

May 27, 1958

H. MARKER

2,836,428

SKI BINDING HAVING SWIVELABLE HEEL SECURING MEANS

Filed April 19, 1956

5 Sheets-Sheet 1

FIG. 1.

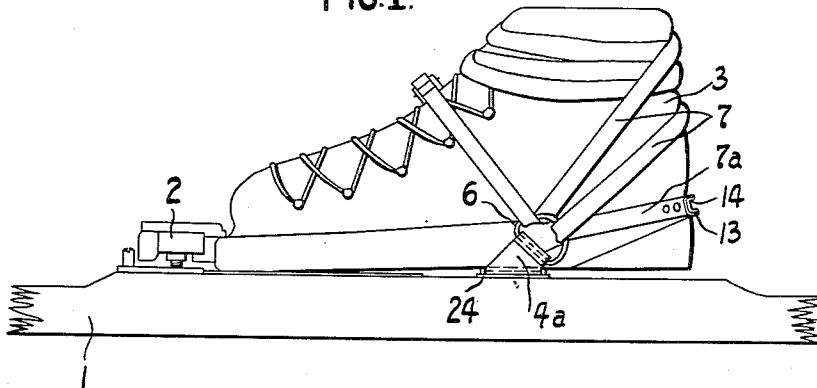


FIG. 2.

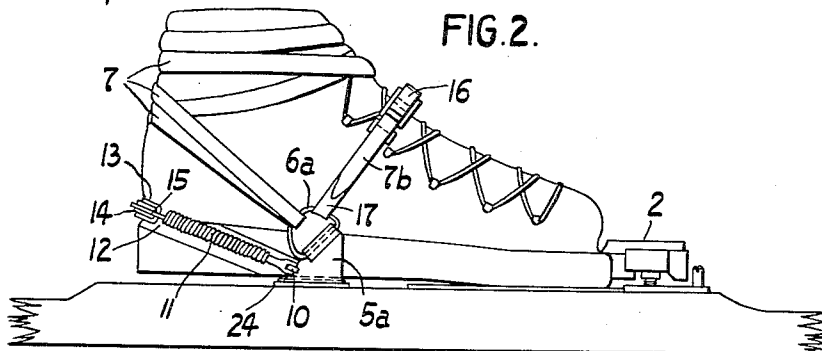
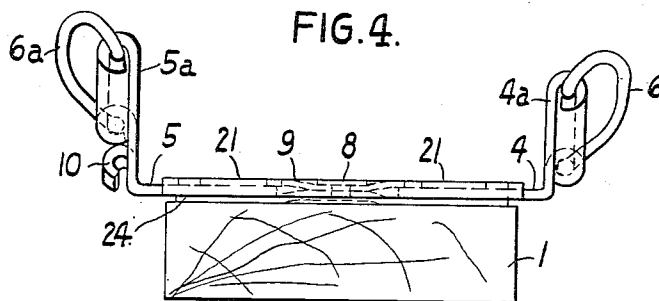


FIG. 4.



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5 Sheets-Sheet 2



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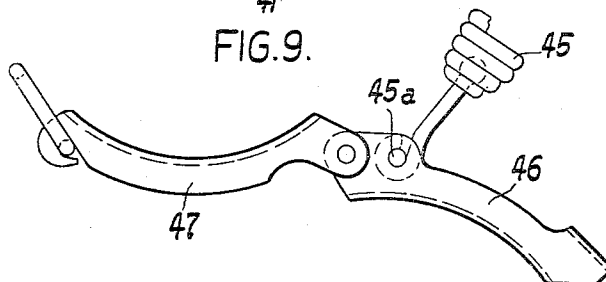
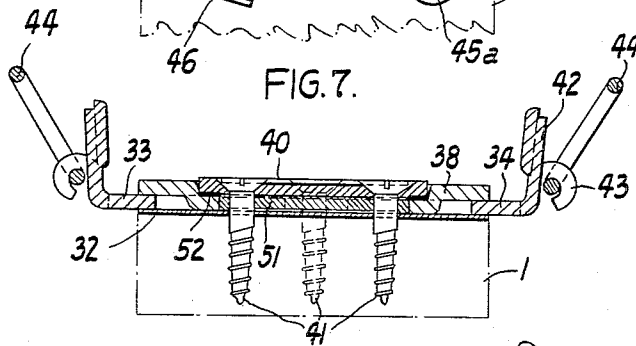
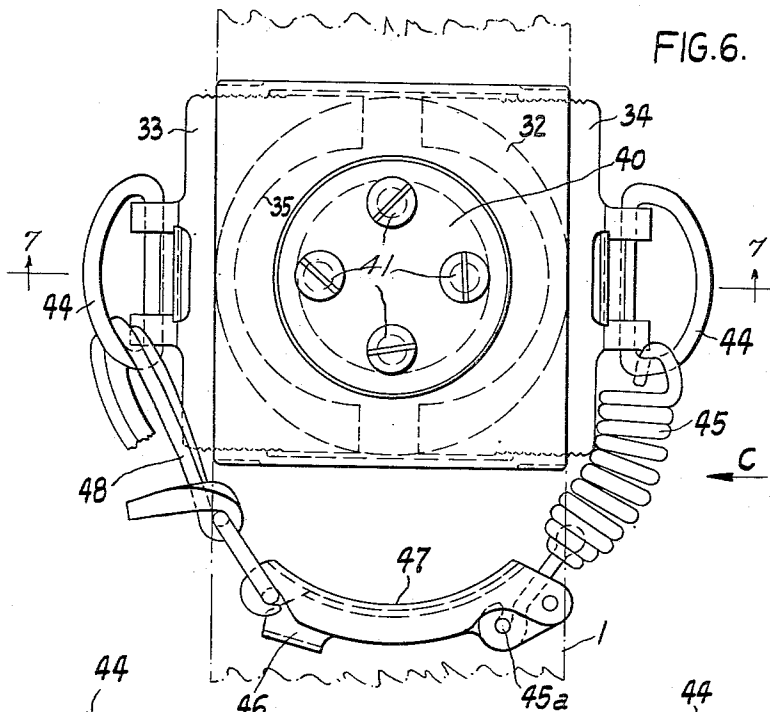
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SKI BINDING HAVING SWIVELABLE HEEL SECURING MEANS

Filed April 19, 1956

5 Sheets-Sheet 3



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SKI BINDING HAVING SWIVELABLE HEEL SECURING MEANS

Filed April 19, 1956

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FIG. 13.

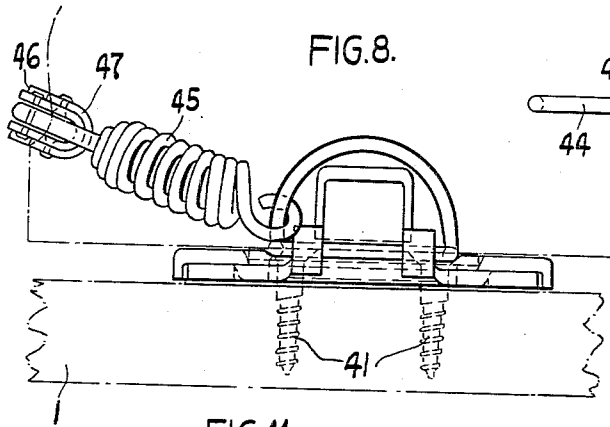


FIG. 8.

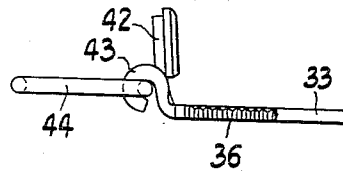


FIG. 11.



FIG. 10.

FIG. 14.

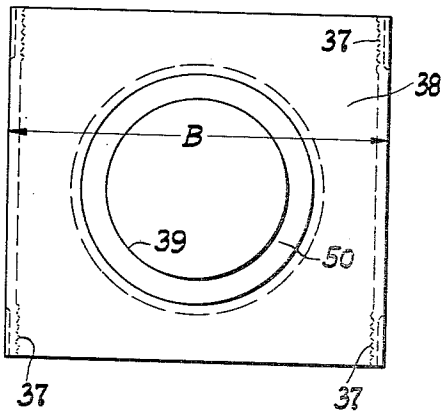
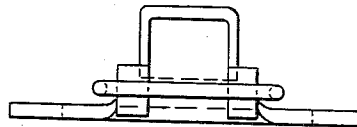
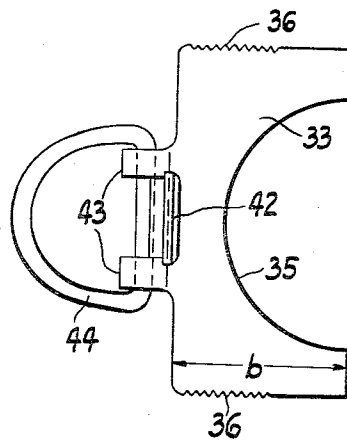


FIG. 12.



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SKI BINDING HAVING SWIVELABLE HEEL SECURING MEANS

Filed April 19, 1956

5 Sheets-Sheet 5

Fig. 21.

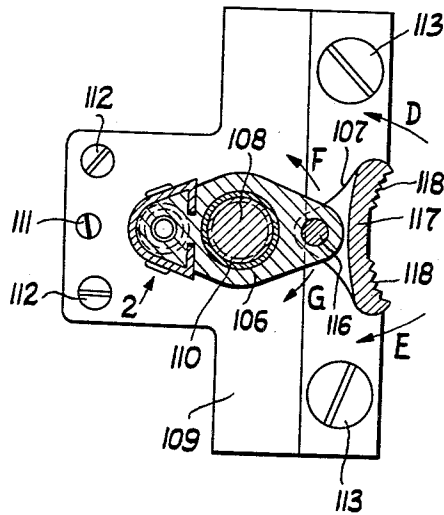
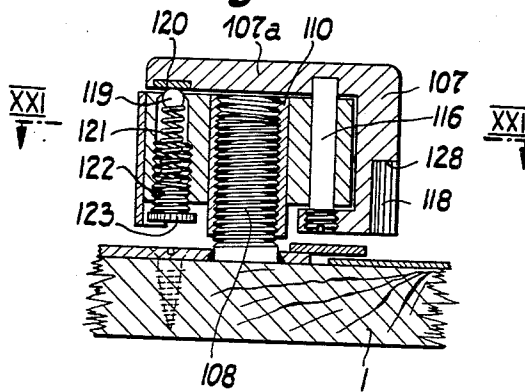


Fig. 20.



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2,836,428

SKI BINDING HAVING SWIVELABLE HEEL SECURING MEANS

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Application April 19, 1956, Serial No. 579,319

Claims priority, application Germany April 21, 1955

14 Claims. (Cl. 280—11.35)

This invention relates to safety ski-bindings to be used for downhill and goal runs and especially for racing skiers.

In the known safety ski bindings there is provided a pivotable front cheek which presses against the front edge of the ski boot and which pivots laterally whenever a predetermined torque is exceeded by the boot which is pressed against the front cheek by a conventional tension cable.

However, for typical downhill skiers, and more particularly racing skiers, this binding is not sufficient, since a certain lifting of the heel from the ski and lateral displacement thereof is still possible with the use of a tension cable. For this reason racing skiers prefer ski bindings with the conventional rigid side cheeks and with a transverse member secured on the ski below the flexible part of the boot and adjustable as to its width, said transverse member being provided with rings for the passage of a long strap.

With the aid of this long strap used as a heel, instep and ankle strap, the boot is fixedly clamped down to the ski so that lifting off of the heel is not possible any more. This long-strap binding used in connection with rigid side cheeks has the disadvantage, however, that injuries may easily occur in case of heavy falls or mishaps.

It is an object of the invention to provide a safety ski binding for typical downhill running or racing skiers with a front cheek abutting the front edge of the ski boot, which binding with the aid of a long strap ensures an extremely rigid and immovable seat of the ski boot on the ski while releasing the boot in case of heavy falls.

With this and further objects in view the ski binding according to the present invention comprises a swivel plate mounted on the ski below the ankle portion of the foot so as to be rotatable about a vertical axis, two laterally adjustable ring plates mounted on this swivel plate and provided with rings or loops for the passage of a long strap serving as a heel, instep and ankle strap, and a tightener which is inserted in the end of the strap seated in the groove of the heel.

By this construction for the first time the use of a long strap is rendered possible in connection with a pivotable safety cheek engaging the front edge of the ski boot. With the aid of the spring-acted tightener the boot is forced against the pivotable front cheek with sufficient pressure. The swivel plate permits a release of the safety binding in case of excessive torsional stresses, i. e. in case of heavy falls.

Other and further objects, features and advantages of the invention will be pointed out hereinafter and appear in the appended claims forming part of the application.

In the accompanying drawings several now preferred embodiments of the invention are shown by way of illustration and not by way of limitation.

Fig. 1 is a side view, from the inner side, of a safety

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ski binding having the invention applied thereto, with the ski boot tightened in the binding,

Fig. 2 is a similar view from the outer side,

Fig. 3 is a plan view of the safety binding of Figs. 1 and 2 on a larger and strictly proportional scale,

Fig. 4 is a front view of the swivel plate and side cheeks of this ski binding.

Fig. 5 is a detail of Fig. 2 on a larger scale,

Fig. 6 is a plan view of a swivel plate of special design,

Fig. 7 is a cross section on line VII—VII of Fig. 6,

Fig. 8 is a side view in the direction C of Fig. 6,

Fig. 9 is an elevation of the opened tightener of this binding,

Figs. 10 to 19 show components of the swivel plate, i. e.

Fig. 10 is a plan view of a swivel plate,

Fig. 11 a cross-sectional view thereof,

Fig. 12 is a plan view of a side cheek,

Fig. 13 a front view thereof,

Fig. 14 a side view thereof,

Fig. 15 a plan view of the upper bearing plate,

Fig. 16 a cross section thereof,

Fig. 17 a plan view of a lower bearing plate,

Fig. 18 a cross section thereof,

Fig. 19 a bottom view thereof,

Fig. 20 is a central longitudinal cross section through the front cheek 2 in Fig. 1, and

Fig. 21 is a section on line XXI—XXI of Fig. 20.

Similar reference numerals denote similar parts in the different views.

Referring now to the drawings in greater detail and first to Fig. 1, it will be seen that a ski boot 3 is clamped on a ski 1 by means of a special strap arrangement which will be hereinafter described, forcing the boot against a forward support cheek 2 forming an abutment for the front edge of the ski boot.

On principle, various front cheeks may be used in connection with the invention, but special advantages are obtained by using a front cheek of the type shown in Figs. 20 and 21 and described fully in my copending U. S. patent application Ser. No. 340,187 dated March 4, 1953.

The front cheek assembly 2 according to Figs. 20 and 21 comprises a main body 106 and a cheek 107. The main body is mounted on a threaded pin 108 of a base plate 109, so as to be rotatable and vertically adjustable thereon by means of a threaded sleeve 110. The adjusted position of the main body can be locked by a pin 111 screwed into the base plate 109 which in turn is secured to the ski 1 by means of screws 112 and 113.

The cheek 107 is hinged to the main body 106 by means of a pivot 116 at a point which is eccentric to the pivot pin 108 of the main body 106, i. e., in the embodiment shown, to the rear of the same.

As will be seen from Figs. 20 and 21, the cheek 107 is recessed at its rearward face 117 and formed with teeth or the like 118, so that substantially only these teeth or only the outer ones thereof engage the front part of the sole. The cheek 107 is formed with an arm 107a reaching substantially over the longitudinal extension of the main body 106 and being locked at its free end by a snap mechanism comprising a ball 119, a ball socket 120, a spring 121 for loading the ball and a set screw 122 for adjusting the spring pressure by a knurled screw head 123. By the set screw 122 the pressure at which the ball acts upon the ball socket and thus the lateral pressure of the sole can be defined at which the ball 119 disengages the ball seat 120 and thereby releases the cheek 107, for lateral displacement, about the pivot pin 116 in the direction of arrows D and E. It

will be understood that the main body 106 is now also displaced in the direction of the arrows F or G, respectively, so that the foot is permitted to swivel with respect to the ski in case of any mishap and excessive torsional strains.

The cheek 107 is provided with a retaining surface 128 acting upon the sole of the boot from the top and preventing the same from slipping out of the cheek in upward direction.

Pivotally mounted on the ski 1 by means of a vertical pivot 8, Figs. 1-5, is a swivel plate 9 whose center axis should be arranged substantially below the ankle of the skier. Therefore, preferably the swivel plate is arranged a bit more to the rear compared to the position shown in Figs. 1 and 2 where the swivel plate is shown as arranged slightly forward of the ankle portion of the skier simply for better illustration of the tightener. Mounted on the swivel plate are laterally adjustable ring plates 4 and 5 provided with rings 6 and 6a for passage of a long strap 7.

Inserted in the end 7a of the strap passing over the heel groove 12 is a tightener consisting of a curved tightening member 13 conformed to the groove 12 of the heel and a tightening lever 14 linked to this member.

Advantageously in addition to this tightener an elastic retaining member, preferably in the form of a helical spring 11, is inserted in this end of the strap, which retaining member on the one hand is secured to the ring plate 5 at 10 and on the other hand is attached to a coupling member 15 which is connected to the tightening lever 14.

As shown in Fig. 3, the strap end 7a is secured on the tightening member 13 which advantageously forms a U-profile, the tightening lever 14 being shaped in such a way that it is sunk in the U-profile 13 if the tightener is closed, Figs. 1 and 2. The ring plates 4 and 5 advantageously are formed with angular or upright standards or side cheeks 4a and 5a adapted to hold the ski boot against lateral displacement.

The ski boot is fastened to the ski in the following manner:

According to Fig. 3 the long strap 7 is passed through the ring 6 and then over the heel and through the ring 6a under tension, while the tightener 13, 14 is open, and then tightened around the heel, the ankle and the instep according to Figs. 1 and 2, the free end 7b of the long strap then being connected with a short strap end 17 fastened to the ring 6a, by means of a buckle 16 or the like.

The tightener 14 is then swung about the pivot 13 in the direction of arrow A, whereby the tightener is closed and the boot is tightly urged against the front cheek 2 with tensioning of the tension spring 11. Simultaneously, when closing the spring-acted tightener, the strap 7 is further tensioned, whereby a very tight and rigid connection is established between the boot and the ski, rendering it impossible to lift the heel from the ski.

On the other hand, in case of an excessive torsional stress, i. e. in case of a heavy fall, the front cheek 2 will pivot laterally and release the boot which is able to turn about the pivot 8 together with the cheeks 4a and 5a and the swivel plate 9.

In the embodiment shown in Figs. 3 to 5, this swivel plate forms a flat U-profile for the reception of cheeks 4, 4a and 5, 5a, bent at right angles. The swivel plate is provided with two recesses 19, having each a lateral toothed portion 20. Clamping members 21 fitting into these recesses and also being toothed laterally, are detachably connected with the cheeks 4, 4a, 5, 5a by screws 22. The recesses 19 are wedge-shaped at 20, similarly to the toothed sides of the clamping members 21, so that upon tightening of the screws 22 the cheeks are tightly pressed against the swivel plate from below.

Furthermore, and as shown in the drawing, a base plate 24 is secured on the ski by means of wood screws 23,

said base plate 24 being connected with the swivel plate 9 by a pivot forming riveted bolt 8, in such a way that the swivel plate is free to rotate on the base plate 24.

A modified and preferred form of the swivel plate according to the invention is shown in Figs. 6 to 8. According to these figures the swivel plate comprises a base plate 32 engaging the ski nearly on its full width, each of the two lateral cheek plates 33 and 34 having a semi-circular or U-shaped recess 35 at their respective aligned ends and a swivel plate 38 extending over these two plates 33 and 34 and holding toothed portions 36 and 37 (Figs. 6, 10 and 12), formed on the swivel plate and the cheek plates, said swivel plate being provided with a bearing opening 39 and a bearing plate 40 extending over the swivel plate 38 and being secured on the ski 1 advantageously with several screws 41. Lateral cheek plates 33 and 34 in the preferred form as shown are provided at their opposite ends with three upwardly bent lugs 42 and 43, the central lug 42 forming a cheek for holding the heel of the boot against lateral displacement, while the two outer lugs 43 are curled for forming a bearing for a ring 44. Engaged in this ring is a helical spring 45 which is connected at 45a with the lever 46 of a tightener 47 which according to Figs. 6 and 8 is seated in a heel groove and connected with a long strap 48 which can be passed through the two rings 44.

In the preferred form as shown in the drawings, both the swivel plate 38 and the lateral cheek plates 33 and 34 are rectangularly shaped. The swivel plate by means of downwardly bent edges 49 engages over the two plates 33 and 34 which are formed on their inner side with a toothed portion 37 engaging in the toothed portion 36 of the cheeks 33 and 34. The two lateral cheek plates 33 and 34 have a width b which is about $\frac{1}{2}$ of the width B of the swivel plate. Owing to this relatively large width of the plates 33 and 34 engaging the ski or the plate 32 with their full and flush surface, these plates are held in a firm position by the swivel plate 38 in marginal spaces formed therebelow, so that even with large forces acting upon the rings 44 the plates 33 and 34 are prevented from exerting any tilting movements on the ski.

The swivel plate 38 is formed with an annular depression 50 produced by a pressing operation, for the reception of the bearing plate 40 in a sunk or nested position. Preferably, the bearing disc is bi-partite and consists of the upper bearing disc 40 fitting in the annular depression 50 and a lower bearing disc 51 fitting in the bearing opening 39 of the swivel plate 38. Provided between the upper bearing disc 40 and the swivel plate 38 is advantageously a bearing ring 52 of brass or the like which serves to permit rotation of the disc 38 even in case of high compression between the parts 40 and 38 and lack of lubrication.

The slide or base plate 32 advantageously consists of a thin sheet metal, preferably a sheet of brass of a thickness of about 0.5 mm., while the bearing disc 51 is formed with slightly projecting noses 53 (Fig. 19), on its under side. This formation has the advantage that these noses are able to depress or emboss the thin slide plate 32 slightly at the points of engagement, so that independently of the tolerance in the production of the components, the components 40, 51, 38, 33, 34 and 32 can be pressed upon each other in such a way, when tightening the screws 41, that no play is left between these parts. In this way a very solid and stable support is obtained for the side plates 33 and 34 although the same are swivel-mounted.

All parts of the swivel plate are made of sheet metal stampings. Thus a very simple and cheap production is rendered possible. Moreover it will be seen from the drawings that the swivel plate has a very small overall height corresponding approximately to the thickness of the conventional heel or sole plate secured on the ski.

In a static respect my novel swivel plate has the same effect as if the cheeks 33 and 34 bearing the rings 44

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were secured to the ski directly, in conventional manner, and thus offers to the downhill or racing skier an extremely tight and rigid fastening of the boot on the ski with long-strap tying. In spite of this tight fastening of the boot on the ski, however, the swivel plate is able to swing freely in connection with the action of the laterally swingable front cheek 2 shown in Figs. 1, 2 and 20, 21, in case of a serious fall, so that the danger of an injury of the leg is efficiently removed.

Another very important advantage for the racing skier who sometimes plunges at a very high speed of more than 100 km./h., consists in the fact that owing to the special construction of my ski binding the ski remains directly under the foot of the skier even if the binding has been released by a plunge and the boot thus has been turned with respect to the ski. The ski thus follows the plunging movement of the racer. It cannot remove itself from the racer and then impinge upon the same with its own kinetic energy with the result of dangerous injuries. The tied-up long strap rather keeps the boot of the racer close to the swivel plate to which it is secured. Only the dangerous lever force of the ski which might cause fractures of the leg, is eliminated owing to the swivel movement of the boot.

By way of alternative, two front cheeks instead of one as shown may be arranged in symmetrical position, and the construction of the pivotable safety cheeks also may be modified if desired.

While the invention has been described in detail with respect to certain now preferred examples and embodiments of the invention it will be understood by those skilled in the art after understanding the invention that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended, therefore, to cover all such changes and modifications in the appended claims.

I claim:

1. In a safety ski binding having at least one front cheek secured on the ski so as to form an abutment for the front edge of the ski boot having a heel groove and adapted to pivot laterally in case of excessive torsional stress upon the boot; a swivel plate unit comprising a slide plate engaging the ski over nearly its full width, a pair of angle plates whose horizontal legs are semi-circularly recessed, a pair of rings secured to the angle plates, a swivel plate overlying the two angle plates, respective interengaging means on said swivel plate and on said angle plates for holding the latter in predetermined position, said swivel plate having a bearing opening, a bearing disc fitting in the opening of and nested in the swivel plate, screw means securing the bearing disc said swivel plate and said slide plate on the ski below the ankle portion of the foot of the skier, said semi-circularly recessed legs being located about and out of contact with said bearing disc, thereby permitting rotational movement of said swivel plate with said angle plates about said bearing disc upon occurrence of said torsional stress, a long strap passed through the rings, and a tightener including an elastic retaining member inserted in the end of the strap adapted to engage said groove in the heel of a ski boot.

2. In a safety ski binding having at least one front cheek secured on the ski so as to form an abutment for the front edge of the boot and adapted to pivot laterally in case of excessive torsional stress upon the boot; a swivel unit comprising a slide plate engaging the ski over nearly its full width, a pair of angle plates whose horizontal legs are semi-circularly recessed, a pair of rings secured to the angle plates, a swivel plate overlying the two angle plates and holding the angle plates in position by means of interengaged toothed portions respectively provided on said angle plates and on said swivel plate, said swivel plate having a bearing opening, bearing means fitting in the opening and nested in the swivel

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plate, said swivel plate being of rectangular shape and overlying the horizontal legs of the two angle plates by means of downwardly bent edges, and the width of the also rectangularly shaped angle plates being approximately half the width of the swivel plate, screw means for securing said bearing means on the ski below the ankle portion of the foot of the skier, a long strap passed through the rings, and a tightener including an elastic retaining member inserted in the end of the strap adapted to engage a corresponding groove in the heel of the ski boot, said semi-circularly recessed legs being located about and out of contact with said bearing means, thereby permitting rotational movement of said swivel plate with said angle plates about said bearing means upon occurrence of said torsional stress.

3. In a safety ski binding adapted especially for downhill racing and having at least one front cheek secured on the ski so as to form an abutment for the front edge of the boot and adapted to pivot laterally in case of excessive torsional stress upon the boot; a swivel unit comprising a slide plate engaging the ski over nearly its full width, a pair of angle plates whose horizontal legs are semi-circularly recessed, a pair of rings secured to the angle plates, a swivel plate overlying the two angle plates and holding them in position by means of interengaged toothed portions provided, respectively, on said angle plates and said swivel plate, said swivel plate having a bearing opening, a bearing disc extending into the opening and overlying the swivel plate, each of said angle plates being formed with three upwardly bent lugs, the middle lug forming a side cheek while the two outer lugs are curled to form a bearing for the respective ring, screw means for securing the bearing disc on the ski below the ankle portion of the foot of the skier, a long strap passed through the rings, and a tightener with an elastic retaining member inserted in the end of the strap adapted to engage a groove in the heel of the ski boot, said semi-circularly recessed legs being located about and out of contact with said bearing disc, thereby permitting rotational movement of said swivel plate with said angle plates about said bearing disc upon occurrence of said torsional stress.

4. In a safety ski binding adapted especially for downhill racing; at least one front cheek secured on the ski so as to form an abutment for the front edge of the boot and adapted to pivot laterally in case of excessive torsional stress upon the boot, a swivel unit operable in response to said stress and including a slide plate engaging the ski over nearly its full width, a pair of angle plates whose horizontal legs are semi-circularly recessed, a swivel plate overlying the two angle plates and holding them in position by means of interengaged toothed portions provided, respectively, on said swivel plate and said angle plates, said swivel plate having a bearing opening, a bearing disc unit located in said opening an annular depression about said opening and provided in the swivel plate, a bearing ring located in said depression for guiding said swivel plate about said bearing disc, and fastener means by which the bearing disc unit is secured on the ski substantially below the ankle portion of the foot of the skier, said semi-circularly recessed legs being located about and out of contact with said bearing disc unit, thereby permitting rotational movement of said swivel plate with said angle plates about said bearing disc unit upon occurrence of said torsional stress.

5. A safety ski binding adapted especially for downhill racing, comprising at least one front cheek secured on the ski so as to form an abutment for the front edge of the boot and adapted to pivot laterally in case of excessive torsional stress upon the boot, a swivel unit including a slide plate engaging the ski over nearly its full width, a pair of angle plates whose horizontal legs are semi-circularly recessed, a pair of rings secured to the angle plates, a swivel plate overlying the two angle plates and holding

them in position by means of interengaged toothed portions, said swivel plate having a bearing opening, a bearing disc unit comprising two superposed stamped sheet metal discs, the upper one of which fits in an annular depression provided in the swivel plate while the lower one fits in the bearing opening of the swivel plate, screw means by which the bearing disc unit is secured on the ski substantially below the ankle portion of the foot of the skier, a long strap passed through the rings, and a tightener with an elastic retaining member inserted in the end of the strap adapted to engage a groove in the heel of the ski boot, said semi-circularly recessed legs being located about and out of contact with said bearing disc unit, thereby permitting rotational movement of said swivel plate with said angle plates about said bearing disc unit upon occurrence of said torsional stress.

6. A safety ski binding adapted especially for downhill racing, comprising at least one front cheek secured on the ski so as to form an abutment for the front edge of the boot and adapted to pivot laterally in case of excessive torsional stress upon the boot, a swivel unit responsive to said torsional stress and comprising a slide plate engaging the ski over nearly its full width, a pair of angle plates in contact with said slide plate and provided with horizontal legs which are semi-circularly recessed, a swivel plate overlying the two angle plates and holding them in position by means of interengaged toothed portions, respectively, provided on said swivel plate and said angle plates, said swivel plate having a central bearing opening, a bearing disc unit comprising two superposed sheet metal elements, the upper element fitting in an annular depression provided in the swivel plate while the lower one fits in said bearing opening of the swivel plate, a ring of a low friction metal inserted between the upper disc and the annular depression of said swivel plate, and fastener means securing the bearing disc unit on the ski substantially below the ankle portion of the foot of the skier, said semi-circularly recessed legs being located about and out of contact with said bearing disc unit, thereby permitting rotational movement of said swivel plate with said angle plates about said bearing disc unit upon occurrence of said torsional stress.

7. A safety ski binding adapted especially for downhill racing, comprising at least one front cheek secured on the ski so as to form an abutment for the front edge of the boot and adapted to pivot laterally in case of excessive torsional stress upon the boot, a swivel unit including a slide plate of a sheet metal of a thickness of about 0.5 mm. engaging the ski over nearly its full width, a pair of angle plates whose horizontal legs are semi-circularly recessed, a pair of rings secured to the angle plates, a swivel plate overlying the two angle plates and holding the latter in position by means of interengaged toothed portions, respectively, provided on said swivel plate and said angle plates, said swivel plate having a bearing opening, a bearing disc having a plurality of slightly projecting noses on its underside engaging the slide plate, said bearing disc fitting in the opening and overlying the swivel plate, screw means for securing the bearing disc on the ski below the ankle portion of the foot of the skier, a long strap passed through the rings, and a tightener having an elastic retaining member inserted in the end of the strap adapted to engage a groove in the heel of the ski boot, said semi-circularly recessed legs being located about and out of contact with said bearing disc, thereby permitting rotational movement of said swivel plate with said angle plates about said bearing disc upon occurrence of said torsional stress.

8. In a ski binding for racing and like purposes having a front cheek for engaging the front edge of a ski boot and adapted to pivot laterally upon exertion of excessive torsional stress on said boot; a first member fixed to and extending across the surface of the ski at a location substantially below the ankle of the skier's foot, when said

boot is applied to the ski, a second member located substantially centrally above said first member and constructed to provide marginal spaces between said first member and said second member, angular plate-shaped means having opposite ends and aligned ends, said aligned ends being positioned for adjustment to each other within said marginal spaces, said plate-shaped means being U-shaped at their aligned ends and extending with their opposite ends laterally beyond said second member at substantially right angles thereto, to form lateral cheeks for engaging the heel of said boot, interengageable means on said second member and on said plate-shaped means for adjusting the position of the latter relative to said heel of said boot, means securing said second member and through the latter said angular plate-shaped means for rotational movement relative to said ski, said securing means being substantially nested within said second member and being out of contact with said U-shaped aligned ends of said plate-shaped means, and means for attaching said boot onto said second member and exerting pressure in lengthwise direction of said boot via the front edge thereof against said front cheek during normal skiing operation.

9. In a ski binding for racing and like purposes having a front cheek for engaging the front edge of a ski boot and adapted to pivot laterally upon exertion of excessive torsional stress on said boot; a first member fixed to and extending across the surface of the ski at a location substantially below the ankle of the skier's foot, when said boot is applied to the ski, a second member located substantially centrally above said first member and constructed to provide marginal spaces between said first member and said second member, angular plate-shaped means positioned for adjustment to each other within said marginal spaces between said first and second members and extending laterally beyond said second member and at substantially right angles, thereto, to form lateral cheeks for engaging the heel of said boot, securing means nested in said second member and retaining the latter with said angular plate-shaped means for rotational movement relative to said ski, and bearing means in engagement with said securing means facilitating said rotational movement.

10. A ski binding for racing and like purposes employing a front cheek for engaging the front edge of a ski boot whereby said front cheek is adapted to pivot laterally upon exertion of excessive torsional stress on said boot; comprising boot retaining means positioned on the surface of the ski at a location substantially below the ankle of the skier's foot when said boot is applied to the ski, said retaining means including rotatable means, opposite lateral and angular-shaped plate means, said rotatable means being constructed to clampingly engage said angular-shaped plate means for positioning the latter below said rotatable means and for adjusting said angular-shaped plate means relative to each other, interengageable means on said rotatable means and on said angular-shaped plate means, respectively, to thereby hold the latter in predetermined position, said angular-shaped plate means extending laterally beyond said ski and at substantially right angles thereto, to form lateral cheeks for engaging the heel of said boot in said predetermined position, ring means connected to said cheeks to facilitate attaching said boot onto said rotatable means for normal skiing operation, and means securing said rotatable means for movement relative to said ski upon exertion of said torsional stress, said securing means being located centrally of and nested in a recess provided in said rotatable means, said angular-shaped plate means being spaced from said securing means.

11. A ski binding according to claim 10, including elongated strap means, tightener means shaped for location and engagement into the heel groove of the boot and rearwardly thereof, said tightener means being provided with two ends, one of said ends being attached to one of said ring means, the other end of said tightener

means being connected with said strap means, said strap means being threaded through another of said ring means to be wound at least once about the heel and the ankle of the skier's boot.

12. A ski binding according to claim 11, said tightener means including tension means extending between said one ring means and said tightener means.

13. A ski binding according to claim 11, including means connected to said other ring means for engaging and securing the free end of said elongated strap means.

14. A ski binding according to claim 10, the ends of said angular-shaped plate means located adjacent said securing means being semi-circularly recessed to avoid contact with the latter.

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