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[54] **SKI BINDING**
5 Claims, 5 Drawing Figs.

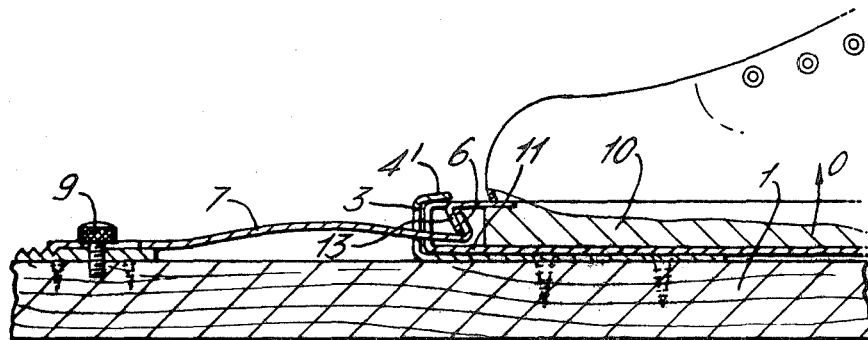
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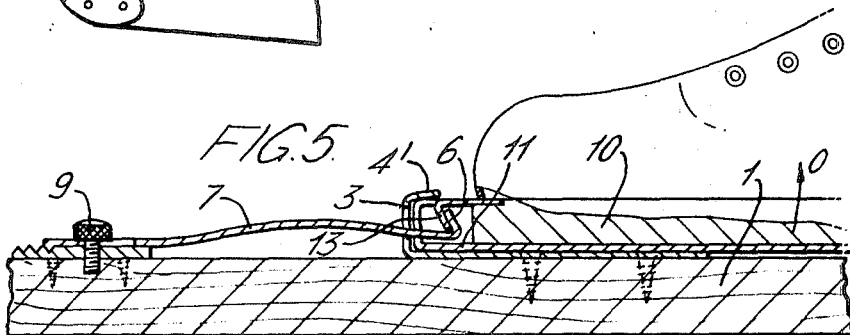
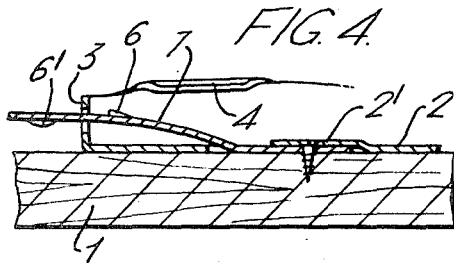
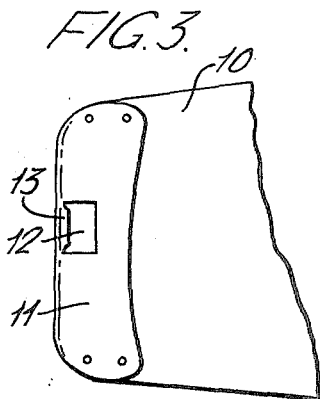
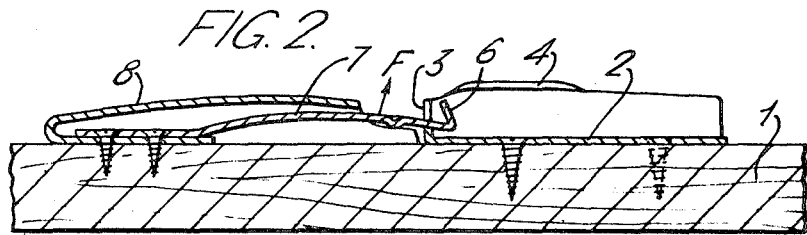
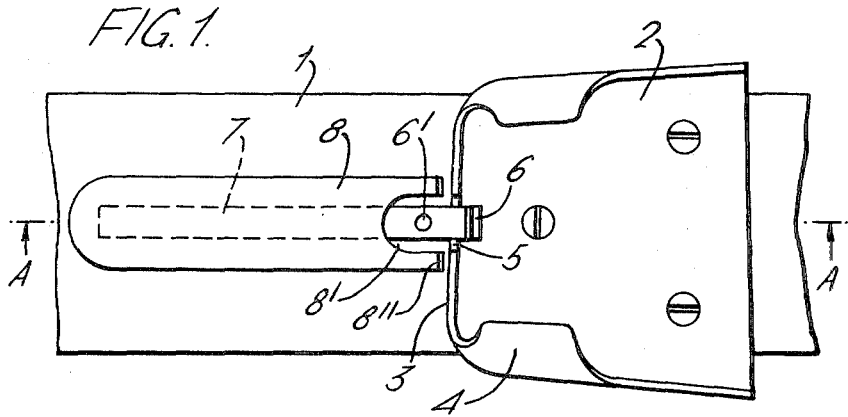
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ABSTRACT: A ski binding comprises a toe iron secured to a ski for receiving the toe portion of a boot and having inwardly turned upper edge portions for engaging the upper surface of the sole of the boot at the toe portion. The boot carries a forwardly extending engagement member which is automatically engaged with a fastening device solely upon insertion of the toe portion of the boot in the toe iron. The fastening device is constituted by a resilient spring blade which is attached at its rear end and extends forwardly so as to be gradually depressed and stressed by insertion of the toe portion of the boot in the toe iron. The spring blade carries a protrusion on the upper surface thereof which is adapted to engage with a bent front portion of the engagement member on the boot.





SKI BINDING

The present invention relates to a ski binding of the type that comprises convenient tightener means arranged in front of the boot, thereby to fasten the toe part of the bottom to the ski in cooperation with a toe iron attached to the ski, said toe iron or separate secured elements providing one or more abutting surfaces extending substantially across the ski and serving to provide engagement surfaces against which a fitting secured to the front end of the sole can be brought to fixed engagement by means of said tightener means.

The invention has for its object to provide further favorable construction for such ski binding, whereby it is made still more effective at the same time as a simplification is obtained. Also further favorable features are reached by the new embodiment of the ski binding according to the invention as will clearly appear from the following description of the embodiments schematically shown in the drawing, wherein:

FIG. 1 is a plan of an vertical of the ski binding,

FIG. 2 shows the same binding in vertical section along the line A—A in FIG. 1.

FIG. 3 shows the foremost part of a boot sole provided with a sole fitting, which is desired can be embedded in the sole,

FIG. 4 shows a modified embodiment of the ski binding according to the invention, and

FIG. 5 is a cross section similar to FIG. 2 showing another modified embodiment.

In the drawing the ski is denoted at 1 and 2 denotes the toe-iron which, in the usual way, is secured to the ski by means of screws. The toe-iron at its front end is provided with an upwardly bent engagement edge to cooperate with the foremost end of the boot fitting 11. The upwardly bent edge at both sides of the toe-iron is provided with inwardly bent parts 4 engaging the upper side of the sole edge. In FIG. 5 the front edge is also bent somewhat inwardly as shown at 4' to grip the upper side of the sole fitting.

The engagement edge 4 is provided with a central opening 5. A plate-spring 7 is with its one end secured to the ski and having the other end formed with an upwardly and somewhat forwardly bent hook 6. The spring protrudes somewhat through the opening 5 in the toe-iron as clearly appears from the drawing. The spring 7 can be rigidly secured to the ski as shown in FIG. 1 or its can as suggested in FIG. 5 be adjustably secured by means known per se as for instance a screw 9 which can lock the spring in desired position by means of the engagement teeth of a plate secured to the ski.

The spring 7 can be surrounded by a cover or casing 8. This cover can be permanently connected to the spring whereby localizing of the casing of the ski by an abutment of the rear edge 8'' against the front of the edge 3 automatically gives correct localization of the spring hook 6 in relation to the toe-iron 2. The casing 8 is provided with a cutaway part 8' near the rear end so that the spring at this place is visible. Thereby it is possible by means of a skipole-tip to press against the upper surface of the spring 7 whereby the hook 6 is brought out of engagement with the engagement part 13 at the boot fitting 11 which is provided with an opening 12 as will be seen from FIG. 3. The spring 7 if desired can be provided with a small depression 6' or the like better to localize the engagement between the skipole-tip and the spring when the binding is to be released. The spring 7 preferably is placed in the casing 8 with a prestressed resilience so that the upwardly directed force F of the spring when the binding is out of use keeps the upper surface of the spring pressed against the lower surface of the casing 8. The casing thereby serves also to

restrict the upward movement of the spring. If it is desired, the casing 8 can be made integral with the toe-iron.

When the ski is to be fastened to the boot, it is sufficient that one moves the boot in from behind and in direction forwardly into the toe-iron 2. The cooperation between the engagement part 13 at the boot fitting end, the corresponding part of the hook 6 at the end of the spring 7, will then automatically establish engagement as shown in FIG. 4. The prestressed spring 7 secures the locking engagement. The localization of the spring 7 in relation to the ski, the form of the engagement edge 3 and the foremost engagement surface of the sole fitting, will as one immediately will understand, provide a fixed engagement between the hook 6 and the boot fitting 11 when the sole of the boot during skiing is moved in the direction of the arrow 0. Thus binding the during all movements during skiing, will be secured and provide effective locking for the boot.

In FIG. 4 is shown a modification where the spring 7 is secured to the ski 1 by securing one end in the cut out part or the like at the toe-iron plate 2, the other end of the spring protruding forwardly through the central opening in the engagement edge 3. The spring is provided with a hook or protrusion 6 for engagement with the edge 13 in the cut out part 12 of the boot fitting. When the binding is to be released, it is as mentioned, sufficient that the ski pole tip is pressed against the free end of the spring, for instance against the depression 6'. Thereby the spring hook 6 is brought out of engagement with the boot fitting, and the boot can be freely moved out of the toe-iron 2.

In the described embodiment the spring element consists of a platespring. This is the simplest and most convenient embodiment, but it will immediately be understood that also other embodiment of such resilient engagements can be arranged still falling within the scope of the present invention.

I claim

1. A ski binding comprising a toe iron secured to a ski for receiving the toe portion of a boot, said toe iron including inwardly turned edge portions for engaging the sole of the boot at said toe portion on the upper surface thereof, the boot having a forwardly extending engagement member, and a fastening device for engaging said engagement member solely upon insertion of the toe portion of the boot in said toe iron, said fastening device comprising a resilient element including a protrusion thereon, said resilient element being secured to the ski within the toe iron to be depressed an stressed by insertion of the toe portion of the boot in said toe iron to engage the protrusion and the engagement member, said resilient element having a portion projecting forwardly beyond the toe iron to enable release of the resilient element from the engagement member.

2. A ski binding as claimed in claim 1, wherein said resilient element is a spring blade.

3. A ski binding as claimed in claim 2, wherein said toe iron has an aperture for passage of said spring blade.

4. A ski binding as claimed in claim 3, wherein said spring blade extends forwardly along said ski from the location where it is secured to the ski, said boot being introduced into the toe iron in the same direction as the forward extension of the spring blade, whereby to gradually depress the spring blade as the toe portion enters the toe iron.

5. A ski binding as claimed in claim 2, wherein said spring blade has means in said forwardly projecting end for engagement with the tip of a ski pole to release engagement with the engagement member.