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2,933,324

SKI LEASH

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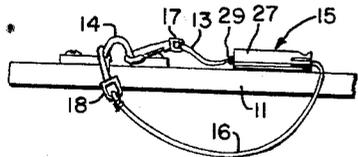


FIG. 4.

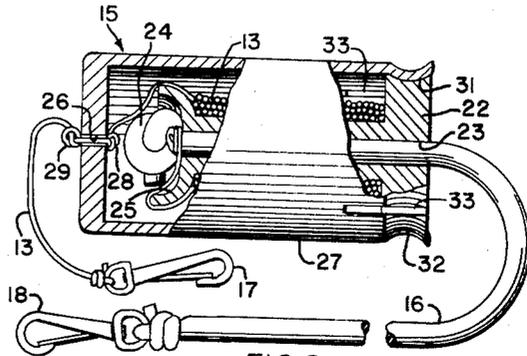


FIG. 2.

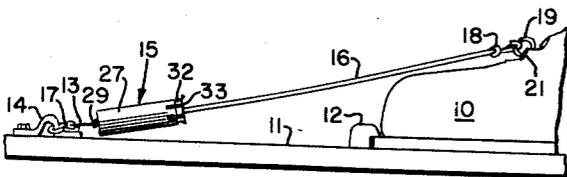


FIG. 1.

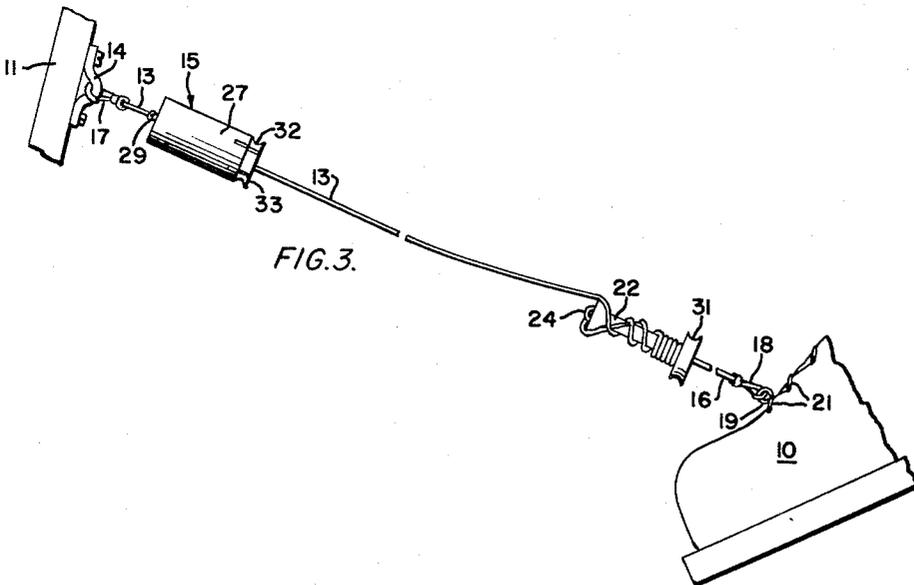


FIG. 3.

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SKI LEASH

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6 Claims. (Cl. 280—11.35)

This invention relates to a mechanism for linking a ski to a skier by a leash whereby the ski is prevented from sliding down the slope away from the skier should it become disengaged from the boot as, for example, with the use of safety release binders, and moreover to provide this link between ski boot and ski in a manner which minimizes the danger of a released ski striking the skier during a high speed fall.

Heretofore the linking of a ski boot to a ski has been accomplished by a connecting strap attached at its ends to appropriate portions on the ski and boot respectively, and of sufficiently short length to prevent snagging, tangling or fouling while the skier is skiing.

There are several disadvantages to the old devices, one of which is the danger to a falling skier of being struck by his own ski which is released during a fall and is pulled closely behind him by the short connecting strap. Another disadvantage is that the short connecting strap often breaks under the stress to which it is subjected during a high speed fall causing the skier to lose his ski which, acted upon by the force of gravity, will then normally accelerate downhill, thereby creating an inconvenience to the skier, with the possibility of damage to the ski by collision, and a serious hazard to other skiers. These disadvantages are mutually complementary in the old devices in that interconnecting the boot and ski by means of a high tensile strength strap which is capable of withstanding the forces associated with high speed falls increases the danger to the falling skier of being struck by his released ski, and interconnecting the boot and ski by means of a low tensile strength strap designed to break during a high speed fall, in order to minimize this danger, results in a lost ski and its associated hazard and inconvenience to the skier.

The invention described and claimed herein possesses all of the advantages and none of the foregoing disadvantages of the prior art devices.

In accordance with the present invention this is achieved by providing a leash linking the ski boot to the ski and conveniently carrying a long line stowed by a storage member in such a manner that the line is immediately released and pays out when a predetermined force is applied to it, such, for example, as would be applied when the ski boot and ski become separated during a fall of the skier, thereby permitting the ski to move sufficiently distant from the skier to minimize the danger of his being struck by his dislodged ski and providing a means whereby the skier may easily recover his ski, and restore the leash to its initial condition by rewinding the line on the storage member. A small portion of the leash is made of elastic material to absorb the shock which would ordinarily be experienced by the leash when its full length has been paid out, thereby preventing the escape of the ski by leash breakage. The operation of this device will become more clearly apparent from the following description.

One of the objects of this invention is to provide a new and improved ski leash having means for maintaining a flexible connection between a ski and the boot associated therewith when the ski has become disengaged from the boot during a skiing operation.

Another object is to provide a flexible connection between a ski and boot which is effective when the ski is

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moved a predetermined distance from the boot during a skiing operation.

A further object is to provide a flexible connection between a ski and ski boot in which a length of line comprising the connection is withdrawn from an initial stowed condition to an extended condition when the ski is dislodged and moves away from the boot during a skiing operation, and which permits the movement of the ski from the ski boot to a limited predetermined distance sufficient to prevent the skier being struck by a dislodged ski as the line becomes taut.

A still further object of this invention is to provide a leash connection between a ski and boot which includes elastic means for reducing the shock to which the leash is subjected when it reaches the fully extended position which otherwise would cause breakage of the leash.

Another object is to provide a ski leash which may be detachably secured to a ski and ski boot in an initial stowed condition and which includes a flexible connection between the ski and the boot when the ski has become dislodged from the boot, whereby the dislodged ski may easily be retrieved by the skier to resume the skiing operation.

Still another object is to provide a new and improved ski leash, having the foregoing advantages, which is inexpensive to manufacture, simple and compact in construction, reliable in use and which may be easily and quickly attached and detached at will to a ski boot and ski.

Still other objects, advantages and improvements will become apparent upon consideration of the following description taken in conjunction with the accompanying drawing of which:

Fig. 1 is an elevational view of a portion of a ski boot and ski connected by the device of the present invention according to a preferred embodiment thereof;

Fig. 2 is an enlarged elevational sectional view, partially broken away, of the device of the present invention;

Fig. 3 is a view, partially broken away, on which is shown the ski leash of Fig. 1 in the process of paying out when the boot and ski have become separated and are moving away from each other; and

Fig. 4 is a view showing the leash in its storage position on the ski when not in use.

Referring now to the drawing for a more complete understanding of the invention, and more particularly to Fig. 1 thereof, there is shown thereon the toe portion of a ski boot **10** detachably secured to a ski **11** by means of a toe binder **12** with the device of the present invention, the flexible ski leash **15**, connecting the boot and ski in the normal skiing condition. One end of the line **13** is attached to the ski at a suitable portion thereof such, for example, as the looped portion of the bracket **14** by means of connector **17**, and one end of the elastic shock absorber **16**, made of any material suitable for the purpose such, for example, as rubber or any of the synthetic varieties thereof, is connected to the boot in any suitable manner as by connector **18** at connecting ring **19** secured to the boot lace **21**.

Fig. 2 is an enlarged elevational view showing a line stowage or dispensing spool or bobbin **22** through which a hole **23** preferably extends axially for the full length of the spool. One end of the elastic shock absorber **16** passes through the hole **23** and is prevented from slipping out by a knot **24** which is tied in the end portion of the elastic shock absorber, and which abuts against the recessed portion **25** of the spool. The other end of the elastic shock absorber is secured to the connector **18** for detachably connecting the leash to the boot. One end of the line **13** is secured to the knotted end of the elastic shock absorber and is shown wound on the spool in the

initial stowed condition with the other end of the line secured to the connector 17 after passing through the hole 26 in the cover 27. An intermediate portion of the line protruding through the hole 26 in the cover is knotted on both sides of the hole at 28 and 29 respectively. The knot 28 inside the cover prevents the line from paying out until the cover and spool become separated. The knot 29 prevents that portion of the line which protrudes through the hole in the cover from being pulled into the cover when winding the line on the spool and, co-acting with the knot 28, maintains a constant length of line protruding through the hole and extending outwardly from the cover. The cover and spool are detachably fixed to one another in the initial stowed condition of the line, as shown in Fig. 2, by the gripping action of the plurality of curved spring fingers 32 formed by the plurality of slots 33 in the open end portion of the cover which is so shaped as to co-act with a concave groove 31 in the end of the spool thereby forming a friction grip or releasable latch arrangement which holds the cover and spool in the position shown until a predetermined force is applied to the cover and spool, through the line and shock absorber, of sufficient strength to cause separation thereof.

Fig. 3 is a view in which is shown the ski dislodged from the boot 10. The sudden increase in tension in the line 13 caused by this dislodgement is transmitted to the cover at the knot 28, Fig. 2.

Fig. 4 is a view in which is shown a convenient storage position of the leash 15 on the ski 11 when not in use. The connector 18 is shown connected to the ski at the bracket 14.

In a skiing operation utilizing the device of the present invention, the ski leash would normally be used to form a flexible connection between each ski and its associated boot. The skis are first attached to the boots in the normal manner by means of the ski bindings 12 shown in Figs. 1 and 5. Assuming that each leash was initially in the stored position shown in Fig. 4, the connector 18 must be disconnected from the bracket 14 and attached to the ring 19 in order to effect the skiing position shown in Fig. 1. In the event of the dislodgement of a ski during a skiing operation in which the ski and boot move apart with sufficient force to separate the cover 27 from the bobbin 22 as shown in Fig. 3, the line 13 will pay out permitting the ski and boot to continue to separate until the full length of line has payed off the bobbin. The shock to which the line would normally be subjected when its full length has been payed off the bobbin is greatly reduced by the elastic shock absorber 16 which thereby minimizes leash breakage. Thus a positive connection between ski and ski-boot is maintained and the ski is permitted to move a safe distance away from the skier. The ski may then be retrieved by means of the leash and may again be attached to the boot by rewinding the line on the bobbin and pressing the bobbin into the cover so that the spring fingers engage the groove in the bobbin and the skier may then continue his skiing operation.

Whereas the invention has been described with reference to a particular example which gives satisfactory results, it is not so limited as various changes and modifications may be made by one skilled in the art to which this invention pertains, after understanding the invention, without departing from the spirit and scope of the invention, and it is my intention therefore, in the appended claims, to cover all such changes and modifications.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. A ski retrieving leash comprising an elongated elastic coupling member, a line dispensing device comprising a bobbin, a line initially wrapped about said bobbin and having one end thereof in connection with an end portion of said coupling member, means on said dispensing device and secured to said line for releasably retaining a length of said line in a wrapped condition about the bobbin until a force sufficient to release the line is applied to the other

end of the line, said line retaining means comprising a cylindrical casing to which an intermediate portion of the line is secured and including means on said casing for establishing a releasable connection between the casing and the bobbin, and means for connecting the other end portion of said coupling member and the other end of said line to a ski boot and ski clamped thereto respectively in such manner that the dispensing device is supported by the coupling member in an initial position adjacent the boot and above the upper surface of the ski.

2. A skiing apparatus comprising a boot, a ski detachably secured to said boot, a longitudinally extensible line secured at an end thereof to said boot, a second line fixedly connected at one end thereof to said longitudinally extensible line and at the other end to the ski, stowage means connected to said longitudinally extensible line and including a cylindrical casing fixedly secured to said second line, and releasable latch means on said casing and stowage means respectively for initially maintaining a predetermined fractional portion of the length of said second line in a stowed condition within said casing.

3. A skiing apparatus according to claim 2 in which said stowage means includes a non-rotatable bobbin disposed within said casing and about which said fractional portion of the length of said second line is wrapped.

4. A skiing apparatus according to claim 3 in which said latch means includes means on said bobbin coacting with means on said casing.

5. A device for retrieving a ski which has become dislodged from a skier's boot comprising a line, a non-rotatable spool for stowing a predetermined length of said line wrapped thereabout and having a hole disposed longitudinally therein, a cover enclosing the spool and length of line wrapped thereabout and fixedly secured to an intermediate portion of said line, releasable latch means for releasably locking the cover on the spool in such manner that the cover is unlocked therefrom in response to a pull of predetermined force suddenly applied thereto, a second line composed of resilient longitudinally extensible material having an end portion thereof disposed within said hole and secured to said spool and to one end of said named line, and means for connecting the other ends of said first named line and the second line to the ski and to the boot.

6. A device for retrieving a ski which has become dislodged from a skier's boot comprising a line, non-rotatable means for stowing a predetermined length of said line wrapped thereabout, a cover enclosing said non-rotatable means and length of line wrapped thereabout and fixedly secured to an intermediate portion of said line, means for releasably locking the cover to said non-rotatable means in such manner that the cover is unlocked and detached from the non-rotatable means in response to a pull of predetermined force suddenly applied thereto, and a second line composed of resilient longitudinally extensible material characterized by a reduction in the cross-sectional area thereof in proportion to the force applied thereto, one end of said second line being connected to said stowing means and the other end of each of said lines being connected to said ski and the boot.

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