

United States Patent [19]

Vello

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[54] **BOOT OF THE TYPE COMPRISING A BOOTLEG LINED WITH EXPANDED MATERIAL**

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[52] **U.S. Cl.....12/142 E**

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[58] **Field of Search** 12/142 R, 142 E, 142 RS,
12/142 P

2,365,103 12/1944 Olson 12/142 E
3,416,174 12/1968 Novitske 12/142 E

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[57]

ABSTRACT

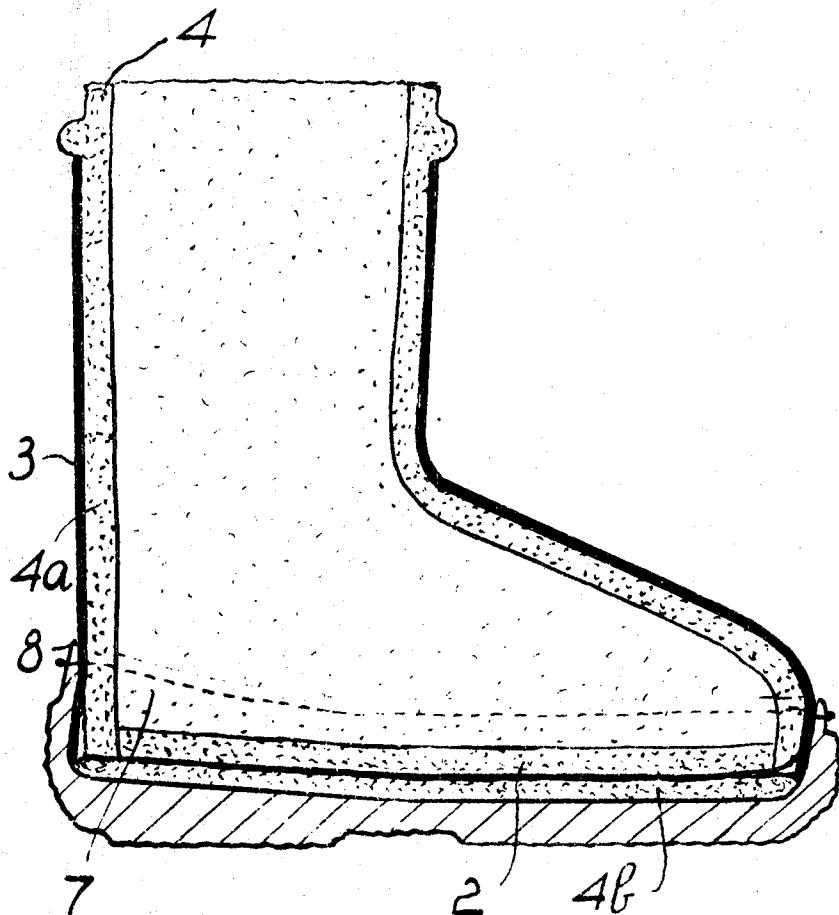
An after-ski boot of the type comprising a bootleg and a lining of expanded thermoinsulating material. The boot comprises a hull type sole, of a material unalterable at low temperatures, comprising a base and a flange adapted to be joined to an upper. Integral with the sole, there are provided a part projecting from the base, with a non-slip surface which extends on to the heel and to the toe.

[56] **References Cited**

UNITED STATES PATENTS

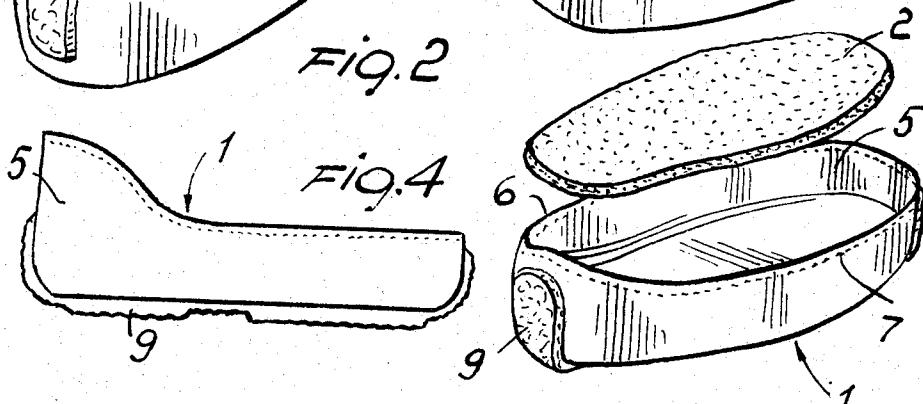
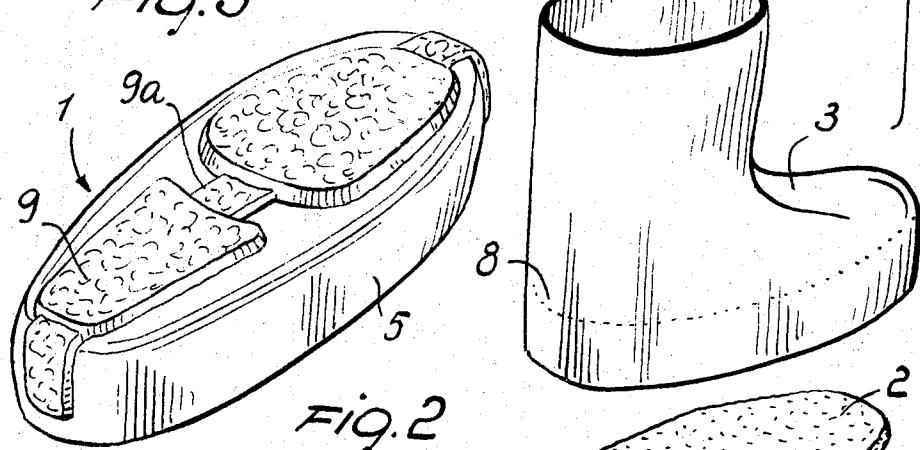
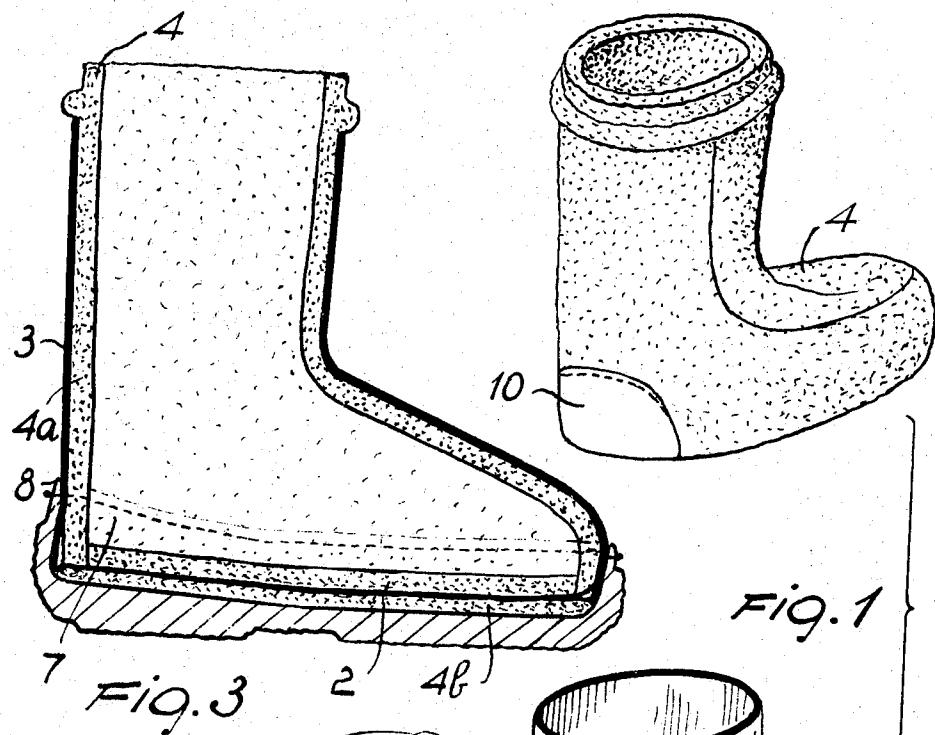
989,089 4/1911 Warner 12/142 E

2 Claims, 4 Drawing Figures



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3,833,957



BOOT OF THE TYPE COMPRISING A BOOTLEG LINED WITH EXPANDED MATERIAL

BACKGROUND OF THE INVENTION

This invention relates to rest or after-ski boots of the type comprising a bootleg lined with expanded or cellular thermally insulating material.

Boots of this type have a normal sole of plastic material, generally obtained by moulding. These known plastics soles create problems in assembling the upper, have low stability when fixed to boots with a lined bootleg, and become slippery at low temperatures and are hence dangerous to those using them.

SUMMARY OF THE INVENTION

The object of this invention is to obviate the aforementioned disadvantages by providing a boot with a lined leg, of simple and economical construction, while being perfectly impermeable and thermoinsulating, and giving excellent support adherence at any temperature and maximum stability for the person using it.

The boot according to this invention is characterised by a hull type sole of rubber or like material unalterable at low temperatures, comprising a flange extending upwards with an upper edge for fixing to the upper, and a part projecting from the base in the form of a non-slip surface which extends on to the heel and possibly on to the toe.

This hull type sole facilitates connection to the upper because of the presence of the lateral flange, and ensures excellent stability and good support on the ground, on the control pedals of motor vehicles and on any surface even at low temperatures. The projecting part also prolongs the duration of the boot by reinforcing the zones of maximum wear, and the flanges, which is seal stitched at a certain height, ensures that there is no infiltration when walking on snow.

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the invention will be evident from the description which follows, with reference to the accompanying drawings, provided by way of non-limiting example, in which:

FIG. 1 shows one embodiment of the present invention with the parts separated;

FIG. 2 is a perspective view from below of the hull sole shown in FIG. 1;

FIG. 3 is a section through the finished boot obtained from the component parts of FIG. 1; and

FIG. 4 is a side elevation of a hull type sole according to a further embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The boot shown comprises a symmetrical hull type sole 1, characteristic of the present invention, an insole 2, an upper 3 with a bootleg and a lining 4 of expanded thermoinsulating material. The hull type sole 1 is obtained by moulding or by another method and is of rubber or another material unalterable at low temperatures. The sole 1 comprises an edge flange 5 extending with a thickness which decreases upwards, because of which its upper edge 6 is very thin and it is at this upper thin edge 6 that the sole 1 is sewn to the upper 3, as shown by the dotted lines 7 and 8 respectively. The sole 1 comprises an integral part 9 projecting from the bot-

tom, with a non-slip surface, shaped so that it extends on to the heel and toe. This projecting part 9 may be of the same composition as the rest of the sole 1 or may have a different composition and be obtained in a first

5 stage of the same moulding operation, as known in the art. The projecting part 9 has the object of stiffening and strengthening the sole and comprises a narrow zone 9a which enables the sole to maintain the required flexibility. The non-slip surface of the projecting part 9 10 may be rough, may comprise appendices, knurling, pointed projections, producing suction effect etc. well known to experts of this branch of the art. The base of the sole 1 may have a thickness which increases towards the heel, with a lightening cavity open upwards, 15 on which the insole 2 is placed. The insole 2 is of a soft material in order to give comfortable support to the person wearing the boot. The insole 2 may also have a thickness which increases towards the heel. The upper 3 is of a flexible impermeable material and may be provided with any known system of lacing or closure. The lining 4 is formed from expanded or cellular thermally insulating material, and consists of a leg piece 4a and base 4b, with the heel strengthened by an element 10 20 covering the sides and bottom so as to avoid enlargement and deformation of the lining during use.

25 The sole 1 may be produced from rubber or other coloured material and the sole and projecting part may be of different colours, while being integral with each other.

30 The boot is produced by firstly inserting the insole 2 into the hull type sole 1, and then inserting the base of the upper 3 into the sole 1 and sewing the sole 1 and upper 3 along the lines 7 and 8 shown one above the 35 other, i.e. at a certain height from the support plane on the ground. Finally the lining 4, which is removable, is inserted. The lining 4 may be provided with a covering and its top part may project from the upper 3 and be provided with an ornamental element.

40 The sole 1 shown in FIG. 4 has the same characteristics as the sole considered above, and differs from it only in that its heel extends further upwards.

45 Preferably the boot according to the present invention is of an ambidextrous type, i.e. the same boot can be mounted independently on either the right or left foot, as this considerably simplifies the production and machinery necessary for moulding. It is however evident that the present invention may also be adopted for the production of pairs of boots, one for each foot.

50 It should also be noted that by using a lacing system comprising hooks (not shown) provided on the flange 5 of the sole 1, the boot may be used by people who wear different sizes, for example a single type of boot may be used by people who wear shoes of sizes from 37 to 39, while completely satisfying comfort and stability requirements.

55 The projecting part 9 of the sole 1 considerably increases its durability as it is provided in the zones of maximum wear and also ensures good support both on the ground and on the control pedals of motor vehicles. The narrow portion 9a of the projecting part 9 ensures good flexibility of the sole 1.

60 Naturally, within the principle of the invention, the constructional details and embodiments may be widely modified with respect to that described and illustrated, without leaving the scope of the present invention.

I claim

1. A process for the production of a rest or after-ski boot, of the type comprising a boot leg with a lining of expanded thermoinsulating material, having a single piece hull type sole of rubber like material including a flange projecting upwards with a top edge joined to an upper of flexible impermeable material and a shaped part projecting from its base with a non slip surface, which extends on to the flange at the heel and possibly at the toe the process comprising, moulding the hull type sole from natural rubber based material or the like, unalterable over a large temperature range; applying on the inside of the sole an insole of soft material; inserting the base of the upper of flexible impermeable material into the hull type sole, and joining the upper

edge of the flange of the sole to the underlying upper in a sealed manner by normal sewing; and inserting a lining of thermoinsulating expanded material.

2. A process as claimed in claim 1, characterised in 5 that the moulding of the sole is carried out in two stages: a first stage of moulding the portion comprising the projecting part of a predetermined composition and colour, and a second stage of moulding the remaining part of the sole, i.e. the base and flange, also of a predetermined composition and colour, to form an integral sole, of one or two colours, and preferably with the 10 edge made thin.

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