United States Patent

Salomon

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[54] RESILIENT BINDING FOR SKIS

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[30] **Foreign Application Priority Data**

Dec. 31, 1968 France 1101-74

[52] **U.S. Cl.** ..... **280/11.35 T**
[51] **Int. Cl.** **A63c 9/00**
[58] **Field of Search** ..... 280/11.35 T

[56] **References Cited**

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3,037,785	6/1962	DePlace	280/11.35 T
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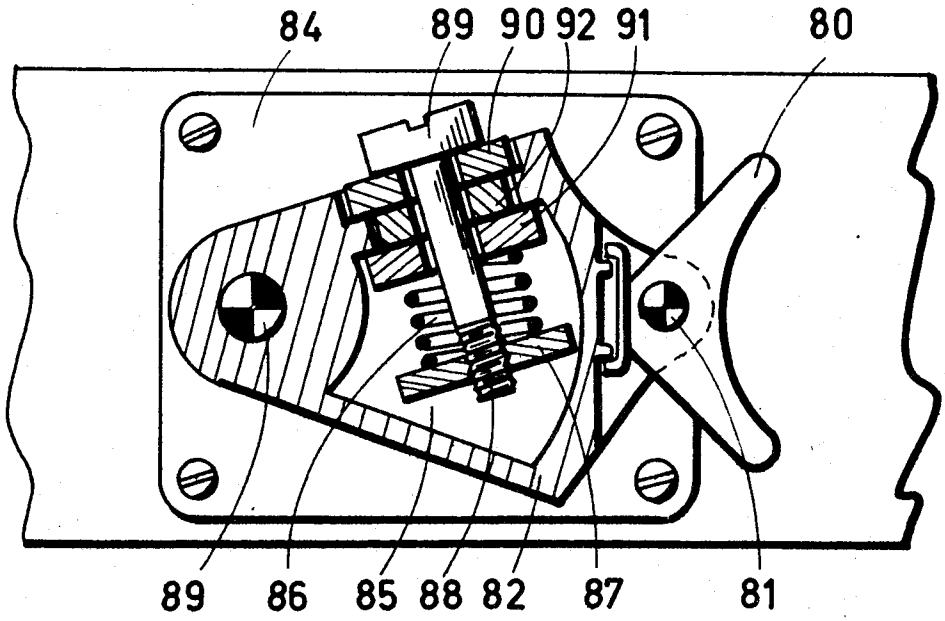
[57] **ABSTRACT**

The resilient binding for skis consist of a pivoting supporting plate pivotally mounted at its front end on a baseplate fixed to the ski and of a boot-retaining jaw pivotally mounted at the rear end of the pivoting plate. The pivoting plate comprises one spring transversely mounted and in opposition with a fixed abutment or another spring having different resilient characteristics. The rotation of the pivoting plate causes the first spring to be compressed against the fixed abutment or the other spring and compels the pivoting plate to return to its normal position.

4 Claims, 4 Drawing Figures



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SHEET 1 OF 2

FIG. 1

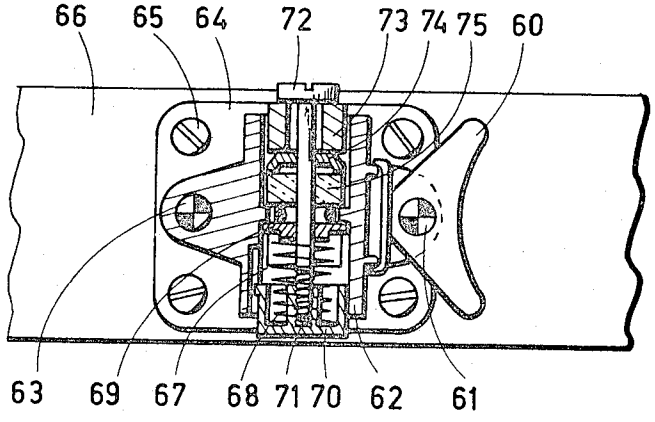

FIG. 2

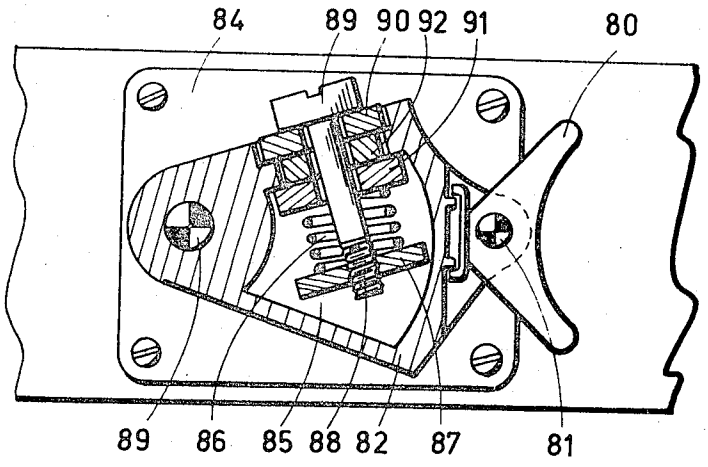

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FIG. 2a

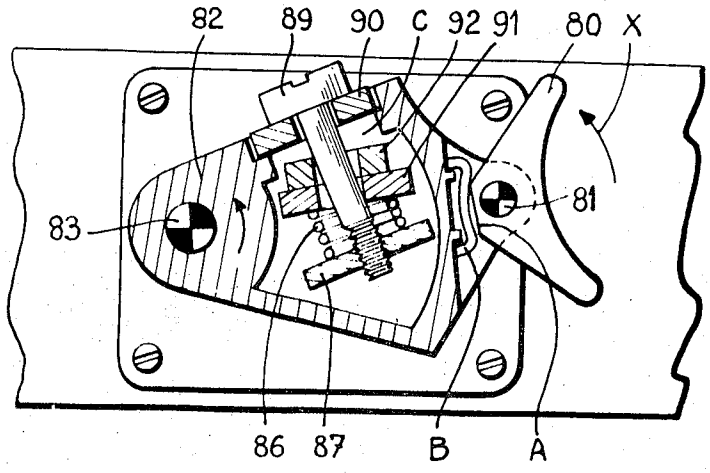
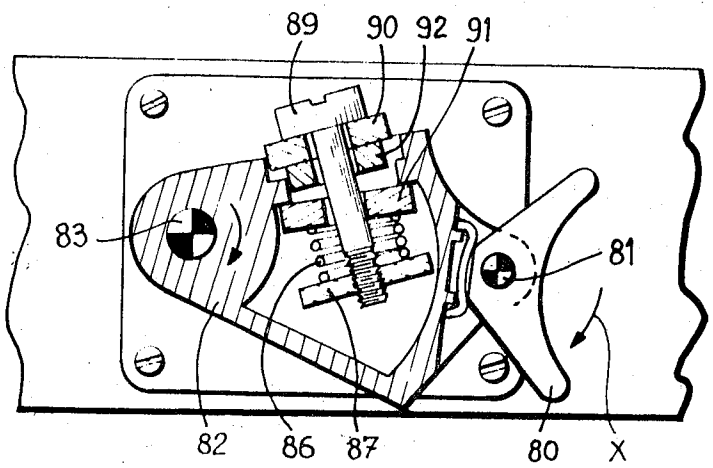


FIG. 2b



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RESILIENT BINDING FOR SKIS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a resilient binding for ski boots for holding and returning the boot in an axial position over the ski.

2. Description of the Prior Art

Resilient bindings for skis positioned along the longitudinal axis of the ski are known but require a considerable space and their operations are not always satisfactory. Furthermore, these bindings have a complex and costly mechanism and require elastic means such as springs having a high degree of compression, their fulcrum being located on a very short lever arm.

In addition, when the locking elastic elements are transversely mounted, only one of them actuates the locking mechanism and this necessitates more space. The setting of this mechanism is more difficult to adjust because it requires additional supporting means on the binding body, and these means increase the volume of the binding.

Similarly, these known bindings are provided with a plurality of levers pivoted on one or two axes having often a median position which is not clearly determined and the release of the said levers is guided, controlled or limited by no specific member.

In U.S. Pat. No. 3,455,570 granted in July, 1969 to the same patentee, the boot-holding jaw pivoted on a pivoting supporting plate or the like and guided by inclined planes of a baseplate, is maintained and returned in a normal position by resilient elements such as two springs transversely mounted on the said pivoting plate, preferably on one axis, each of the said springs having the same characteristics and resting at their corresponding ends against an abutment of the pivoting plate, and, also, on a fixed element, which may be solidly fixed to the base plate through which slides an axle to adjustably maintain two cylindrical cups on which the outer ends of the springs rest.

When the boot jaw pivots, the two springs are equally and simultaneously compressed, on the one hand, against the cylindrical cups sliding on the pivoting plate and on their supporting axles, and on the other hand, one against the fixed element and the other against an abutment of the pivoting plate.

SUMMARY OF THE INVENTION

The new binding overcomes the above-mentioned disadvantages and in particular provides an embodiment which is cheaper and more satisfactory than the one disclosed in U.S. Pat. No. 3,455,570.

According the the present invention, the holding jaw of the ski boot is always articulated by a pivoting supporting plate or the like and is maintained in a median position relative to the said plate by means of a device similar to the one disclosed in U.S. Pat. No. 3,455,570 while one of the springs which returns the binding in its median position is provided with resilient characteristics different than the other spring, the said characteristics being such that one of the spring may be completely eliminated.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top sectional view of a ski binding in a closed position according to an embodiment of the invention; and

FIG. **2** is another top sectional view in a closed position of another embodiment of the invention.

FIGS. **2***a* and **2***b* are views similar to FIG. **2** but showing the binding in two opposite releasing states.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In FIG. **1**, the jaw **60** is articulated, by an axle **61**, on a pivoting supporting plate **62**. The plate **62** pivots about an axle **63** fixed to the baseplate **64** which is solidly fixed to the ski **66** by screws **65**.

The pivoting supporting plate **62** is provided in its transversal enclosure **67** with only one coil spring **68** which abuts against the disc **69** and against the flanged disc **70**. The disc **70** has a blind threaded hole **71** in which is threaded the bolt **72** which passes through the opening of the ring plate **75**. A resilient ring **74** is located between the ring plate **75** and the sleeve **73**.

The embodiment illustrated in FIG. **1** operates substantially in a similar manner as in the above-mentioned United States patent but provides improved and more satisfactory results.

In FIG. **2**, the jaw **80** is articulated by an axle **81** on a pivoting supporting plate **82**. The plate **82** pivots about an axle **83** on the baseplate **84**. The pivoting plate **82** is provided in its enclosure **85** with a coil spring **86** abutting against a sleeve **81**. The sleeve **81** abuts against the abutment element **92** which is solidly fixed to the baseplate **84** and on the disc **87**. The disc **87** is provided with a threaded aperture **88** in which is threaded the bolt **89** passing through the aperture of the sleeve **90** abutting against the element **92**. The coil spring **86** is more or less compressed by the rotation of the bolt **89** in the disc **87** and immobilized in rotation by the walls of the enclosure **85** of the supporting plate **82**. The enclosure **85** also immobilizes the disc **87** during its displacement during the multiple rotations of the binding.

The jaw **80** is maintained in a median position shown in FIG. **2** and its resetting in this position after the releasing of the binding is obtained. It is the same operation as described in U.S. Pat. No. 3,455,570. The jaw comprises a flat surface A cooperating with an elastic blade **8** solidly secured to the pivoting plate **82**. When the jaw **80** takes a titled position, such as shown in FIGS. **2***a* and **2***b*, when the limit of the elasticity of the blade **8** has been reached, the jaw becomes temporarily secured to the supporting plate **82**, that is, if the pressure X or Y keeps increasing on the jaw and exceeds the retention force of the spring **86**, the jaw **80** will produce a rotation of the plate **82** in one direction as shown in FIGS. **2***a* and **2***b*.

The plate **82** is provided with a cavity **85** which opens on the outside through a window C in the lateral wall. In a rest position, the abutting element **92** solidly secured to the base plate **84**, extends in the cavity **85** near the window C.

The fixed abutting element **92** has an aperture through which passes the bolt **89** whose threaded end is threaded in a disc **87** provided with a threaded hole. On the same side as the disc **87** relative to the fixed element **92**, the bolt carries a movable sleeve **91** which cooperates with the internal side of the element **92** and the inner contour of the window C by a spring **86** surrounding the bolt **89** and extending between the disc **87** and the sleeve **91**.

On the side of the head of the bolt **89**, the latter carries equally a sleeve **90** adapted to cooperate with the external side of the fixed element **92** and the outer contour of the window C.

The spring **86** is more or less compressed by the threading of the bolt **89** in the disc **89**, the latter being stopped in rotation by the internal walls of the cavity **85** of the supporting plate **82**. The internal walls of the cavity **85** are equally used as abutment for the disc **87** so as to limit the displacement of the plate **82** during the multiple rotations of the binding.

I claim:

1. A resilient binding for ski boots for holding and turning the boot in an axial position over a ski comprising:

a baseplate adapted to be fixed on the ski;

a pivoting supporting plate pivotable at its front end on the baseplate:

a boot-engaging jaw pivotally mounted at the rear end of the pivoting plate;

and a compressible member transversely mounted on said supporting plate and being in engagement with an abutment rigid with said pivoting plate and with an element solidly fixed on the baseplate,

said compressible member including a rod with enlarged ends, an intermediate ring slidably mounted on said rod and a resilient means extending between the first end of the rod and

said slidable ring, the second end being on one side of said abutment and said element solidly fixed on the base plate whereas said slidable ring is on the other side of said abutment and element.

2. A resilient binding as claimed in claim 1, wherein said resilient means is a coil spring surrounding said rod.

3. A resilient binding as claimed in claim 1, wherein said rod is a bolt and said first enlarged end contacting said resilient means is a disc provided with a threaded aperture engaged with said threaded end of the bolt for adjusting, by screwing of the bolt, the compression of the resilient means.

4. A resilient binding as claimed in claim 1, wherein a disc is interposed between the second enlarged end of said rod opposite to said resilient means and the abutment and element solidly fixed on the baseplate.

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