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ADJUSTABLE SPRING-LOADED POSITIONING DEVICE IN SAFETY-SKI BINDINGS

Original Filed July 17, 1961

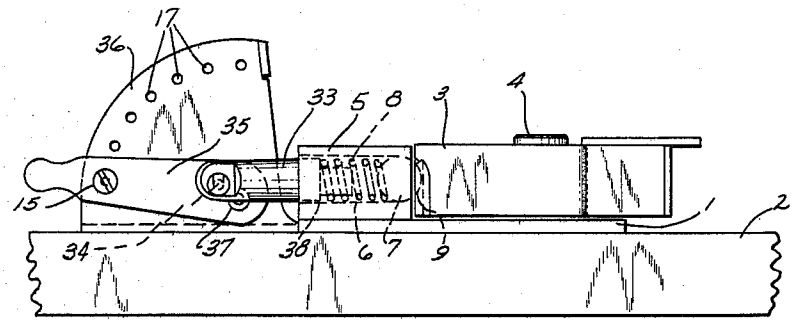


Fig. 1

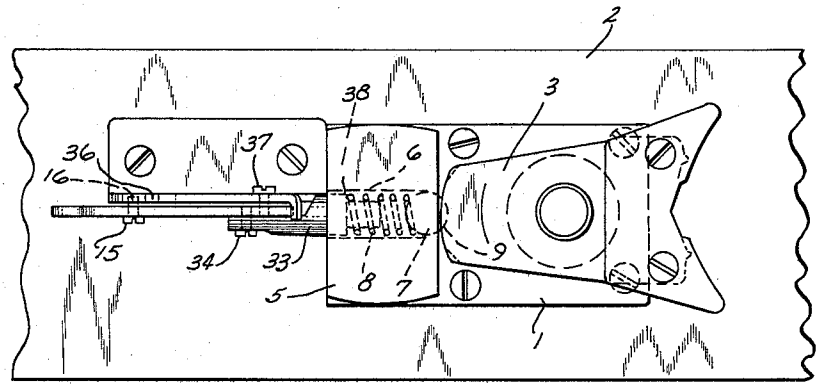


Fig. 2

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ADJUSTABLE SPRING-LOADED POSITIONING DEVICE IN SAFETY-SKI BINDINGS

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Original application July 17, 1961, Ser. No. 124,549, now Patent No. 3,172,677, dated Mar. 9, 1965. Divided and this application Nov. 18, 1964, Ser. No. 417,532

3 Claims. (Cl. 280—11.35)

The invention relates to an adjustable detent device on safety ski bindings, in which a setting member exerts an adjustable pressure on a detent member through a spring element. This application is a division of my copending application Serial No. 124,549, filed July 17, 1961, now Patent No. 3,172,677 issued March 9, 1965. Hitherto a setting screw provided with a fine thread or a normal thread has been used as a setting member. However, such a setting screw has the disadvantage that for adjusting the detent device from the minimum up to the maximum pressure, the setting screw must execute more than one revolution, so that even when using an index, a specific setting of the detent device as selected by the skier does not in any way guarantee that a specific detent pressure as required is obtained. It is quite possible that the setting member adjusted to a predetermined detent pressure and a predetermined marking or setting can in error or unintentionally (for example due to vibration with motor transport) be turned through a complete revolution or even several revolutions, so that this incorrect setting cannot be detected by the eye.

In order to obviate this disadvantage, with the adjustable detent device according to the invention, the setting member held in its actual position by several detents is so constructed that all settings of the detent device are obtained by swinging or swivelling the setting member through an angle smaller than 360°. In accordance therewith, a comparatively large stroke must be produced with the setting member during this swinging movement. Such a stroke or travel can advantageously be obtained with a setting member designed as a crank drive.

An embodiment of the invention will now be described by way of example with reference to the accompanying drawing wherein:

FIG. 1 is a side elevation of an adjustable detent device on a safety ski binding,

FIG. 2 is the associated plan view of said device.

In the drawings, the reference **1** designates a base plate which is fixed on a ski **2** and on which a cheek plate **3**, which is supported on the front edge of the sole, is mounted so that it can swivel to both sides about a pivot pin **4** fixed to base plate **1**. The supporting cheek **3** is held in its central position as shown by means of an adjustable detent device, advantageously by a ball-type detent device. In the constructional example illustrated, a steel ball **7** constituting a detent member is located in a longitudinal hole **6** in a fixed part **5**, the said ball being pressed under the action of a helical compression spring **8** into a corresponding socket **9** formed in the cheek **3**. In order to enable the turning moment at which the cheek **3** is released to be adjusted as required, a setting member is provided. Referring to the example shown in FIGS. 1 and 2, this setting member is constructed as a crank drive.

This crank drive consists of a crank rod **33** which is guided in the bore **6** of the fixed part **5** and which is supported on the compression spring **8**. This crank rod is articulated at **34** on a crank, which is constructed as a rocking lever and which is pivotally mounted about the stud **37** on a fixed plate **36**. This rocking lever **35** can be latched in various positions in relation to the plate **36**. For this purpose the plate **36** comprises a number of depressions **17**, which can be engaged by the pointed end

16 of a screw **15** arranged on the rocking lever **35**. The end of the crank rod **33** remote from the articulated point **34** is engaged with the compression spring **8** so that movement of the lever **35** in a clockwise direction, as appearing in FIGURE 1, effects a compression of the spring **8** between the shoulder **38** on the crank rod **33** and the steel ball **7**, whereby the steel ball is urged into the socket **9**. The invention is not limited to the constructional example which has been illustrated. Instead of the pivoted cheek **3** as illustrated, it is possible to provide a pivotable front cheek of any suitable design to which the supporting cheek is articulated by means of a threaded pin on a member arranged to swivel about a stationary bearing pin. In this case, the adjustable detent device according to the invention is not fixed, but rather it is arranged on a pivotable part of the safety binding.

What is claimed is:

1. An adjustable detent device for safety ski bindings, comprising:

a cheek mountable on a ski in a position for engaging the toe of a ski boot, said cheek being pivotable about a first axis extending transversely of the ski and having recess means therein;

a housing disposed adjacent said cheek and having an elongated passage therethrough;

a ball disposed in said passage and being movable in a lengthwise direction therealong, said ball being partly extendable through one end of said passage for reception in said recess means to yieldably prevent pivotal movement of said cheek;

a coil spring disposed within said passage and having one end thereof engaging said ball for urging same toward said one end of said passage;

a pressure member engaging the other end of said spring and means supporting said pressure member for sliding movement lengthwise of the passage whereby the compression of said spring and thereby the force urging said ball toward said one end of said passage can be adjusted, said pressure member having an extended end extending away from said housing;

operating means for effecting such lengthwise movement of the pressure member, said operating means including an operating member connected to the extended end of said pressure member and mounted outside of said housing for pivotal movement through an arc of less than 360 degrees around a second axis transverse of said passage, said second axis being spaced from the connection between said pressure member and said operating member for moving said pressure member lengthwise from its most remote position with respect to said one end of said passage to its closest position in response to pivotal movement of said operating member; and

detent means for releasably holding said operating member in selectable intermediate positions between the ends of said arc.

2. An adjustable detent device for safety ski bindings, comprising:

a housing having an elongated passage therethrough;

a ball disposed in said passage and being movable in a lengthwise direction therealong, said ball being partly extendable through one end of said passage;

a coil spring disposed within said passage and having one end thereof engaging said ball for urging same toward said one end of said passage;

a pressure member engaging the other end of said spring and means supporting said pressure member for sliding movement lengthwise of the passage whereby the compression of said spring and thereby the force urging said ball toward said one end of said passage can be adjusted;

operating means for effecting such lengthwise move-

ment of the pressure member, said operating means including an operating member, at least part of which is accessible from outside of said housing, connected to said pressure member and mounted for pivotal movement through an arc of less than 360 degrees around an axis transverse of said passage, said axis being spaced from the connection between said pressure member and said operating member for moving said pressure member lengthwise from its remote position with respect to said one end of said passage to its closest position in response to pivotal movement of said operating member; and

detent means for releasably holding said operating member in selectable intermediate positions between the ends of said arc.

3. An adjustable detent device according to claim 2, wherein said detent means includes a detent plate and means rigidly connecting said detent plate to said housing, said plate being substantially perpendicular to said axis, and said operating member being pivotally mounted on one side of said plate;

means defining a plurality of spaced depressions located in said one side at equal distances from said axis; and

an element projecting from said operating member toward said one side of said plate for reception into said depressions, said projection being resiliently held against said plate by said operating member, and said pressure member being pivotally connected to said operating member between said axis and said projection.

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