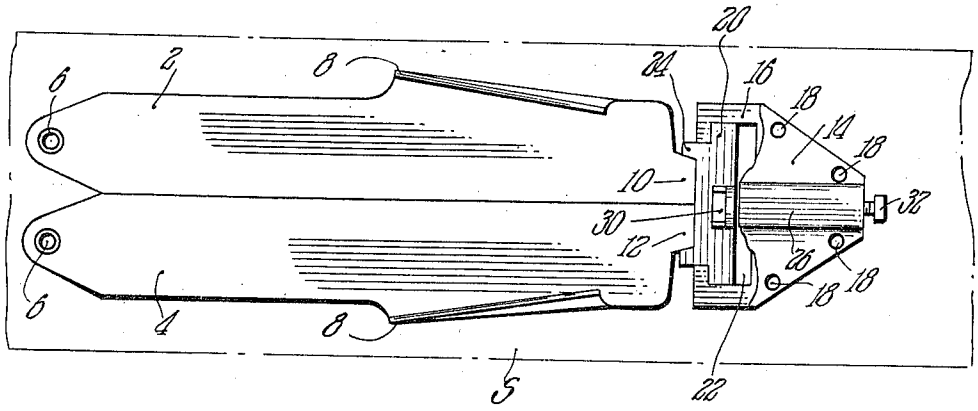
June 17, 1941. S. C. BROWN ET AL 2,245,850

SAFETY BINDING

Filed Sept. 6, 1940

Fig. 1.



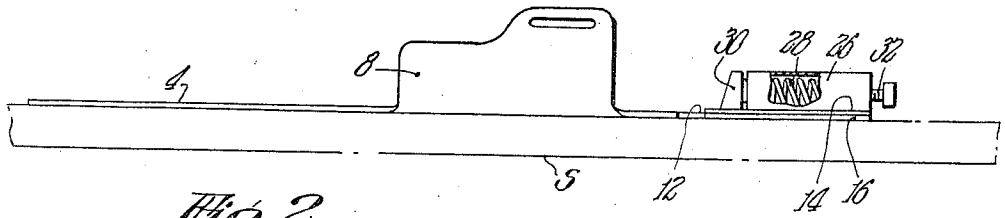


Fig. 2.

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SAFETY BINDING

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Application September 6, 1940, Serial No. 355,648

6 Claims. (Cl. 280—11.35)

Our invention relates to improvements in safety bindings for skis.

The principal object of the invention is directed to the provision of a binding for a ski wherein the upwardly extending plates which embrace opposite sides of the user's shoe at the forward part or toe thereof and which are commonly called "toe irons," are easily and readily separated from each other for spreading the pressure as it is applied to the toe irons.

It is usual, with a ski, to provide a binding which has upwardly extending side plates or toe irons for embracing opposite sides of the toe of the shoe and in association with which various means are employed to hold the shoe between said toe irons.

Many serious accidents occur due to the fact that the shoe is in some manner secured to the binding and does not become loose from the skier when the skier falls or is upset.

According to our invention, a novel means is provided which is adapted to operate automatically under any normal or abnormal strain or pressure so as to release the foot or to allow the toe irons to move and so as to separate the shoe from the bracing position.

With the foregoing and various other novel features and advantages and other objects of our invention as will become more apparent as the description proceeds, the invention consists in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter more particularly pointed out in the claims hereunto annexed and more fully described and referred to in connection with the accompanying drawing wherein:

Fig. 1 is a plan view of the safety binding of our invention shown in association with a ski which is represented by dot-dash lines; and

Fig. 2 is a side elevational view of the safety binding which is shown in Fig. 1.

Referring now to the drawing more in detail, wherein similar reference figures refer to like parts, and referring more particularly to the preferred form of our invention which has been selected for illustrative purposes, we have shown a pair of plate members 2 and 4 which are pivoted to the ski S at their rear ends at 6 and 6 for relative swinging movements toward and away from one another.

Adjacent the forward part of the plate members 2 and 4, there are upwardly extending side plates or toe irons 8 and 8 which are disposed so as to extend upwardly of the sides of the shoe in the vicinity of the toe thereof so as to embrace the toe when said toe irons are in a position such as is shown in Fig. 1. In these figures, the shoe is not shown although it will be understood that the shoe overlies the plate members 2 and 4.

The toe irons 8 and 8 will be arranged on the plates 2 and 4 so as to accommodate shoes of different widths and this may be accomplished in one way by making members 8 projectable towards and away from one another as is usual of bindings now known in the art.

Disposed beneath these plates 2 and 4, a chafing plate, which is not shown, may be provided so as to facilitate the movements of the plates 2 and 4 relative to the ski S.

At the forward portions of the plate 2 and 4, there are extensions 10 and 12 respectively and forwardly of the plate there are upper and lower plates 14 and 16 respectively which may be secured in a superposed position to the ski in any well-known manner as by screws passing through the openings 18, substantially as is shown in Fig. 1.

A locking plate 20 is slidable back and forth in a recess 22 in the lower plate 16 and it has projections 24 on its outer and forward edges so as to provide a socket therebetween which receives the projections 10 and 12. A housing 26 on the upper plate 14 has a spring 28 disposed therein, the end of which acts on an abutment 30 which projects upwardly from the locking member 20. An adjusting screw 32 is provided for varying the tension of the spring 28.

As will be seen in Fig. 1, the outer sides of the projections 10 and 12 are inclined at an angle as are the inner sides of the projections 24 of the locking plate 20. These angles may vary within wide limits, the function being to facilitate the movement of the lock 24 against the spring 28 as stretches and strains are applied to the members 8 so as to tend to separate them from each other.

The spring 28 may be varied so as to provide the desired and necessary pressure in conjunction with the locking plate 20 which releasably locks the members 2 and 4 in an embracing position, and which is intended to be releasable so as to allow a spreading or swinging apart of the members 2 and 4 when pressure is applied against either or both of the members 8.

Manifestly the specific details of construction may be considerably varied from those herein shown and described without involving any departure from the principle of the invention or sacrificing any of the advantages inherent there-

in. While we have decribed our invention in this specification in great detail and particularly with respect to the present preferred form thereof, it is not desired to be limited thereto since many changes and modifications may be made therein without departing from the spirit and scope of the invention.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claims are therefore intended to be embraced therein.

What it is desired to claim and secure by Letters Patent of the United States is;

1. A safety binding for a ski comprising in combination, separate members having upstanding portions at their forward portions for embracing opposite sides of a shoe and pivoted at their rear ends for free swinging movements between shoe-embracing and non-embracing positions, and releasable locking means for releasably holding said separate members in shoe-embracing positions operable automatically to release said separate members by a spreading tendency thereof, said releasable locking means including a lock member movable back and forth relative to said separate members having parts embracing forward portions of said separate members and spring means urging the lock member rearwardly into locking position.

2. A safety binding for a ski comprising in combination, separate members having upstanding portions at their forward portions for embracing opposite sides of a shoe and pivoted at their rear ends for free swinging movements between shoe-embracing and non-embracing positions, and releasable locking means for releasably holding said separate members in shoe-embracing positions operable automatically to release said separate members by a spreading tendency thereof, said releasable locking means including a lock member movable towards and away from said separate members having a socket for embracing forward portions of said separate members when in locking position and spring means urging the lock member rearwardly towards said separate members.

3. A safety binding for a ski comprising in combination, separate members having upstanding portions at their forward portions for embracing opposite sides of a shoe and pivoted at their rear ends for free swinging movements between shoe-embracing and non-embracing positions, and releasable locking means for releasably holding said separate members in shoe-embracing positions operable automatically to release said separate members by a spreading tendency thereof, said separate members having projections on the forward ends thereof and said releasable locking means including a movable lock member having projections for embracing the projections of said separate members and spring means for urging the lock member rearwardly towards said separate members.

4. A safety binding for a ski comprising in combination, separate members having upstanding portions at their forward portions for embracing opposite sides of a shoe and pivoted at their rear ends for free swinging movements between shoe-embracing and non-embracing positions, and releasable locking means for releasably holding said separate members in shoe-embracing position operable automatically to release said separate members by a spreading tendency thereof, said locking means including a lock member movable towards and away from the separate members having a socket provided with rearwardly diverging opposite sides in which complemental side portions provided on the forward ends of the separate members are receivable, and spring means urging the lock member rearwardly.

5. A safety binding for a ski comprising in combination, separate members having upstanding portions at their forward portions for embracing opposite sides of a shoe and pivoted at their rear ends for free swinging movements between shoe-embracing and non-embracing positions, and releasable locking means for releasably holding said separate members in shoe-embracing position operable automatically to release said separate members by a spreading tendency thereof, said locking means including a lock member movable towards and away from the separate members having a socket provided with spaced rearwardly diverging sides, and portions at the forward ends of the separate members receivable in the socket when in closed position having edges complemental to the sides thereof and spring means urging the said lock member rearwardly.

6. A safety binding for a ski comprising in combination, separate members having upstanding portions at their forward portions for embracing opposite sides of a shoe and pivoted at their rear ends for free swinging movements between shoe-embracing and non-embracing positions, and releasable locking means for releasably holding said separate members in shoe-embracing position operable automatically to release said separate members by a spreading tendency thereof, said locking means including a lock member movable towards and away from said separate member having a rearwardly tapering socket and the forward ends of the separate members having forwardly tapering forward ends receivable therein and spring means urging said lock member rearwardly.

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