

[54] **SKI BOOT**

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[22] Filed: **Feb. 5, 1973**

[21] Appl. No.: **329,355**

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[30] **Foreign Application Priority Data**

Feb. 4, 1972 Sweden..... 1334/72

[52] **U.S. Cl.**..... **36/2.5 AL**

[51] **Int. Cl.**..... **A43b**

[58] **Field of Search**..... **36/2.5 R, 2.5 AL**

[56] **References Cited**

UNITED STATES PATENTS

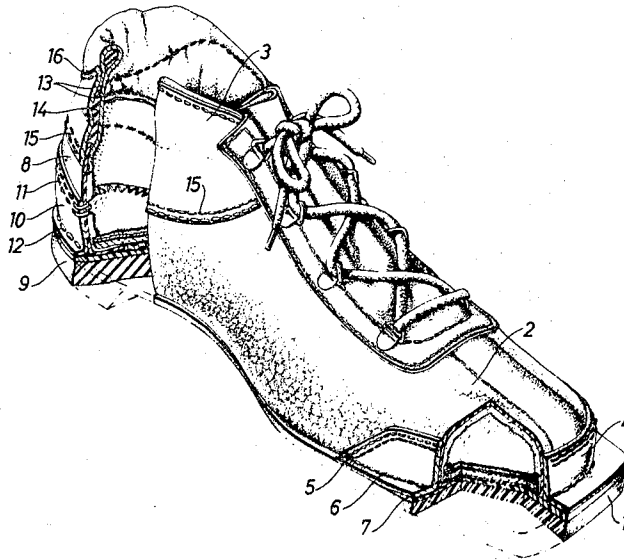
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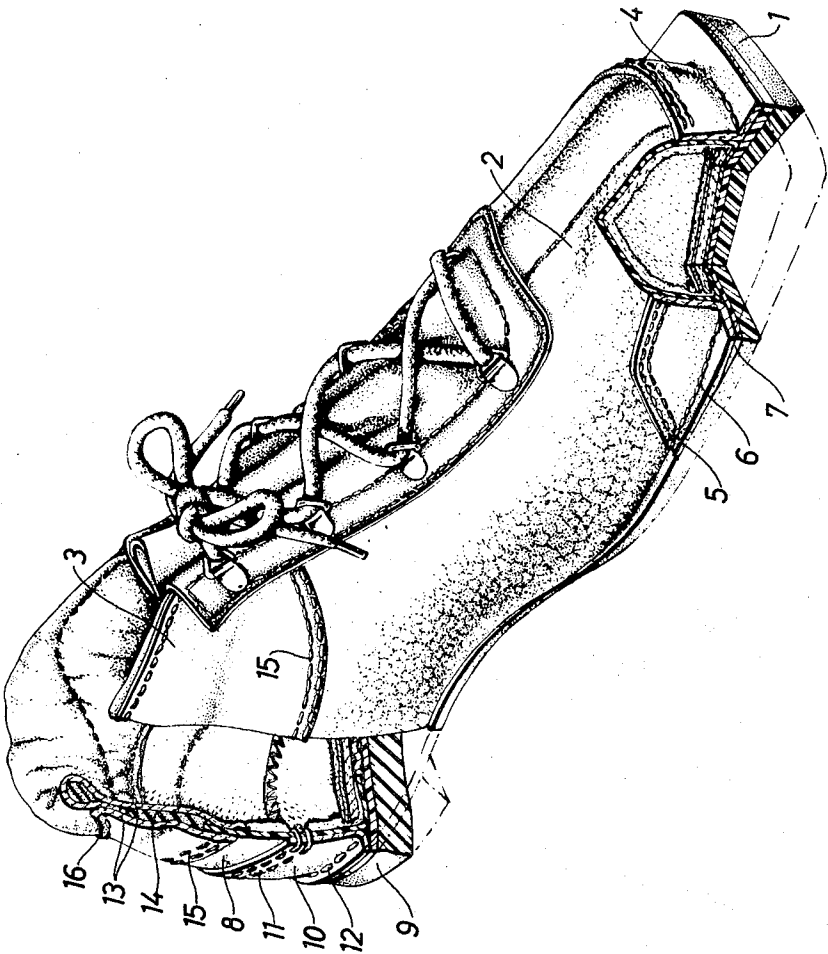
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ABSTRACT

In a footwear, particularly a ski boot, which has an upper of cellular rubber attached to a sole of plastic material, there are provided leather joining elements in the zones of the toe portion and the heel portion. Each joining element is sewn to the upper and the sole to provide an additional connection between the upper and the sole in the zones most exposed to stress.

6 Claims, 1 Drawing Figure





1

SKI BOOT

The present invention relates to footwear, especially ski boots having an upper of cellular rubber, for instance of synthetic styrene/-butadiene-latex foam rubber with closed cells, and having a sole of plastic material, for instance a blockcopolymer of styrene and butadiene.

Efforts have lately been made to make boots, especially ski boots, of cellular rubber rather than of leather, the cellular rubber being per se well suited to ski boots since this material is water resistant and rigid, on one hand preventing penetration of water from the outside and inwardly and on the other hand being sufficiently porous to allow transpiration to evaporate. However, these efforts of making boots of cellular rubber have not had the desired results since difficulties have been encountered in attaching the sole to the cellular rubber upper. Sewing the sole to the cellular rubber material is not possible if sufficient strength is to be attained, nor has it proved possible to glue the upper cellular rubber material to the sole in a satisfactory manner. Also, the stiffness of the material is likely to result in galls at the ankle.

Therefore, the present invention has for its purpose a boot design eliminating the disadvantages hitherto encountered in using the cellular rubber upper material, per se suitable for boots, namely the difficulty of connecting it with the sole and even the stiffness of the material.

SUMMARY OF THE INVENTION

According to the invention this purpose is attained by connecting the cellular rubber upper which is glued or sewn to the sole with the sole by means of a joining element of leather at the parts which are exposed the most to stress and strain by walking or skiing, namely the toe portion and the heel portion, this joining element being sewn with seams to the toe portion and the heel portion of the upper and of the sole. Furthermore, the disadvantages of the stiffness of the cellular rubber material are eliminated by having the shank portion of the boot made of a relatively soft leather, preferably containing an insert of foam rubber, which portion is sewn on the upper of cellular rubber by a seam. In this manner the stiff cellular rubber material is prevented from engaging the ankle portion so that galls are avoided at this vulnerable portion.

An embodiment of a boot according to the invention will be described in more details below with reference to the drawing.

BRIEF DESCRIPTION OF THE DRAWING

The sole FIGURE illustrates the invention in a perspective, partially cutaway view.

DESCRIPTION OF THE PREFERRED EMBODIMENT

On the drawing the boot is shown having a sole 1, an upper 2 and a shank 3. The sole material is a block polymerizate of styrene and butadiene having the advantages that the sole material does not become brittle in the cold and that it has low water absorption. As is conventional, a link consisting of spring steel and making the arch portion of the boot more rigid is inserted between the sole and the leather insole.

To obtain a rigid connection between the cellular rubber upper 2 and the plastic sole 1 a toe joining and

2

reinforcing element 4 of leather is sewn on one hand to the upper by means of a seam 5 and on the other hand to the sole by means of a seam 6. A wedge 7 known per se is inserted between the leather joining element and the sole. The leather joining element extends from the tip of the toe of the sole and rearwardly along the whole toe portion of the boot and upwardly to almost the full height of the toe portion.

A similar joining and reinforcing element of leather 10 is inserted between the heel portion 8 of the boot and the heel 9. This heel joining element is sewn to the upper by means of a seam 11 and to the heel 9 by means of a seam 12. The seam of the toe joining element as well as that of the heel joining element extend all through the sole so that a reliable connection is obtained between the upper and the sole.

The shank portion 3 consists of an envelope 13 of soft skin having an inlay of foam plastic 14. The shank portion 3 is sewn to the cellular rubber upper by means of seams 15, and the two skin strips which enclose the foam plastic filler 14 are sewn together by means of a seam 16.

Thus, the invention provides a boot the upper of which consists of a water proof, low weight and porous cellular rubber material which in a reliable way is connected to the plastic sole by means of a leather toe joining element and a heel joining element also of leather, the boot also having a shank portion of soft skin with a foam plastic filler. The shank portion allows the boot to be conveniently worn by the foot without the risk of galls even in the case of extensive ankle movements and when skiing.

It will be understood that the above description of the present invention is susceptible to various modifications, changes and adaptations, and the same are intended to be comprehended within the meaning and range of equivalents of the appended claims.

I claim:

1. In a footwear, such as a ski boot, having a toe portion and a heel portion and including an upper of cellular rubber and a sole of plastic material attached to the upper, the improvement, comprising:

a. a flexible toe joining element extending in the zone of said toe portion sewn to said upper and said sole, whereby said upper is additionally attached to said sole by said toe joining element;

b. a flexible heel joining element extending in the zone of said heel portion sewn to said upper and said sole, whereby said upper is additionally attached to said sole by said heel joining element; and

c. seams with which said joining elements are sewn to said upper and said sole; the seams attaching said toe joining element and said heel joining element to said sole extending entirely through said sole.

2. An improvement as defined in claim 1, further comprising a shank portion adjoining said upper, said shank portion including an envelope of soft skin sewn to said upper and an inlay of soft plastic sandwiched between said envelope.

3. An improvement as defined in claim 1, wherein said toe joining and heel joining elements are made of leather.

4. An improvement as defined in claim 1, wherein said toe joining element and said heel joining element have a strip-like configuration and are disposed on the outside of the footwear.

5. An improvement as defined in claim 1, wherein said upper is made of synthetic styrene/-butadiene-latex foam rubber with closed cells.

6. An improvement as defined in claim 1, wherein said sole is made of a blockcopolymer of styrene and butadiene.

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