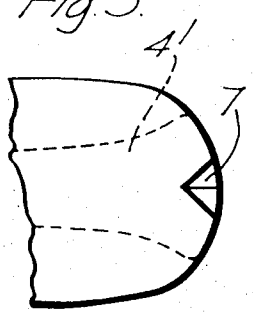
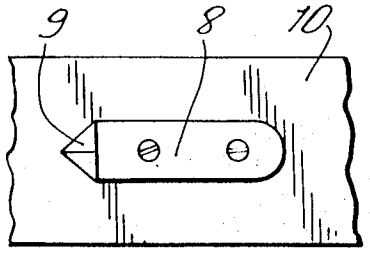


Fig. 4.



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SOLE FOR A SKI BOOT

Nils Eie, Tennisveien 6, Oslo 3, Norway

Continuation of application Ser. No. 781,941, Dec. 6, 1968. This application May 28, 1970, Ser. No. 41,726

Int. Cl. A43b *13/12*

U.S. Cl. 36—2.5 AL 8 Claims

ABSTRACT OF THE DISCLOSURE

A ski boot comprises at least one solid and rigid element embedded between the insole and tread sole of the boot, the element being constituted of wear-resistant material such as metal or the like, with edge portions protruding beyond the contour of the sole to form contact surfaces with binding means on skis. The edge portions encircle the sole at the toe thereof and also extend at the heel. The rigid element may have a triangular incision at the heel for receiving a correspondingly shaped securing means. In one embodiment, the element is a one-piece plate of T-shape with a cross piece at the toe and a stem extending towards the heel.

This application is a continuation of Ser. No. 781,941, filed Dec. 6, 1968, now abandoned.

The present invention relates to an arrangement concerning a sole for ski boots. The invention is particularly intended for use in connection with ski boots made from leather but is in no way restricted thereto, the sole according to the invention being applicable also to boots made from artificial material or leather boots having a rubber sole.

A problem which makes itself felt in conventional ski boots is that the sole is deformed or distorted in use so that it gradually does not fit the binding. With leather soles this is a very important problem because the sole alters in size as well as form due to the water absorptivity, which causes the sole to swell when it is wet and to shrink when drying. All soft and elastic soles will undergo a certain temporary deformation when during use they are fixed in a binding due to the alternating direction of the load. If the sole is not adequately fixed in the binding it will be difficult for the skier to steer, which results in an additional physiological strain or even can be directly disastrous in a down hill run. It has for a long time been desirable to eliminate such drawbacks.

In connection with soft soles in ordinary footwear it is known to use stiffening elements of wire cloth or fiber material, such soles do not, however, solve the above mentioned problem as they will not have the sufficient rigidity and further will have no action at the edge parts of the sole. It is, however, just at these edges of the sole that strain is effected for a ski boot, and there is not previously known a ski boot having the desired form stability in the plane of the sole, especially in the transverse direction.

An object of the invention is to provide an arrangement related to a sole for a ski boot making it possible to maintain the sole, i.e. the ski boot, in desired fixed relation to the ski, that means the sole must maintain its

form during all conditions of weather, temperature and humidity.

According to the invention this is obtained by inserting, in a way known per se, one or more layers of stiffening material so arranged that wear resistant parts thereof are so positioned in the sole that they will engage corresponding parts of the binding or fastening. The boot thereby will be provided with reliable, firm and durable contact surfaces against, for example, the toe irons, so that compliance in or wear of the other parts of the sole will not influence the engagement between the boot and the binding and thus the control of the ski during use. The form and dimensions of the sole in a substantially horizontal plane will be effectively maintained.

The invention will be better understood from the following description of an embodiment shown in the drawing, wherein:

FIG. 1 is a perspective view of a ski boot provided with a sole according to the invention.

FIG. 2 shows in plan the sole of the boot according to FIG. 1,

FIG. 3 shows the heel part of the sole according to a modification, and

FIG. 4 shows an element secured to the ski and adapted for co-operation with the sole according to FIG. 3.

Between the insole **2** and the tread sole **2'** there is inserted a T-formed plate **4**. The edges **3** of the foremost part of said plate **4** will form contact surfaces for the toe iron of the ski binding, the rear part **4'** forms contact surface **5** for parts of the binding or fastening located at the heel of the boot, and the foremost edge **6** forms engagement for such part of the binding located thereat, for example, locking members.

In FIG. 3 is shown a modification where the rear edge of the plate **4'** and the adjacent part of the heel are provided with an incision **7** adapted to engage an upstanding triangular stud **9** of a mounting **8** secured to the ski **10**. This arrangement provides correct positioning of the heel, the exposed surfaces of the plate inside the incision **7** forming wear resistant contact surfaces effectively preventing lateral displacement or play of the heel.

It will be understood that the embodiment described above and disclosed in the drawing is meant only to elucidate the concept of the invention and that this can be modified in many ways within the scope of the claims. Thus the inserted plate can be given any desired contour to provide the desired contact surfaces depending on the actual type of ski binding or fastening.

Further the plate can be replaced by two or more plate elements positioned to obtain such contact surfaces. The plate or plates can also be provided with apertures or cut away areas to give a better assemblage of the sole parts.

What is claimed is:

1. A ski boot comprising a sole and at least one solid and rigid wear-resistant element embedded in said sole and having edge portions protruding beyond the contour of the sole to form contact surfaces with binding means on skis, said edge portion encircling the sole at the toe thereof.

2. A ski boot as claimed in claim **1** comprising a heel having an incision for receiving a correspondingly shaped securing means.

3. A ski boot as claimed in claim 2 wherein said edge portion also extends at the heel.

4. A ski boot as claimed in claim 3 wherein said incision extends into said wear resistant element.

5. A ski boot as claimed in claim 2 wherein said incision is triangularly shaped.

6. A ski boot as claimed in claim 1 wherein said element is a one-piece plate of T-shape with a cross piece at said toe and a stem extending towards said heel.

7. A ski boot as claimed in claim 6 wherein said cross piece has a flat front edge.

8. A ski boot as claimed in claim 1 wherein said sole comprises an insole and a tread sole, said element being embedded between the insole and tread sole.

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PATRICK D. LAWSON, Primary Examiner

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