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[33] **Austria**

[31] **A 2992/69**

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T, 11.12, 11.13 S

[56] **References Cited**

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[54] **TOE UNIT FOR A RELEASABLE SKI BINDING**
7 Claims, 5 Drawing Figs.

[52] U.S. Cl..... **280/11.35 T**

[51] Int. Cl..... **A63c 9/00**

ABSTRACT: A toe unit for a releasable ski binding having a readily visible portion of each of a pair thereof tapered forwardly toward each other to simulate the normal similar tapering of ordinary shoes or boots.

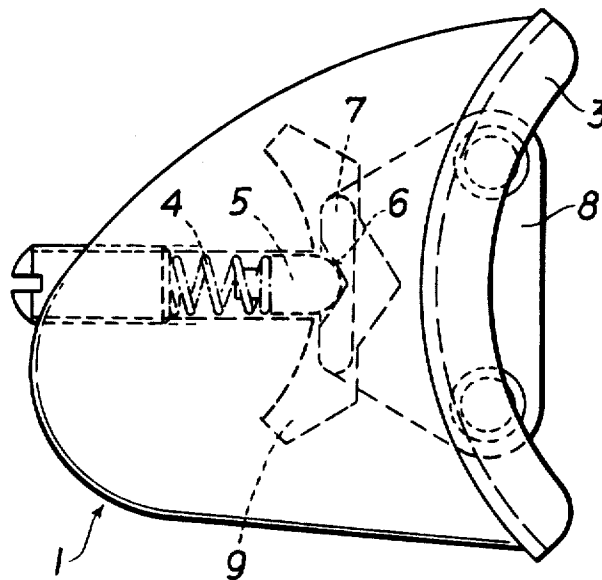


FIG. 1

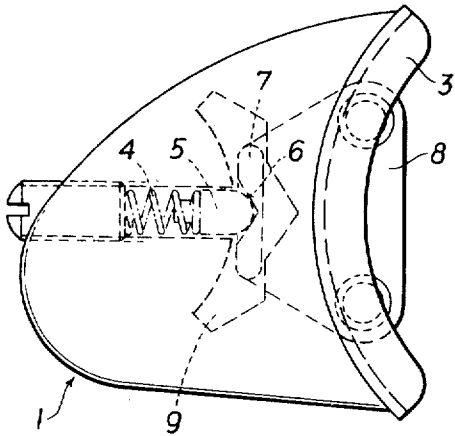


FIG. 3

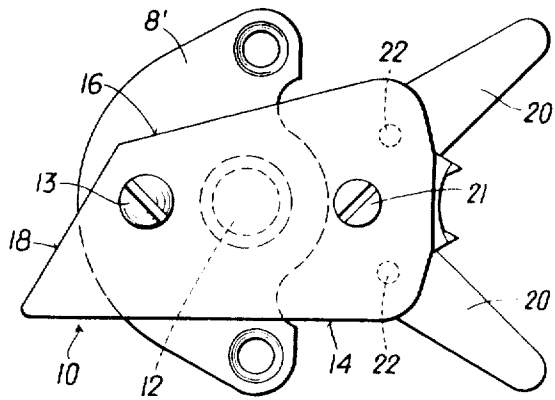


FIG. 2

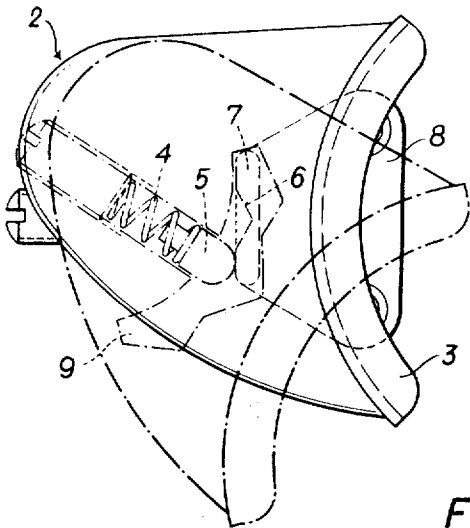


FIG. 4

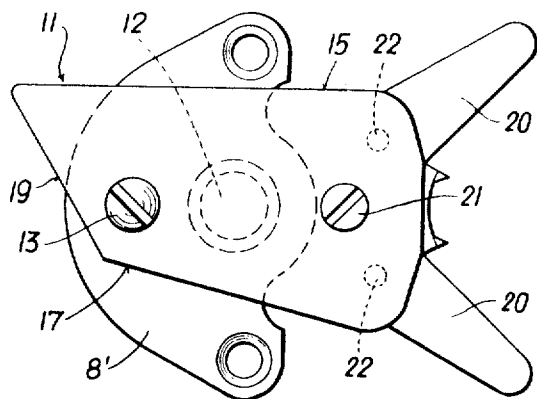
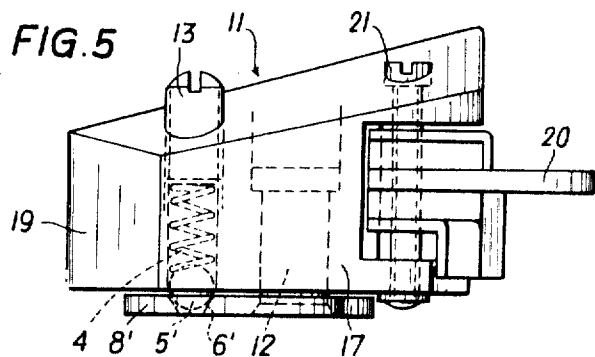


FIG. 5



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TOE UNIT FOR A RELEASABLE SKI BINDING

The invention refers to a toe plate which has a plate body equipped with a fastener which, in the event of an excessive load, is caused to move laterally and/or swing out by loosening of an anchoring device.

It is significant each time the skis are used that the same ski be used for the respective foot, because it is generally found that in no pair of ski boots are both thereof identical in size, i.e., between the length of the left boot and that of the right, there may be a difference of frequently 4 to 5 mm. and sometimes more. It is for this reason the boots are used to measure precisely when mounting conventional ski bindings. In case the two skis were exchanged by mistake, it could result in one boot being strapped in too firmly and the other too loosely. In order to prevent such errors, skis are often marked with an R and an L, or with colored dots, or something similar.

In the actual practice of skiing, however, it was discovered that these markings do not always fulfill their intended functions, partially because they can be seen only with difficulty. It can also happen that skis are covered with layers of snow. Thus, there exists the possibility of erroneously exchanging the skis and this can also result in injuries.

Some bindings are already being manufactured wherein portions of the mechanism are made for the left boot and for the right boot, respectively, for example, the mechanism for the lengthwise fitting of the boot to the binding. In these cases, however, it has been frequently found that the skier was confused as to whether these parts belonged on the inside or the outside of the ski and this also brings about undesirable confusion.

The conventional toe plates are usually made symmetrically, so that while skiing the snow is moved equally to the right and the left of the binding. On the outside of the skis, the snow can be moved very easily to the side. Between the skis, on the other hand, there may occur an actual massing of quantities of snow in which event the skis are forced apart. The skier is then forced to exert sufficient force to counterbalance this action.

The invention has as its function to remove these disadvantages, and is characterized by an asymmetrical plate body of such a nature that for two adjacently positioned skis, each of the mounted plate bodies shows a wedge form pointing toward, or at least approximately toward, the center. This creates the same kind of impression as with a pair of shoes, the same being normally not confused by their owner.

The drawings show the nature of the invention in a variety of models.

FIGS. 1 and 2 show a top view of a right and left toe plate.

FIGS. 3 and 4 show an additional model possibility, again in a top view.

FIG. 5 shows a side view of FIG. 4.

Looking at FIGS. 1 and 2, one can see that the two toe plates show plate bodies 1 and 2 which give the impression of tips of shoes. When stepping into the binding, the user can immediately recognize which ski belongs on the right foot and which on the left. This makes practically impossible the mistaking of the skis.

The plate bodies 1 and 2 each have a holddown 3 which can, if desired, be made adjustable to accommodate various thicknesses of boot soles. Each toe plate is anchored, as shown, in its middle position in a presently known manner and releases the boot, in the event of an excessive pressure, by releasing the anchoring device, also in a presently known manner. For this purpose, plate bodies 1 and 2 are provided with an anchor 5 which is backed by a spring 4 and grips into the anchoring recess of a support 7. This support 7 is an upward bent lip of a base plate 8 which is attached to the ski. The further relationship between said respective supports 7 and the plate bodies 1 and 2 are conventional and need no detailing.

In case of a safety release, plate bodies 1 and 2, respectively, can be moved laterally across the ski and then can swing out of the way toward the front, because of cut out 9 opposite the support 7. Such a swung out position is indicated in FIG. 2 by

a dotted line. Relatively small shocks such as those which constantly occur while skiing cause only a slight lateral movement, whereby the anchoring device 4, 5, 6 causes a return to the middle position. Only after a severe displacing force is the lateral movement followed by a swinging out of the device and a releasing of the boots.

According to FIGS. 3 through 5, two toe plates are shown which can, in the event of a safety release, swing about a central axis 12, in order to free the boot. Plate bodies 10 and 11, respectively, are again equipped with anchoring device 5' backed by a resilient device 4 which grips into a recess 6' of a baseplate 8' mounted to the ski. The spring 4 is backed by a screw 13 which makes possible various anchoring adjustments. In this form also, the exact structural details of the plate bodies 10 and 11 and the manner of their fastening to the baseplates 8' is conventional and needs no further detailing.

As can be seen in FIGS. 3 and 4, the surfaces 14 and 15 of the two plate bodies 10, 11 are intended to be opposite and practically parallel to each other, and are thereby also parallel to the axes of the skis. The outer surfaces 16, 17 of the two plate bodies 10, 11 show inclinations each pointing toward the inside. In addition, the two plate bodies 10, 11 are in their forward zones provided with still steeper surfaces 18, 19, again pointed toward the inside. This styling results in a wedge form of the plate bodies 10, 11 tapered in a horizontal cross section and pointing toward the inside when the skis are placed side by side. This styling reminds the user immediately which ski belongs on the right and which on the left foot.

The particular advantage of this wedge form, as already mentioned, lies in the fact that snow for the most part is pushed to the outside, i.e., to the left and the right of the skier, which results in a slight pressing action tending to hold the skis together. The resulting advantageous stream line form allows for more rapid skiing. An added advantage is the fact that the top surface of the plate bodies 10, 11 are sloped toward the outside, i.e., are inclined pointing toward the tip of the ski.

The plate bodies 10, 11 also have the retainers 20 which can, by means of the screw 21, be adjusted to accommodate various thicknesses of boot soles. For the purpose of an easier safety release, the retainer 20 is supported in the plate bodies 10, 11 by a spring force about the axes 22 which permits a swinging out of said retainers about said axes.

Naturally, the invention is not restricted to only the illustrated models. A series of other construction possibilities is evident, which lie in the frame of reference of the invention. The basic premise of the invention is the visual impression of an approximate wedgeform pointing to the inside which practically eliminates all possibilities of confusing the skis. As a further example, it is possible to attach an immovable toe plate to the ski, which also is in line with the basic idea of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed, are defined as follows:

1. Toe plates of ski binding, each having plate body with sole retainers which, in the event of an excessive pressure, are laterally movable or which can swing out by releasing an anchoring device, wherein the improvement comprises an asymmetrical plate body design having a characteristic that each of the plate bodies of two parallel skis has an approximate wedgeform tapered in a horizontal cross section and points toward the inside edge.

2. Toe plates according to claim 1 wherein the top surface of each of the plate bodies of two parallel skis slopes toward the outside.

3. Toe plates according to claim 1 wherein the top surface of each of the plate bodies slopes toward the tip of the ski.

4. A toe unit for a ski binding, the toe unit being of the type which is releasable upon application of excessive pressure thereto, wherein the improvement comprises a pair of said toe units each mounted on one of a pair of adjacent skis and each having asymmetrical form tapered outwardly in a horizontal cross section and forwardly toward each other.

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5 The toe units according to claim 4, wherein each of said units is tapered in cross section downwardly and laterally away from each other.

6. The toe units according to claim 4, wherein said form

forms a part of the movable portion of a releasable toe binding.

7. The toe units according to claim 4, wherein said form forms a part of the fixed portion of a releasable toe binding.

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