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3,333,858

SAFETY JAW FOR SKI BINDINGS

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FIG. 1

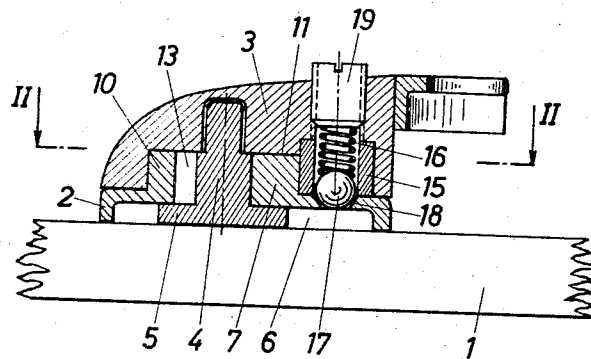
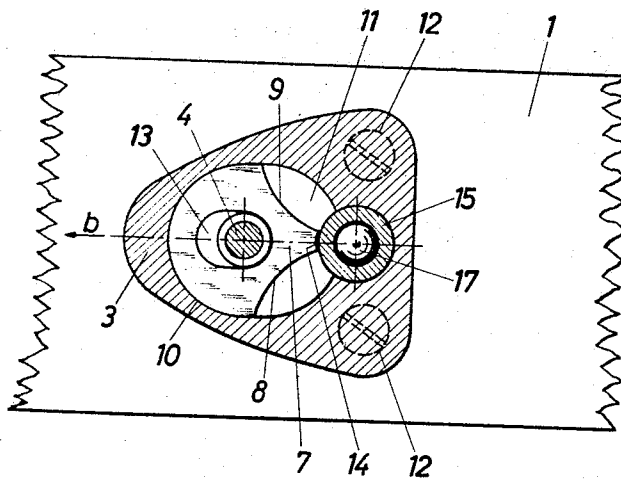


FIG. 2



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SAFETY JAW FOR SKI BINDINGS

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2 Claims. (Cl. 280—11.35)

ABSTRACT OF THE DISCLOSURE

A ski binding including a safety jaw mounted for pivotal movement about a vertical axis and also movable longitudinally relative to a base to enable both lateral swinging and forward quick release movement of said jaw upon excessive lateral pressure thereon.

This invention relates to a safety jaw for ski bindings, which jaw is pivotally moved outwardly about a vertical axis under excessive lateral pressure and at the same time performs a forward movement in the longitudinal direction of the ski.

An important object of the invention relates to a particularly simple manufacture of said safety jaw, which ensures a satisfactory function even when it is soiled or iced and independently of the wear of components of the jaw assembly after long use. According to a special feature of the invention this is achieved in that the baseplate which guides the pressure jaw has a rolling contact cam, which is rigidly connected to the baseplate and has symmetrical concave faces, the apex of which engages a cylindrical stop portion of the pivoted pressure jaw member. According to another feature of the invention the symmetrical, concave surfaces of the rolling contact cam are laterally open and not limited by guide means so that the release of the jaw will not be interfered with.

An embodiment of the safety jaw assembly according to the invention is shown on the drawing. FIG. 1 is a central sectional view taken in the longitudinal direction of the safety jaw assembly and FIG. 2 is a horizontal sectional view taken on line II—II of FIG. 1.

A baseplate 2 is connected by screws 12 to the ski 1. A jaw member 3, which engages the boot, suitably the toe portion thereof, is pivoted to the baseplate 2. For this purpose, a screw 4 is threaded from below into the jaw member and has at its free end a flat head 5, which is guided in a recess 6 of the baseplate 2 and bears on the underside thereof. A rolling contact cam 7 protrudes above the baseplate 2. This cam is integral with the baseplate 2 and has laterally symmetrical rolling contact faces 8, 9, which are concave and converge toward the boot. The remaining side face portion 10 is half-cylindrical. The cam 7 extends into a substantially oval recess 11 of the jaw member 3. This recess has adjacent to the surface portion 10 a surface which corresponds to said surface portion 10. The remaining portion of the side wall of the recess 11 surrounds the rolling contact faces 8, 9 with a clearance. An elongated hole 13 is provided in the longitudinal center plane of the cam 7. The screw 4 is guided in said elongated hole for movement in the longitudinal direction of the ski.

The converging end portions of the rolling contact faces 8, 9 form a stop 14, which in the tightened position of the jaw assembly bears on a cylindrical counterstop 15 which is mounted in the jaw member 3 and serves for guiding

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a ball detent. This detent comprises a ball 17, which is under the pressure of a spring 16 and engages a notch 18 of the baseplate 2 to hold like a snap lock the jaw member in its clamping position. A screw 19 is screwed in the jaw member 3 and serves for readjusting the initial stress of the spring 16 and consequently for determining the lateral pressure required to cause the jaw assembly to release the boot.

If the pressure jaw member 3 is pivotally moved outwardly after the ball detent mechanism 16, 17, 18 has been overcome, the bolt-like counterstop 15 of the jaw member 3 slides in the direction of arrow *b* along one of the rolling contact faces 8 and 9 until the screw 4 threaded in the pressure jaw member 3 engages the forward end of the elongated hole 13 in the cam 7. Thus, the screw-threaded mounting pin 4, which is also connected to the pivoted jaw member 3, is moved in the longitudinal direction of the ski in the slot 13 while the counterstop screw 15 consisting in the illustrated embodiment of a screw slides along one of the concave cam surfaces 8 or 9.

After the outward pivotal movement of the jaw member to the release position, the jaw member can easily be restored to its snapped-in normal position simply by a reverse rotation of the pressure jaw member 3 into the normal position shown in the drawing.

What is claimed is:

1. A safety jaw assembly for ski bindings, comprising a base plate attachable to a ski, a pivot extending upwardly from said base plate, a pressure jaw member movable on said pivot about a vertical axis relative to said base plate, a counter stop on said pressure jaw member, a cam protruding above said base plate and having concave guide faces which are symmetrical with respect to the longitudinal axis of the jaw member and converge toward the boot end to form a stop engagable with said counterstop in the clamping position of said jaw member, said counterstop moving in rolling contact with the guide surfaces during a pivotal movement of said pressure jaw member, a snap lock for releasably holding the pressure jaw member in the clamping position, said jaw member having in its underside a substantially oval recess which has in its portion remote from the skiing boot a surface concentrically surrounding said pivot and which corresponds to a portion of the lateral surface of said cam, and said guide faces being surrounded with a clearance by that portion of the surface of said recess which is near the skiing boot.

2. A safety jaw assembly according to claim 1, wherein said cam is provided with an elongated hole, and said pivot comprises a bolt which is guided in said cam hole and has at its lower end a head which bears on the underside of said base plate.

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