March 20, 1951 G. L. FRENCH 2,545,574

RELEASABLE SKI BINDING

Filed Nov. 8, 1948 2 Sheets-Sheet 1

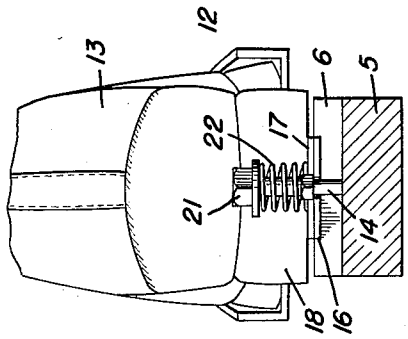


Fig. 4.

Fig. 1.

Fig. 5.

Glenn L. French
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

March 20, 1951 G. L. FRENCH 2,545,574

RELEASABLE SKI BINDING

Filed Nov. 8, 1948 2 Sheets-Sheet 2

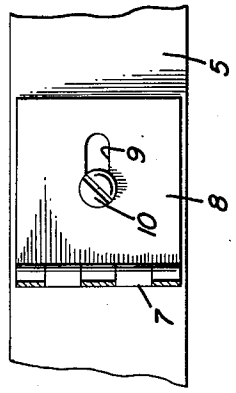


Fig. 6.

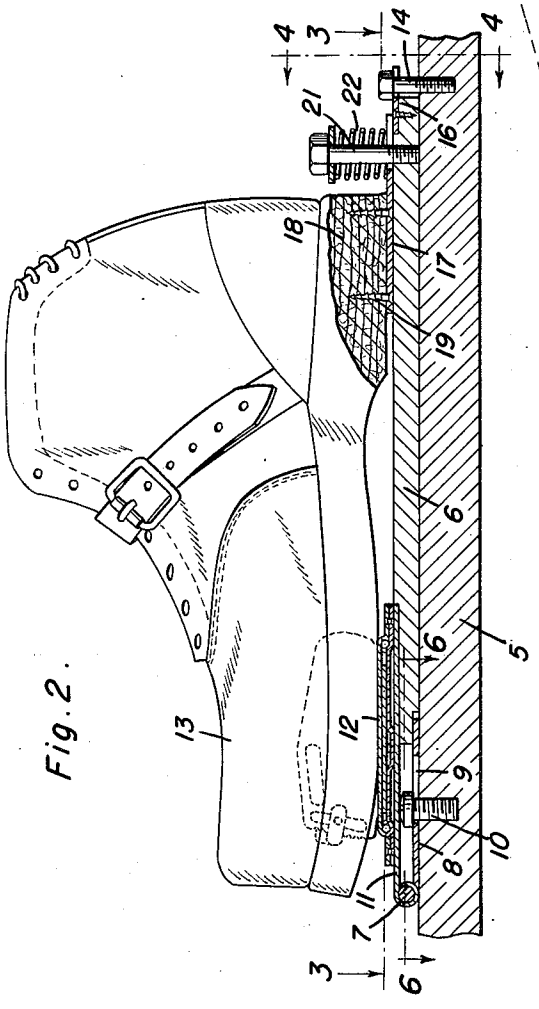


Fig. 2.

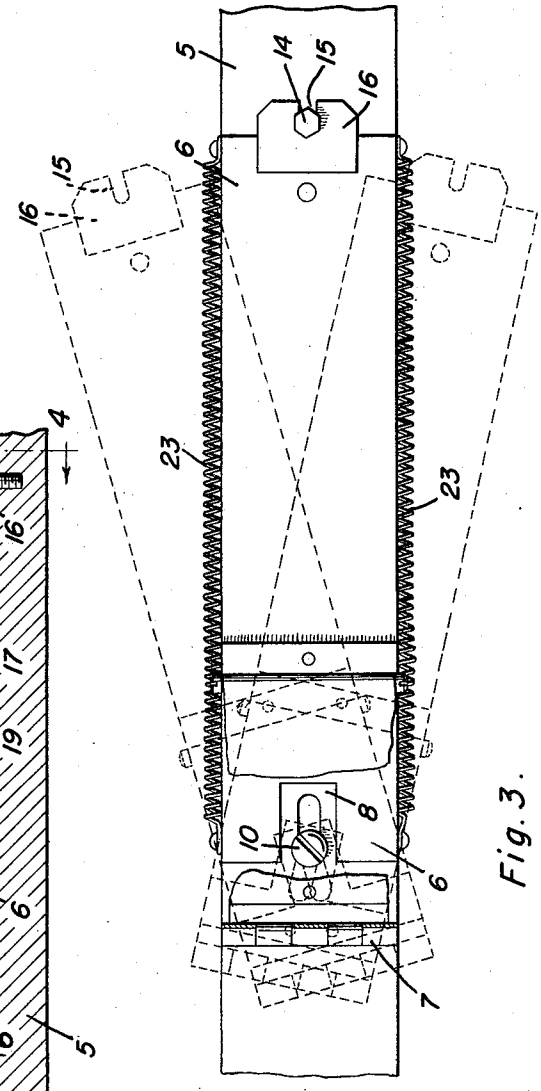


Fig. 3.

Glenn L. French
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Patented Mar. 20, 1951 2,545,574

UNITED STATES PATENT OFFICE

2,545,574

RELEASABLE SKI BINDING

Glenn L. French, Aspen, Colo.

Application November 8, 1948, Serial No. 58,908

7 Claims. (Cl. 280—11.35)

1

The present invention relates to new and useful improvements in ski bindings and more particularly to emergency release means for said binding.

An important object of the invention is to provide a ski binding which affords a high degree of safety and which reduces the liability of leg injuries which frequently occur when the skier's foot is fixed directly to the ski.

It is essential to the safety of a skier to permit his body to fall forwardly should the ski tip strike an obstruction and it is also important to enable the foot of the skier to swing from side to side on the ski to prevent twisting of the leg and angle during a fall.

Accordingly it is an object of the present invention to provide a ski binding having an automatic emergency release to enable the foot to swing forwardly on the toe during a forward falling movement of the skier and which also enables the foot to swing from side to side to prevent twisting thereof.

A still further object is to provide a ski binding of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view.

Figure 2 is an enlarged fragmentary longitudinal sectional view showing the ski binding in its normal position of use on a ski.

Figure 3 is a plan view of the ski binding with the boot removed.

Figure 4 is a transverse sectional view taken on a line 4—4 of Figure 2.

Figure 5 is a fragmentary sectional view taken on a line 5—5 of Figure 1 and showing a bottom plan view of the boot heel attaching plate, and

Figure 6 is a fragmentary longitudinal sectional view taken on a line 6—6 of Figure 2.

Referring now to the drawings in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates a ski to which a ski binding foot board or plate 6 is hingedly attached at its front end by a hinge member 7 to provide for a swinging raising and lowering movement of the rear end of the foot board or plate.

2

The hinge member 7 includes a lower hinge plate 8 having a longitudinal slot 9 therein receiving a screw or the like 10 carried by the ski to provide for a sliding movement of the hinge and ski binding foot plate 6 thereon. The hinge member 7 also includes an upper hinge plate 11 which is suitably secured on top of the board 6 and a front boot clamp 12 of a conventional construction is suitably secured on top of the upper hinge plate 11 for clamping the front end of a ski boot 13 to the foot plate 6.

A headed fastener, such as a bolt or the like 14 also rises from the ski 5 rearwardly of foot plate 6 and is engaged in a notch or longitudinal slot 15 in the rear edge of a plate 16 secured to the rear edge of foot plate 6 to form a catch device to hold the rear end of the foot plate swingably immovable.

An attaching plate 17 is also secured to the underside of the heel 18 of the boot by means of screws or the like 19, the plate projecting rearwardly from the heel and is formed in its rear edge with a notch or longitudinally extending slot 20 receiving a bolt or the like 21 rising from the rear end of foot plate 6. A coiled spring 22 is positioned between the head of the bolt and the plate 17 to yieldably hold the heel of the boot downwardly on the foot plate 6 and to permit limited raising and lowering movement of the heel of the boot.

A coiled spring 23 is positioned at each side of the ski 5 with its front end suitably attached to the front end of foot plate 6 and its rear end suitably attached to the ski 5 at a point adjacent the rear end of the foot plate.

The fastener 10 for the lower plate 8 of the hinge 7 permits a limited longitudinal sliding movement of the foot plate 6 on the ski as well as a lateral swinging movement of the foot plate as shown by the dotted lines in Figure 3 of the drawings.

In the operation of the device, the boot 13 is secured to foot plate 6 and the ski binding foot plate 6 is mounted on the ski 5 in the position as shown in Figure 2 of the drawings during normal movement of the skier. The springs 23 normally hold the ski binding foot plate in that position.

Should the tip of the ski strike an obstruction, the sudden arresting of the forward movement of the ski will cause the binding foot plate 6 to slide forwardly on front fastener 10 to release slot 15 of rear plate 16 from rear fastener 14 and permit free upward swinging movement of the rear end of foot plate 6 into the dotted line

position shown in Figure 1 and enable the skier to fall forwardly without danger of injury to his legs.

The releasing of plate 16 also permits lateral swinging movement of the foot plate on front fastener 10.

The spring 22 yieldably holds the heel of the boot 13 downwardly on the foot plate 6 and permits limited raising movement of the heel to enable more comfortable walking on the skis.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A ski binding comprising a rigid binding member, means connecting the front end of the member to a ski for vertical swinging movement as well as for forward sliding movement on the ski, catch means at the rear end of the binding member holding the latter swingably immovable, and spring means connecting the binding member to the ski and normally holding the binding member in its rearward position with the catch engaged.

2. A ski binding comprising a rigid binding member, means connecting the front end of the member to a ski for vertical swinging movement as well as for forward sliding movement on the ski, fastening means holding the binding member swingably immovable on the ski, and spring means holding the binding member in a rearward position with the fastening means engaged, said fastening means being released upon a forward sliding movement of the binding member against the tension of the spring means to free the binding member for swinging movement.

3. A ski binding comprising a rigid binding member, a hinge structure at the front end of the binding member, means slidably connecting the hinge structure to a ski, a catch releasably holding the rear end of the binding member in a swingably immovable position when in its rearward position, and spring means normally holding the binding member in a rearward position and with the catch engaged, said catch being released to free the rear end of the binding member upon a forward sliding movement thereof.

4. The combination of claim 3 wherein said catch comprises a notch at the rear end of the binding member and a headed member rising from the ski and engaged in said notch.

5. A ski binding comprising a rigid binding member, a hinge structure at the front end of the binding member and including a lower hinge plate having a slot therein, a fastening device carried by a ski engaged in said slot, said binding member being swingable vertically on the hinge and said hinge being swingable laterally and slidable longitudinally on said fastening device, a catch releasably holding the rear end of the binding member fixed to the ski, and spring means normally holding the binding member engaged with the catch, said catch being released to free the binding member for lateral as well as vertical swinging movement upon a forward sliding movement thereof.

6. A ski binding comprising a rigid binding member, a hinge structure at the front end of the binding member and including a lower hinge plate having a slot therein, a fastening device carried by a ski engaged in said slot, said binding member being swingable vertically on the hinge and said hinge being swingable laterally and slidable longitudinally on said fastening device, a catch releasably holding the rear end of the binding member fixed to the ski, spring means normally holding the binding member engaged with the catch, said catch being released to free the binding member for lateral as well as vertical swinging movement upon a forward sliding movement thereof, means at the front end of the binding member for attaching the toe of a boot thereto, and means at the rear end of the binding member attaching the heel of the boot thereto for limited vertical swinging movement of the heel.

7. A ski binding comprising a rigid member to which a ski boot is attached, means pivotally and slidably connecting the front end of the member to a ski for vertical and lateral swinging movement of its rear end as well as longitudinal sliding movement of the member on the ski, releasable means holding the rear end of the member stationary on the ski, said last named means being released upon a forward sliding movement of the member, and spring means holding the member in its rearward position.

GLENN L. FRENCH.

REFERENCES CITED

The following references are of record in the file of this patent:

FOREIGN PATENTS

Number	Country	Date
841,238	France	Feb. 1, 1939