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Allsop

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[45] **Oct. 16, 1973**

[54] **SAFETY HARNESS OR STRAP FOR SKI BOOTS**

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[52] **U.S. Cl.**..... **280/11.35 N,** 24/206 A, 24/208 A
[51] **Int. Cl.**..... **A63c 9/00**
[58] **Field of Search**..... 280/11.35 N, 11.36, 280/11.35 P, 11.35 Q; 24/17 A, 17 AP, 206 A, 208 A

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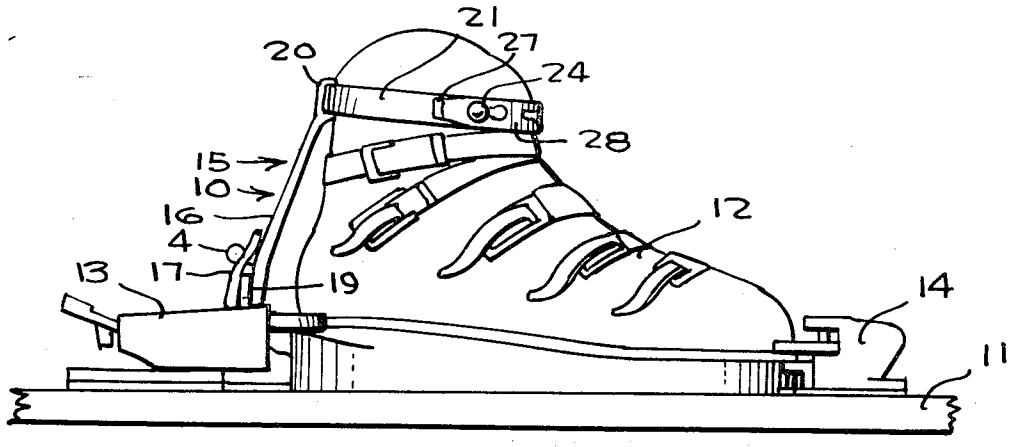
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Primary Examiner—Benjamin Hersh
Assistant Examiner—Milton L. Smith
Attorney—Sherman Levy

[57] **ABSTRACT**

A strap arrangement for ski bindings that includes a vertical member or portion as well as an encircling portion that is adapted to surround a portion of the ski boot, or leg above the foot, and wherein there is provided a unique means for fastening the device to the ski binding and boot.

2 Claims, 8 Drawing Figures



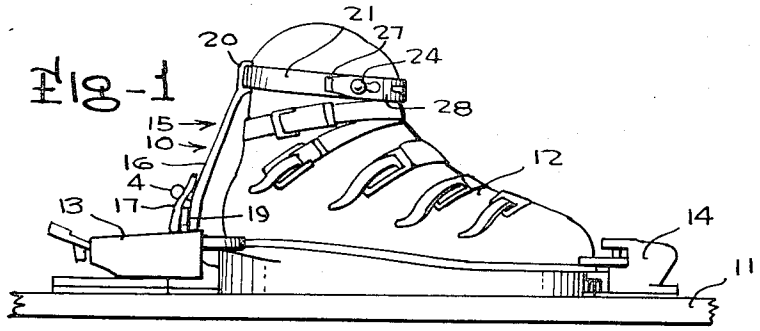


Fig-1

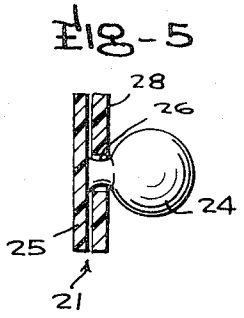


Fig-5

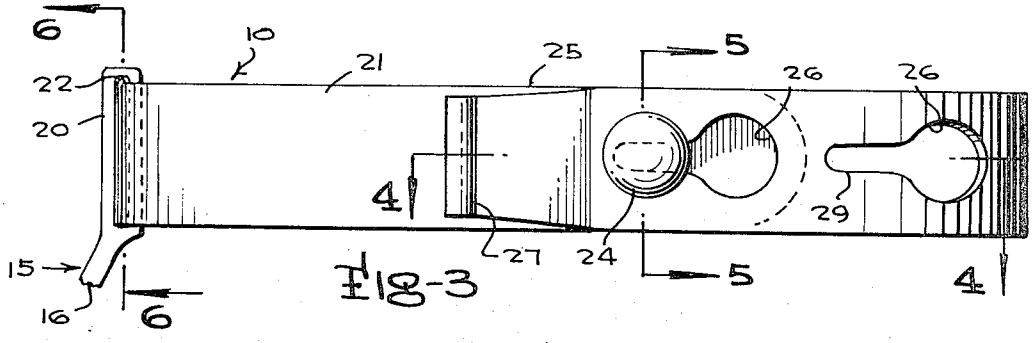


Fig-3

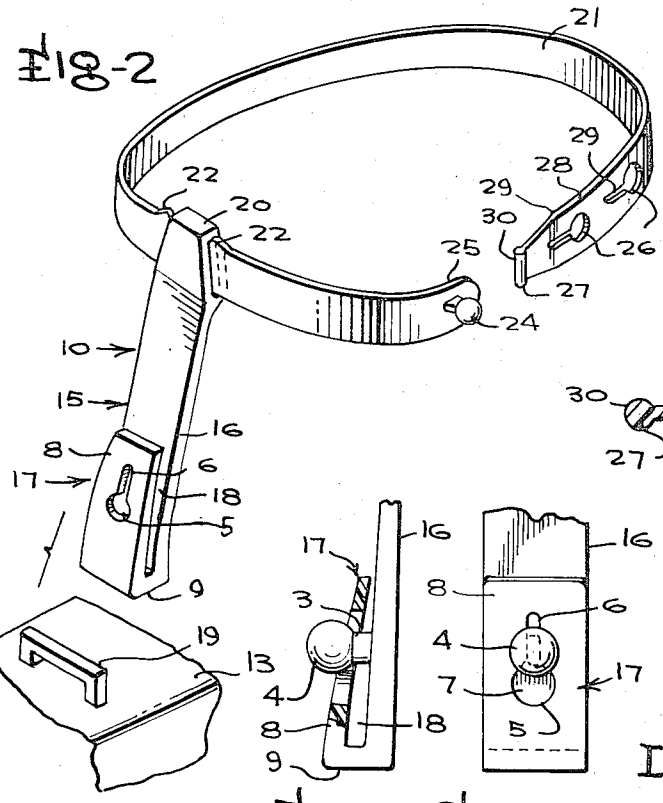


Fig-2

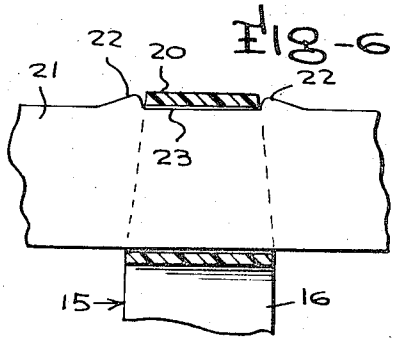


Fig-6

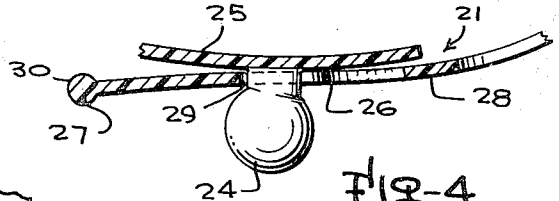


Fig-4

Fig-7 Fig-8

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SAFETY HARNESS OR STRAP FOR SKI BOOTS

This invention relates to ski equipment and more particularly to a safety harness or strap for ski bindings.

An object of the present invention is to provide an improved safety strap or harness for ski bindings in order to prevent the ski from running away in the event it goes off of the user or wearer.

Another object is to provide a safety harness that can be easily and conveniently connected in place or removed from the ski boot and binding, and wherein the present invention will greatly facilitate the putting on or removal of bindings.

Still another object is to provide a device of the character described that is economical to manufacture, efficient in operation, and which is rugged in structure and fool-proof in use.

Further objects and advantages are to provide improved elements and arrangements thereof in a device of the character described that is economical to produce, durable in form, and conducive to the most economical use of materials and uniformity of members formed therefrom.

Still further objects and adjvantages will become apparent in the subsequent description in the specification.

In the drawings:

FIG. 1 is an elevational view, illustrating the present invention on ski bindings and a boot.

FIG. 2 is a perspective view of the present invention with the parts separated away from the attaching means on the ski binding.

FIG. 3 is a side elevational view of the strap showing the ball snap.

FIG. 4 is a sectional view, taken on the line 4—4 of FIG. 3.

FIG. 5 is a sectional view, taken on the line 5—5 of FIG. 3.

FIG. 6 is a sectional view, taken on the line 6—6 of FIG. 3.

FIG. 7 is a fragmentary side elevational view showing a portion of the connecting means for the strap and heel clamp.

FIG. 8 is a fragmentary front view of the construction of FIG. 7.

Referring in detail to the drawings, the numeral **10** indicates the safety harness or safety strap of the present invention, FIG. **1**, while the numeral **11** indicates a portion of a conventional ski and the numeral **12** indicates a ski boot that is adapted to be held in place by heel and toe clamps **13** and **14.**

As shown in FIG. **2,** the harness or attachment **10** includes a generally vertical strap portion **15** that embodies an upstanding section or portion **16** that has retainer **17** on the lower end thereof and the retainer **17** is provided with a grooved portion **18** for engaging or receiving a bracket or yoke **19** that is suitably affixed to the heel clamp **14.** The retainer **17** includes a horizontally disposed section **9** and an upstanding portion **8.** The portion **8** has a key slot **7** therein, and the key slot **7** includes a narrow portion **6** as well as a circular portion **5.** The numeral **4** indicates a ball that is mounted on a shank portion **3,** and the shank portion **3** is formed integral with or secured to the portion **16,** and the ball **4** is adapted to selectively engage the slot **7.**

Arranged on the upper end of the strap portion **16** is a sleeve portion or collar portion **20** to receive therein

a portion of a generally horizontally disposed strap element **21.** Shoulders **22** on the strap element **21** define therebetween a recessed portion **23** for snugly receiving therein the collar **20** on the upper end of the strap **16,** FIG. **6.**

There is provided a ball member **24** on one end portion **25** of the strap **21,** and the ball member **24** is adapted to selectively engage key slots **26** in the portion **28** of the strap **21.** The numeral **27** indicates an outwardly flaring portion on the end of the strap **21** for a purpose to be later described.

From the foregoing, it will be seen that there has been provided a safety harness for ski bindings and in use, with the parts arranged as shown in the drawings, the ski boot, such as the boot **12,** is adapted to be positioned on a ski, such as the ski **11,** so that the toe and heel portions of the boot **12** are engaged by clamps such as the clamps **14** and **13.** The safety harness **10** is arranged so that its vertical strap portion **15** has its lower grooved section **18** arranged in engagement with the retainer **19** on the clamp **13.** The upper portion **15** is shaped to device a loop **20,** and the loop **20** snugly receives therein the recessed portion **23** of the horizontal strap **21.** Shoulders or enlargements **22** help maintain the parts **20** and **21** in their proper assembled position.

The strap **21** includes the portion **25** that has the ball **24** thereon, and the strap **21** further includes the portion **28** that has a plurality of key slots **26** therein for selectively receiving or engaging the ball **24,** as shown in FIG. **1.** In addition, the strap **21** includes the outwardly flaring portion **27** which permits the user to readily use his fingers for gripping or fastening or unfastening the strap.

It is to be understood that the parts can be made of any suitable material and in different shapes or sides, as desired or required.

It will, therefore, be seen that there has been provided a safety strap arrangement for ski bindings. It is generally required that there be provided some type of safety strap or attachment from the binding to the user or person in order to keep the skis from running away in case the ski comes off. At the present time, these are generally made of straps or buckles of various types, and all are quite difficult to fasten when a person is bottled up in heavy ski clothing in the cold, and the like. Generally, such devices tangle around the bindings and are quite often interlaced under the skis, and are quite difficult to untangle and get properly wrapped around the ankle so they can be buckled. Furthermore, the buckles are very difficult and usually require the user to take off his or her mittens in order to operate the same.

In accordance with the present invention, there is provided a strap **10** that is attached to the binding on the ski and the strap is made of a suitable material so that it will carry its own weight and stand erect. The strap around the ankle will also stand erect or semi-erect in the position as shown, so that when a person puts his or her foot into the ski binding, the strap is normally within easy reach.

Also, there is provided an improved fastening for the strap which consists of a ball member **24** that is fastened to one end **25** of the strap **21,** and there is provided key shaped openings **26** on the other end of the strap so that it is only necessary to press the strap over the ball in order to fasten the same. The device does

not have to be tightened up or cinched up because when the ski comes off, the pull on the strap will then make the ball slide down the socket, down the key way to a position where it cannot come off. This can be very easily accomplished even when the user has heavy mittens on his hands.

Furthermore, in order to remove the strap, it is only necessary to pull the tab end **27,** which has an enlarged portion to facilitate the holding on thereof when pulling the same, and then the ball **24** slides to the enlarged end and will easily come off. Furthermore, this arrangement provides additional slak in the strap and makes it safer, because the strap cannot be tightened tightly around the foot or ankle. If the strap could be tightened tightly around the ankle and the strap in back were too tight, it would interfere with the release action of the safety binding.

The device can be made of any suitable material such as a rubber like Polyurethane, of a suitable size or durability, so that the strap will latch onto the ball with the proper amount of tension to assure that it locks and does not accidently come off during normal skiing.

With further reference to the retainer **17** illustrated in FIGS. **7** and **8,** it will be noted that the retainer **17** is adapted to selectively engage the member **19** on the heel clamp **13** and thus, a unique, efficient clamping or connecting means is provided between the strap **15** and the heel clamp **13.** The ball **4** and shank **13** cooperate with the key slot **7** so that when desired, the portion **8** can be separated from the ball **4** in order to free or remove the entire strap from the member **19** on the heel clamp **13.** Similarly, when the parts are in their assembled operative position, the configuration of the ball **4** and associated parts is such that the parts will not accidently separate so that the strap will remain properly connected in place.

It is to be understood, however, that the present invention is not limited to any particular material.

The present invention will improve acceptability to skiing because it will make bindings easier to put on and off, and this is important to many people, especially older people who have a difficult time in the cold and wet or when conditions are slippery, due to the untangling and wrapping of their safety straps.

Although the invention has been herein shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus.

I claim:

1. In a safety harness for ski equipment, including a ski boot, and heel and toe clamp, said safety harness comprising a bracket on the heel clamp, a vertical strap including a retainer on its lower end having a groove for engaging said bracket, said retainer comprising a horizontally disposed portion and an upstanding portion, said upstanding portion having a key slot therein, a ball on a shank connected to the vertical strap, and said ball adapted to selectively engage the key slot, said key slot including a narrow portion and a generally circular portion, a loop on the upper end of the vertical strap, a horizontal strap element having a portion extending through the loop, shoulders on the horizontal strap adjacent the loop, said shoulders defining therebetween a recessed portion, said horizontal strap including an end portion having a ball member thereon, the opposite end portion of the horizontal strap having a plurality of key slots therein, the portion of the horizontal strap with the key slots having an outwardly flaring end portion provided with an enlargement thereon.

2. The structure as defined in claim **1,** wherein the harness has a construction so that the vertical strap member has a tendency to remain upright.

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