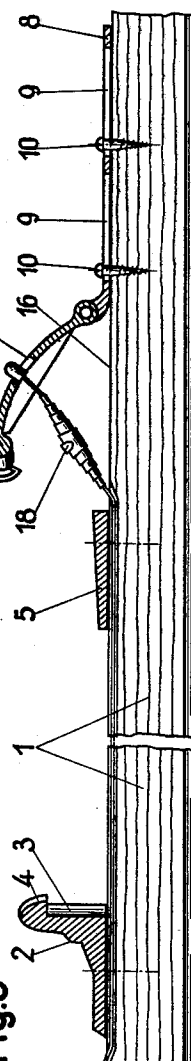
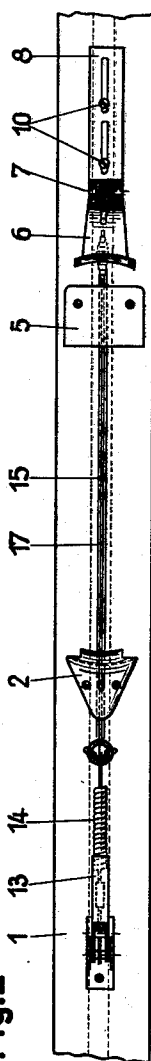
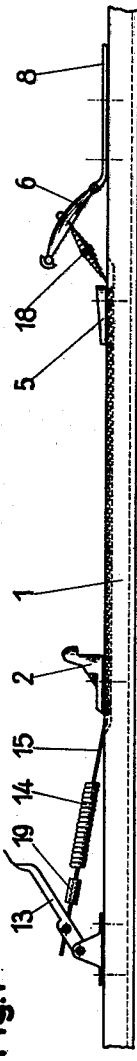


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SKI BINDING

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SKI BINDING

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4 Claims. (Cl. 280—11.35)

The present invention relates to ski bindings which are adapted for engaging the shoes of skiers for securing the same to skis. It is known to provide in ski bindings a spring tightener, a fixed toe clamping jaw and a longitudinally displaceable heel clamping jaw, the latter being connected with the tightener by a metal cable running below the sole of the shoe.

In the known designs, the heel clamping jaw forms with its guiding part a rigid member. Thus, the heel clamping jaw is exclusively displaceable on the ski, i.e., in axial direction of the ski. This results in an unfavorable stressing of the sole of the ski shoe. Moreover, it has to be considered that the rim provided on the heel clamping jaw has to fit exactly a recess in the shoe because of the rigidity of this clamping jaw. Otherwise the desired connection between binding and shoe would not be achieved at all.

A further disadvantage is that the clamping jaw does not automatically return to a disengaged position when the binding is released.

The present invention provides an extremely simple device to prevent all these disadvantages by the provision of a heel clamping jaw which is supported for displacement in a longitudinal direction on the ski behind the heel plate of the binding, and is also supported for pivotal movement. The clamping jaw is actuated by a cable which is directly fixed to the jaw and which is preferably under the stress of a spring.

An embodiment of the invention is described in detail in the enclosed drawing, but the invention is not exclusively restricted to this embodiment.

FIG. 1 is an elevational view of the binding according to the invention;

FIG. 2 is a plan view of the embodiment in FIG. 1, and

FIG. 3 is an enlarged view of the operative portions of the binding.

On the anterior middle part of the ski 1 is rigidly fixed a toe support or clamping jaw 2 extending at right angles to the longitudinal axis of the ski. The jaw 2 is fixed to the ski by means of two screws. The face 3 of the jaw 2 for receiving the toe of the shoe is recessed and limited at its top by the projecting edge 4. A slightly inclined plate 5 fixed with two screws to the ski serves as support for the heel of a boot. The heel clamping jaw 6 is arranged behind the plate 5. Clamping jaw 6 is supported for pivotal movement from the guiding plate 8 about axis 7. In the embodiment shown, plate 8 is provided with two slotted holes 9 through which pass anchoring screws 10. The clearance between these screws 10 and the slotted holes 9 permits free displacement of the plate 8 on the ski in the longitudinal direction of the latter. The heel clamping jaw 6 has the form of a trapezoid, the longer of the two parallel sides being provided with a rim 11 fitting the curvature of the shoe heel. Lugs 12 are provided at the ends of this rim.

A tightener 13 is fastened with screws on the ski forwardly of the toe clamping jaw, and a steel cable 15 runs via a spring 14 from the tightener 13 to the heel clamping jaw 6. The length of the cable 15 is regulated by means of a single screw 19, whereby the force acting through the clamping jaw 6 on the heel of the shoe when the tightener is locked, can be adjusted. In the zone of the plate 5 and the clamping jaw 2, cable 15 runs in a groove 17 below the ski surface 16. The plate 5 and the clamping jaw 2 prevent the dislocation of the cable 15 independ-

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ently of whether it is tight or loose and thus form guiding members for the cable. A spring 18 guided by the cable 15 is braced against the plate 5. The cable 15 is fixed at the middle part of the clamping jaw 6.

The enclosed figures show the binding in an open condition. When the ski is to be fastened to a boot, first the boot is put into the binding such that the toe of the boot abuts the clamping jaw 2 and the heel of the shoe rests on the plate 5. When the tightener 13 is locked by tilting the lever forward, the plate 8 together with the clamping jaw 6 is pulled forwardly by the cable 15 and simultaneously the clamping jaw 6 is pivoted downwardly around the axis 7 to cause the rim 11 to be pressed against the heel of the boot. The diagonally forward and downward acting force can be divided into two components, one pressing the shoe against the clamping jaw 2 and the other against the plate 5 respectively. With the tightener locked, the clamping jaw 6 is pressed against the spring 18.

To unfasten the binding, it is merely necessary that the tightener 13 be opened. The energy of the spring 18 urges the clamping jaw 6 from the boot, thus releasing the latter.

Evidently, the binding according to the invention can be used also without the groove 17. In this case, it is necessary to provide a longitudinal groove at the bottom surface of the heel plate 5 and the clamping jaw 2 respectively to receive the cable 15. Then, the thin cable rests directly on the ski surface, but owing to its small diameter the function of the binding is not impaired.

The embodiment described shows that the fastening as well as the unfastening of the ski is very simple. It is unnecessary to hook a low-traction tightener and to pull a spring over the heel of the shoe. Only eight screws are required to fix the entire binding, so that the mounting is simple and can be performed without difficulty. A freezing of the movable parts is practically impossible. In order to prevent gliding away of the ski when it is detached from the boot in the case of a fall, long straps can be passed through the lugs 12.

In order to obtain a clamping pressure between the heel clamping jaw and the shoe, which is adjustable within wide limits, the cable end can be fixed on the jaw 6 at different distances from the axis 7.

Since the entire binding does not have any parts projecting over the edges of the ski, the two skis can be steered closely in parallel during use. The down-pulls provided usually for the cable at the lateral faces of the ski have a braking effect, particularly, in deep snow. This disadvantage is prevented by the binding according to the present invention.

It may be stated that the binding according to the present invention remedies economically a hitherto obvious shortcoming owing to its simple design and uncomplicated function.

What I claim is:

1. A ski having a longitudinal axis and comprising a fixedly supported toe rest, a clamping lever pivotally supported forwardly of said toe rest, a fixed heel rest rearwardly of said toe rest and adapted to support the heel of a boot with the toe of the latter in contact with the toe rest, a guiding plate supported for free longitudinal displacement rearwardly of said heel rest, a clamping jaw supported on said guiding plate for pivotal movement towards and away from said heel rest for contacting the heel of a boot supported thereon, said clamping jaw having an initial position inclined upwardly and forwardly on said ski, a cable extending from said clamping lever to said clamping jaw for pivotally moving the latter and concurrently displacing the guiding plate upon pivotal movement of the clamping lever, said cable passing under the toe rest and heel rest and then passing beyond the heel rest directly to the clamping jaw along a substantially straight line,

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said cable being fixedly secured to the clamping jaw, and an axially compressible hollow spring between the clamping jaw and the heel rest, said cable extending through said spring to exert a force on the clamping jaw to displace the same against the action of the spring when the clamping lever is pivotally moved.

2. A ski as claimed in claim 1 wherein said clamping jaw has opposite ends and is pivotally supported at one of said ends from said guiding plate, said cable being secured to said clamping jaw at a location intermediate the ends thereof, the other of the ends of the clamping jaw being a free end which exerts a downwardly and forwardly force on the heel of a boot supported on the heel rest as the clamping lever is pivotally moved.

3. A ski as claimed in claim 2 comprising means securing the cable to the clamping jaw for limited adjustment between said ends of the clamping jaw.

4. A ski as claimed in claim 1 wherein a longitudinal

groove is formed in said ski and said cable is accommodated in said groove.

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