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[31] **4709/68**

[54] **SAFETY ATTACHMENT FOR SKIS**
3 Claims, 3 Drawing Figs.

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

[56] **References Cited**
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ABSTRACT: A safety attachment for a ski for the heel of a shoe having a fixed baseplate and a pivoting element mounted on the plate for the heel attachment. The element is a metallic plate bent in the form of a U whose branches are directed towards the rear with each of them having two spaced notches aligned in pairs. A pivoting control lever has a transverse axis provided with rollers and a compression spring applies said rollers elastically into one of said pairs of notches according to the position of the pivoting element. A casing encloses the pivoting element and the control lever with two lateral sides between which are fixed the axes of the pivoting element and the lever. Means for displacing the casing with relation to the fixed base plate comprises a guide rod mounted on one hand in an opening at the back of the casing and on the other hand in a boring provided in the transverse axis. An endless screw wheel is mounted upon a channelled portion of the rod cooperating with a rack integral with the baseplate. A compression spring is located between the transverse axis and the wheel for urging the casing forwardly toward the heel of the shoe.

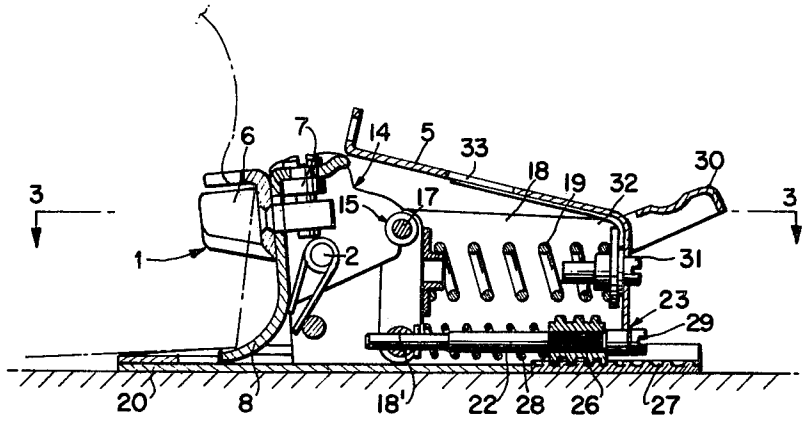


FIG. 1

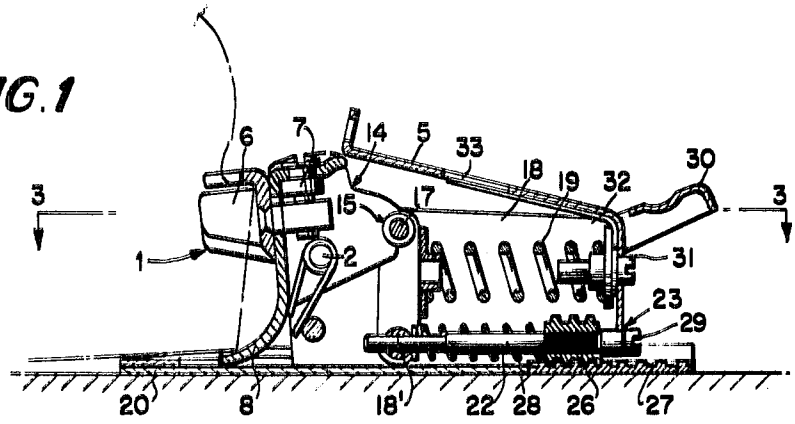


FIG. 2

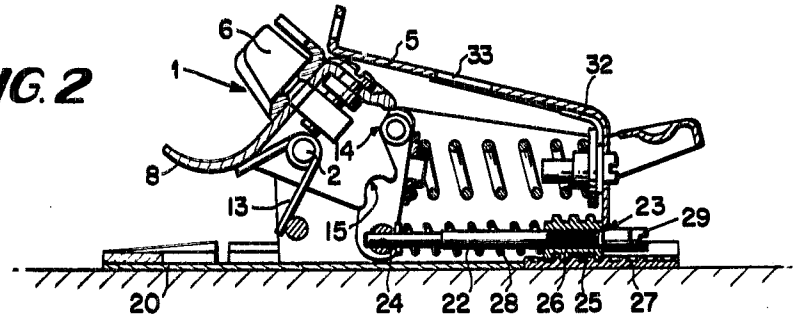
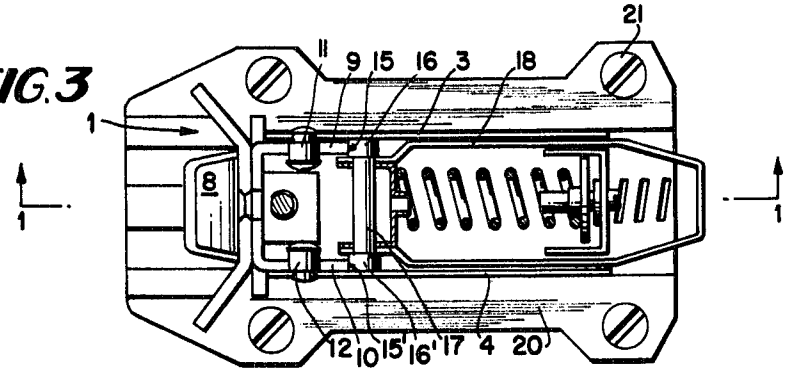


FIG. 3



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SAFETY ATTACHMENT FOR SKIS

The present invention relates to a safety attachment for skis comprising a front safety stop against which bears the front of the sole of the shoe and a safety-holding device for the heel exerting on the latter in the engaged position a vertical thrust to hold the heel against the ski and an axial thrust applying the boot against the front stop, this device including a stand fixed to the ski and a first support adjustably mounted on the stand corresponding to the size of the boot. The retaining arrangement for the heel comprises furthermore a pivoting element mounted upon a transverse axis carried by a second support movable with relation to the first support to which it is connected. This pivoting element has on one side with relation to its pivoting axis support means for the heel as well as a projection designed to be activated by the heel and at the other side two pawl slots, the transverse axis of the pivoting element being fixed with respect to said second movable support and located in the upper portion of the pivoting element at the height of the upper slot in the released position, and a pawl mounted upon a second transverse axis carried by said second support, said pawl being urged elastically either into the lower slot in the engaged position for maintaining the pivoting element against the heel with its projection concealed, or in the upper slot when the element pivots into the released position, freeing the shoe with the projection ready to be activated again by the heel when the shoe is reengaged in the attachment.

The safety attachment for a ski according to the invention is distinguished by the fact that the pivoting element of the heel is formed of a metallic plate bent into the form of a U whose branches are directed towards the rear edge having two pawl slots, a control lever forming a pawl and carrying a transverse axis provided with rollers, a compression spring for applying these rollers elastically into one of the pairs of slots according to the position of the pivoting element, a casing enclosing the pivoting element and the control lever end having two lateral sides between which are fixed the axes of the pivoting element and the lever, and means for displacing the casing with relation to the fixed base plate of the ski.

With the above and other objects in view which will become apparent from the detailed description below, one preferred form of the invention is shown in the drawings, in which:

FIG. 1 is a cross section taken upon section line 1—1 of FIG. 3.

FIG. 2 is a cross section similar to FIG. 1 with parts in a different position.

FIG. 3 is a cross section taken upon section line 3—3 of FIG. 1.

The safety heel attachment for a ski shown comprises a sole grip shown generally at 1. The sole grip pivoting about a geometrical axis 2 between the lateral sides 3 and 4 of a casing 5 forms a first support. The upper end of the sole grip comprises a portion 6 adjustable in height by means of the screw 7 according to the thickness of the heel of the shoe. The sole grip is terminated towards the bottom by an arc extension 8 against which the heel of the shoe abuts as shown in dot and dash lines in FIG. 1. The sole grip 1 is formed of a metallic base for example of sheet steel, folded in the form of a U with branches 9 and 10 directed towards the rear. Each branch 9 and 10 is journaled upon a rivet 11 and 12 respectively fixed upon the corresponding sides 3 and 4. A torsion spring 13 recalls the sole grip into the open position shown in FIG. 2.

Retaining slots or notches 14 and 15 and 14' and 15' are provided in the rear edge of the branches of the U of the sole grip. These notches serve to receive the rollers 16 and 16' carried by the transverse axis 17 carried by the control and retaining lever 18 pivoting on its axis 18'.

A compression spring 19 applies elastically the rollers 16 and 16' in the pair of notches 14 and 14' or 15 and 15' in accordance with the open position as shown in FIG. 2 or the closed position as shown in FIG. 1 of the sole grip 1.

The assembly described above is mounted upon a base plate 20 fixed to the ski by the screws 21 and can be displaced with relation to such plate. For this purpose the heel attachment described comprises a rod 22 guided on one end in the opening 23 at the back of the casing 5 and on the other hand in a boring 24 provided in the axis 18' of the lever 18. The rod 22 carries an endless screw wheel 25 mounted upon a channeled portion 26 of the rod 22. The rod 22 is a second fixed support with relation to the casing 5. This roller 25 comes into operation with a rack 27 integral with the baseplate 20. A compression spring 28 is located between the axis 18' and the roller 25 in order to place the casing 5 with the elements that it carries and particularly the sole grip 1 forwardly against the heel of the shoe. The rod 22 comprises a split head 29 allowing its rotation with the aid of a screwdriver in order to rotate the roller 25 and advance or retract the heel attachment upon the baseplate 20, that is the casing 5 with relation to the rod 22.

The control lever 18 is formed by a metallic piece for example of sheet steel formed in the form of a U, the end of the branches directed towards the front carrying the pivot axis 18' and the axis 17 provided with the rollers 16 and 16'. The branches of the lever 18 are prolonged towards the rear to the exterior of the casing 5 in order to form the support 30 upon which for example the point of a rod can be placed in order to displace the lever towards the bottom.

The tension spring 19 can be adjusted with the aid of a screw 31 accessible from the exterior of the casing 5. A flexible strip 32 fixed upon the displaceable piece by the screw 31 carries indications relative to the tension of the spring 19 which appear in a window 33 of the casing 5. The attachment of the ski described comprises a simple heel attachment wherein each piece of sheet steel is capable of being obtained in a large series of sizes by stamping or folding. This is suitable in particular for children because it is light and easily handled.

We claim:

1. A safety attachment for a ski for the heel of a shoe comprising a fixed baseplate, a pivoting element pivotally mounted about a transverse axes on said plate for the heel attachment formed by a metallic plate bent in the form of a U whose branches directed towards the rear each having two spaced notches aligned in pairs, a pivoting control lever pivotable about a first transverse axis, a second transverse axis on said lever provided with rollers engageable with said pairs of notches, a compression spring urging said rollers elastically into one of said pairs of notches according to the position of said pivoting element, a casing enclosing said pivoting element and said control lever having two lateral sides between which are fixed said transverse axis of said pivoting element and said first transverse axis of said lever and means for displacing said casing with relation to said fixed baseplate.

2. A safety attachment for a ski according to claim 1 wherein said means for displacing said casing comprises a guide rod mounted on one hand in an opening at the back of said casing and on the other hand in a boring provided in said first transverse axis, an endless screw wheel mounted upon a channelled portion of said rod and a rack integral with said baseplate engaging said wheel and a compression spring located between said first transverse axis and said wheel for urging said casing forwardly toward the heel of the shoe.

3. A safety attachment for a ski according to claim 1 wherein said control lever is formed by a metallic piece bent in the form of a U, the ends of the branches directed towards the front carrying said first and second transverse axis, said branches having an extension towards the rear to the exterior or said casing.