

[54] **SKI BOOT BINDING PLATE PROTECTOR
AND WALKING AID**

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[56] **References Cited**

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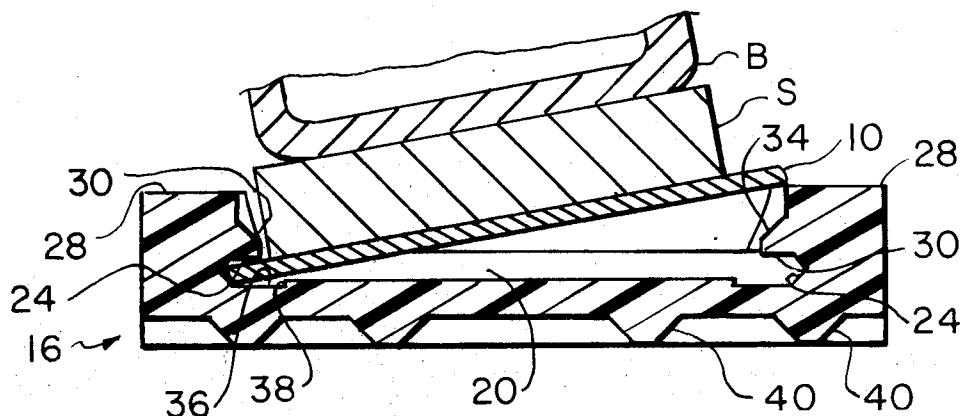
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[57]

ABSTRACT

A ski boot binding plate protector and walking aid especially designed for use with Spademan type boot plates. The protector takes the form of a one piece body of a molded flexible material, such as Neolite (trademark) having a boot plate receiving recess formed in the upper surface. Retaining shoulders project upwardly above the upper surface of the body along opposite sides and project inwardly to overlie the boot plate receiving recess along the opposed sides. The plate receiving recess is formed with side walls conformed in shape to the side edges of the boot plate, and when mounted on the boot plate, the retaining shoulders overlie and grip those portions of the plate which project beyond the side of the boot to retain the protector in position upon the boot plate. The upper edges of the shoulders are complementary in shape to the corresponding side edges of the boot plate and are beveled downwardly and inwardly to assist in mounting the protector on the plate.

2 Claims, 6 Drawing Figures



SKI BOOT BINDING PLATE PROTECTOR AND WALKING AID

BACKGROUND OF THE INVENTION

One of the most revolutionary concepts to appear in the ski binding field in recent years is the Spademan binding which eliminates the conventional toe and heel engaging devices and instead employs a single plate fixedly secured to the sole of the ski boot which is engaged by a release mechanism permanently mounted on the ski. Although revolutionary in concept, the Spademan binding has in a short time achieved a substantial degree of commercial success, both for its safety features and because of the fact that it uses the same plate, regardless of boot size, this latter feature being of particular interest to ski equipment rental establishments.

The boot plate of the Spademan binding takes the form of a flat metal plate which is fixedly secured to the boot at a location slightly forward from the heel so that, when viewed from the side, a line extending from the skier's shinbone would pass centrally through the plate. The plate projects outwardly beyond the sides of the boot sole and sinuous side edges on the plate cooperate with the release mechanism mounted on the ski to retain the boot in substantially fixed relationship to the ski during normal skiing activity and to provide for prompt release of the boot from the ski in the case of a fall or other abnormal application of force to the ski.

While the Spademan binding is generally conceded to be well designed for its purpose, some problems have been presented by the metal boot plate when the skier is not skiing. The plate itself is a metal plate approximately $\frac{1}{8}$ inch in thickness and having overall outside dimensions of approximately $2\frac{1}{2} \times 3$ ". It is mounted on the bottom of the sole of the ski boot by screws and thus presents a flat metal surface which is offset slightly downwardly from the flat rigid boot sole and projects outwardly beyond the opposite side edges of the boot sole. The plate thus presents a distinct possibility of slipping on ice or smooth floor surfaces, can gouge or mar floors or furniture legs and will tend to catch in uneven floor surfaces. Further, the projecting side edges of the plate are smoothly curved and conformed to elements in the release mechanism, and these projecting side edges can be abraded or deformed if care is not taken when walking on stone or concrete surfaces.

The present invention is especially directed to overcoming the problems referred to above and at the same time providing a device which makes walking in rigid soled ski boots easier.

SUMMARY OF THE INVENTION

The present invention takes the form of a one piece protector element constructed of a molded flexible material which can be readily clipped onto the boot plate when separated from the binding to substantially enclose all exposed surfaces of the plate to guard against damage by or to the plate, to provide a slip resistant walking surface and to further provide a more convenient walking action when installed on the boot.

Other objects and features of the invention will become apparent by reference to the following specification and to the drawings.

IN THE DRAWINGS

FIG. 1 is a bottom view of a ski boot having a Spademan boot plate mounted on the boot;

FIG. 2 is a side view of the bottom portion of a boot having a Spademan plate mounted thereon and showing, in broken line, a boot protector of the present invention in its mounted position;

FIG. 3 is a top plan view of a boot protector embodying the present invention, with a portion of the protector broken away;

FIG. 4 is a side elevational view of the boot protector of FIG. 3;

FIG. 5 is a detailed cross sectional view taken on line 5-5 of FIG. 3; and

FIG. 6 is a transverse cross sectional view showing the manner in which the protector is mounted upon the plate.

Referring first to FIGS. 1 and 2, these figures disclose the boot plate 10 of a Spademan binding mounted upon the bottom of the sole S of a ski boot B. From the bottom plan view of FIG. 1, it is seen that plate 10 is formed with smoothly curved or sinuous side edges 12 which project outwardly beyond the opposite side edges of the boot sole S. The side edges 12 of plate 10 cooperate with a ski mounted release device, not shown, to couple the boot to a ski. This particular binding system is commercially available from Spademan Release System of Belmont, Calif.

Plate 10 is fixedly and permanently secured to the bottom of boot sole S as by screws 14 and is mounted upon the boot sole at a fore and aft location such that the plate is centered in vertical alignment with the shinbone of the wearer of the boot. As best seen in FIG. 2, the flat plate 10 is mounted upon and thus projects slightly below the bottom of the boot sole. Because of the rigid nature of ski boot soles, it is believed apparent that the rigid metal plate 10 can present problems of slippage on smooth surfaces, can damage floors or other objects, and is itself susceptible to damage or abrasion from stone, concrete or similar surfaces.

The boot plate protector of the present invention is designated generally 16 and is formed from a flexible material having some degree of resilience, such as the material sold under the trademark Neolite. The protector can be readily formed by conventional molding techniques and is formed with a generally flat body 18 whose overall shape in plan as shown in FIG. 3 is generally similar to, but of larger dimensions than the corresponding overall dimensions of the plate 10.

A boot plate receiving recess 20 is formed in the upper surface of body 18, the recess being bounded by vertical front, side and rear walls 22, 24 and 26 respectively whose dimensions and configurations match those of the corresponding edges of boot plate 10.

Integral retaining shoulders 28 project outwardly from body 18 along the opposite side edges of the protector and project inwardly at their upper ends into overlying relationship with those portions of the recess 20 which extend along side walls 24. The overhanging lip 30 (FIGS. 5 and 6) is adapted to overlie those portions of plate 10 which project beyond the sides of the boot sole to retain the protector on the plate. As best seen in FIG. 3, the inner side edges 32 of shoulders 28 have a shape substantially congruent to the curvature of side edges 12 of boot plate 10 but, as best seen in FIG. 6, the transverse spacing between these edges is

less than the corresponding distance between side edges 12. A downwardly and inwardly inclined bevel 34 is formed on edges 32 of the protector to assist in mounting the protector upon the plate. To further assist in mounting the protector on the plate, outer depressed sections 36 are formed in recess 20 outwardly of walls 38.

The protector is mounted upon boot plate 10 in the manner illustrated in FIG. 6. The protector is placed on the ground or hard surface and one side edge 12 of boot plate 10 is seated in engagement with the corresponding side wall 24 of the recess as shown in FIG. 6. By stepping down firmly, the engagement between the right-hand side edge of boot plate 10 as viewed in FIG. 6 with the beveled surface 34 on the right-hand shoulder 28 forces shoulder 28 to flex outwardly to the right as viewed in FIG. 6 until the right-hand edge of the boot plate snaps downwardly underneath the overhanging portion of shoulder 28. From FIG. 6, it will be seen that the outer depressed portions 36 of recess 20 provide additional clearance for the first inserted edge of the boot plate, while when the boot plate is finally in its seated position, the bottom of the plate will rest upon the elevated central portion of recess 20 while the top edges of the boot plate will be in firm engagement with the overhanging surfaces 30 of shoulder 28 to prevent any vertical play of the protector on the plate. Side walls 22, 24 and 26 engage the corresponding side edges of the boot plate to hold the protector in fixed relationship to the plate. The bottom surface of the protector is preferably formed with ribs or lugs 40 to provide traction.

From FIG. 2, it is seen that when mounted the protector presents, in effect, a block or pad projecting from the bottom of the boot sole and enclosing the exposed surfaces of the boot plate. This arrangement provides some convenience in walking with the rigid boot sole S, because the protector provides a ground engag-

ing surface about which the boot may be rocked, thus enabling a walking action more comparable to a normal walking action than the usual flat footed stepping required by the inflexible boots.

While one embodiment of the invention has been described in detail, it will be apparent to those skilled in the art that the disclosed embodiment may be modified. Therefore, the foregoing description is to be considered exemplary rather than limiting, and the true scope of the invention is that defined in the following claims.

I claim:

1. A ski boot plate protector and walking aid comprising a one piece body of flexible resilient material, said body having a boot plate receiving recess in the upper surface thereof conformed in shape to the shape of the boot plate, integral retaining shoulders on said body projecting upwardly from said upper surface along opposed sides of said recesses and projecting inwardly into spaced overlying relationship with said recess along said opposed sides, the inner side edges of said shoulders being complementary in shape to the corresponding side edges of said plate and being spaced from each other by a distance less than the corresponding spacing between the side edges of said plate, and a downwardly and inwardly inclined beveled surface extending along the inner side edges of said shoulders.

2. The invention defined in claim 1 wherein the central portion of the bottom of said recess is a flat surface upwardly projecting side walls bounding said recess and adapted to simultaneously engage the corresponding side edges of the boot plate, and depressed outer portions on the bottom of said recess offset downwardly from the central portion of said recess and extending inwardly from the opposed side walls of said recess to locations spaced inwardly of said body from said inner side edges of said shoulders.

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