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Stettner et al.

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[54] SKI EQUIPMENT LOCK ASSEMBLY

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[52] **U.S. Cl.**.....**70/58,** 211/60 SK, 280/11.37 A

[51] **Int. Cl.**.....**E05b 23/00,** A47f 7/00, A63c 11/02

[58] **Field of Search**.....70/58, 14, 30, 49; 211/60 SK; 24/DIG. 1; 280/11.37 K, 11.37 A, 11.37 E

[56] **References Cited**

FOREIGN PATENTS OR APPLICATIONS

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[57] **ABSTRACT**

A ski equipment lock assembly affixed to a ski, includes a spring wound cable adapted to be threaded through and wrapped about associated ski equipment and available rail or pole, and its free end then locked and restrained against unauthorized removal. The lock preferably includes a combination mechanism, whereby only those having the combination, may unlock the free end of the cable.

4 Claims, 5 Drawing Figures

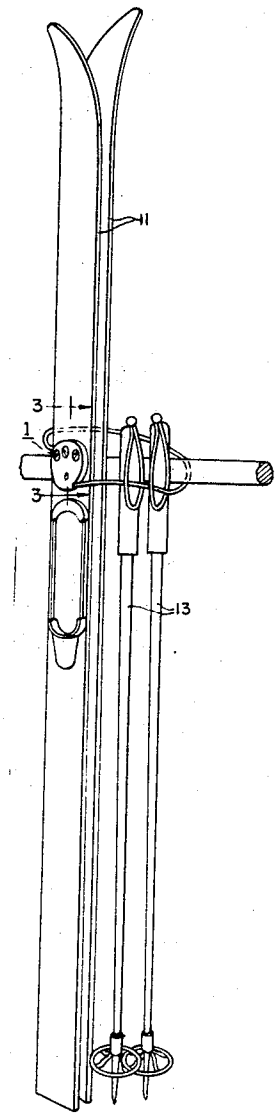

FIG. 1

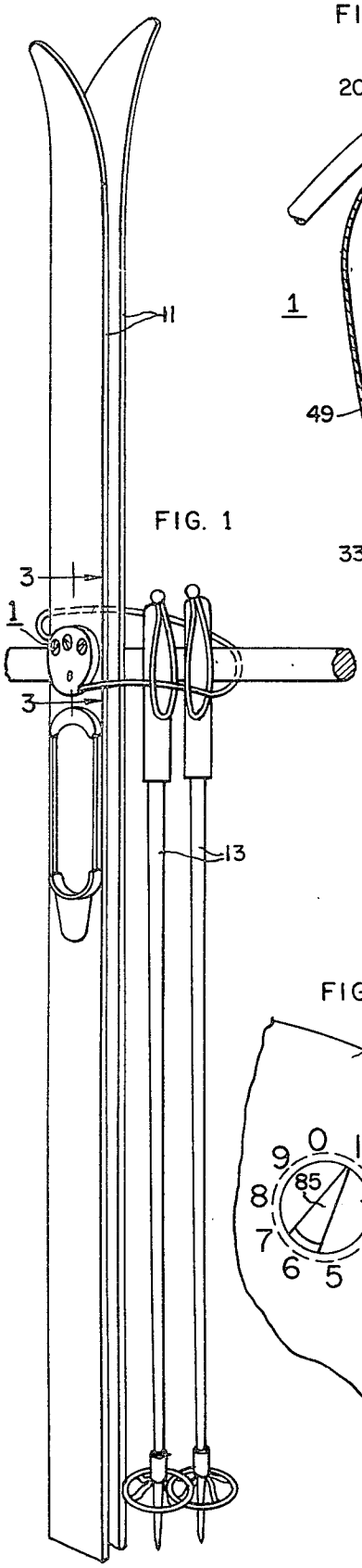

FIG. 2

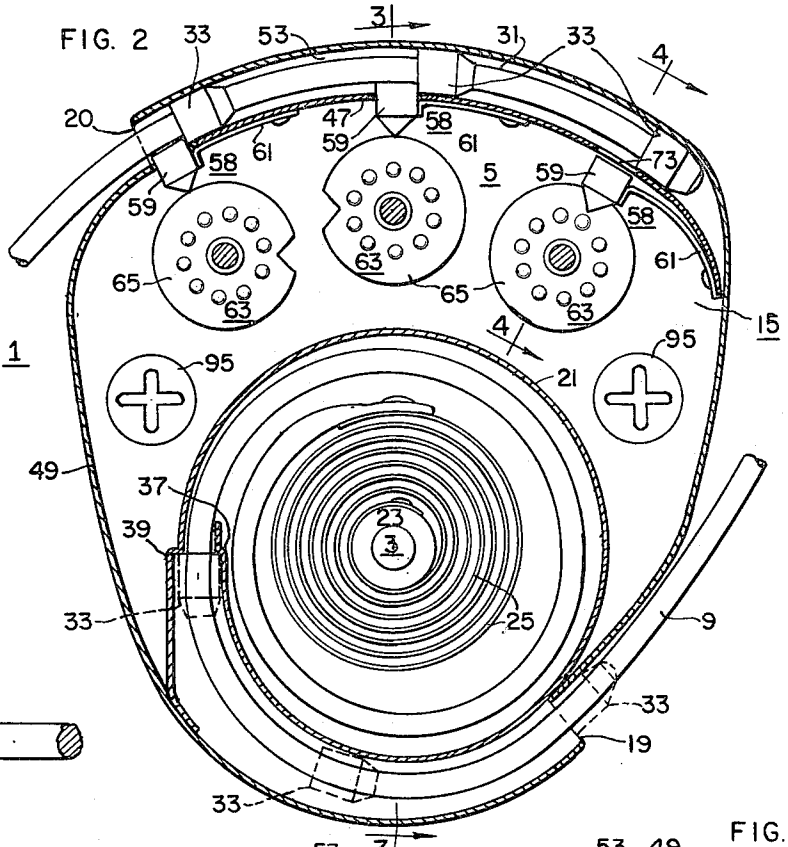

FIG. 3

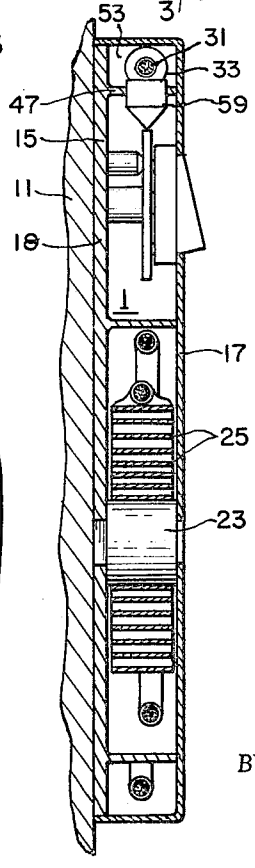

FIG. 4

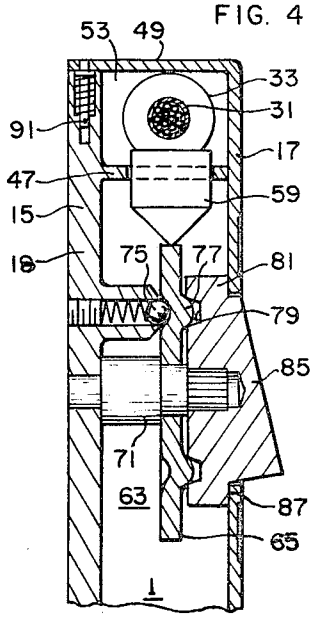

FIG. 5

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SKI EQUIPMENT LOCK ASSEMBLY

Our invention relates to ski equipment, and more particularly to a lock assembly for protecting such equipment against loss or theft when parked.

Ski equipment such as skis and ski poles being portable, readily lend themselves to being stolen if not suitably protected against theft. Ski lodges as a rule, provide facilities for locking up such equipment when parked, but such facilities normally require the payment of a rental fee. Individuals have occasionaly provided themselves with a suitable lock and cable whereby to lock such equipment to any available fixed rail or pole or even a tree, but should such individuals inadvertently leave the lock and cable behind, then of course it can't serve its intended purpose.

Among the objects of my invention are:

1. To provide a novel and improved ski equipment lock assembly which becomes part of the ski equipment and therefore will always be on hand and available when needed for parking such equipment;

2. To provide a novel and improved ski equipment lock assembly which may incorporate a combination lock mechanism to avoid the necessity of carrying keys;

3. To provide a novel and improved ski equipment lock assembly as part of the ski equipment and having a combination lock mechanism in which the combination may be changed;

4. To provide a novel and improved ski equipment lock assembly which enables locking the equipment to any available rail, post, tree . . . etc.

Additional objects of our invention will be brought out in the following description of a preferred embodiment of the same, taken in conjunction with the accompanying drawings wherein

FIG. 1, is a general view of our ski equipment lock assembly and depicting its manner of use in locking ski equipment to an available rail;

FIG. 2, is a plan view in section, of our ski equipment lock assembly;

FIG. 3, is a view in section, taken in the planes 3—3 of FIG. 2;

FIG. 4, is a fragmentary view in section taken in the planes 4—4 of FIG. 2 and

FIG. 5, is a fragmentary plan view of the ski equipment lock assembly of FIG. 2 with cover intact.

The present invention relates, in its broadest sense, to the provision of a ski equipment lock assembly adapted to be permanently affixed to a component of the ski equipment with which it is to be used in locking up such equipment when parked. It is adapted preferably for attachment to one of the skis whereby the same will always be available for use when required.

For details of our invention in its preferred form, reference will be had to the accompanying drawings wherein the lock assembly includes a housing 1 adapted to enclose a cable storage facility 3 and means 5 for locking the free end of a cable when put to use in locking up equipment such as skis 11 and ski poles 13.

The housing comprises a base component 15 to which may be applied a cover 17 with suitable space between the two to provide the necessary room for the components.

The base portion of the housing, preferably in the form of a casting, involves a base plate 18 of substantial thickness with two opposing ends arcuate and terminating, at oppositely located offsets 19 and 20. An integral spiral wall 21 of a single turn is spaced from one arcuate end of the base plate and with a center post 23 to which may be anchored one end of a spiral spring 25, the other end of which may be connected to an end of a plastic coated steel cable 29, the spring being so biased as to draw the cable into the area bounded by the spiral wall 21.

The free end 31 of the cable, for the purposes of the present invention in its preferred form, has three stop collars 33 affixed thereto, with the first one at the tip of the cable and the other two at spaced distances therefrom.

By offsetting the inner end 37 of the spiral wall outwardly and by similarly offsetting the outer end 39 of the spiral wall outwardly and continuing it in its original direction to the edge of the base plate, a pocket is formed to receive the innermost of the collars and terminate the reeling in of the cable. The spacing of the stop collars is such that the tip of the cable finds itself exposed just beyond the offset 19 of the base plate, in position to be grasped for unreeling of the cable.

Spaced from the opposite arcuate edge of the base plate is a wall 47 formed integrally with the base plate and equi-distant at all points from the proximate edge of the base plate.

The cover 17 spans the entire area of the base plate and is adapted to snugly fit the contour thereof. A portion of the wall 49 of the cover at the offset 19 of the base plate, is open to expose the tip of the cable and permit of withdrawal of the cable.

Likewise, an opening in the side wall of the cover, at the location of the other offset 20, provides an entrance to a passageway 53 formed by the cover and base plate wall 47.

Such passageway is adapted to comfortably receive the free end of the cable with its stop collars, and with the free end of the cable thus threaded into the passageway until it abuts the cover wall at the extreme end of the passageway, the locking means 5 can be adjusted to restrain withdrawal of the cable until the locking means is unlocked.

The locking means in its preferred form, comprises in combination with the stop collars 33, of a combination lock mechanism involving a number of latch assemblies 58 corresponding to the number of stop collars on the end of the cable, and associated dial assemblies 63.

Each latch assembly includes a latch 59 mounted on an end of a leaf spring 61 which, at its other end, is affixed to the wall 47, the spring being biased inwardly, tending to urge the latch away from the wall.

Associated with each latch is one of the dial assemblies 63, including a dial disc 65 in the median plane of the latch and rotatably supported on a shouldered shaft 71 extending up from the base plate, the disc being provided with a single "V" edge notch adapted to receive a tapered end of the latch, when the disc is rotated to bring the notch into alignment with the latch. An opening 73 in the wall behind each latch, enables the latch to be forced through the wall, upon rotation of the disc, thus precluding withdrawal of the cable, and with the three latches so positioned, and each blocking withdrawal of the cable, all three latches must be withdrawn to permit release of the cable.

A spring biased ball detent 75 supported from the base plate beneath each disc is adapted to engage the bottom of its associated disc, and by providing a series of say ten recesses in the bottom of each disc into which the ball detent may drop during rotation of the disc, a series of stops are thus provided, one of which determines alignment of the notch with its associated latch.

A corresponding number of protuberences 77 provided on the upper surface of each disc, are adapted to mesh with similarly located recesses 79 on the under side of a knob 81, which is removably secured to the upper end of the shaft 71 on which the disc 65 is rotatably mounted. With the protuberances 77 and recesses 79 meshing, the disc will rotate with the knob, such knob carrying on its outer surface, a triangular ridge 85 diametrically disposed across the knob and serving as a means for grasping and rotating the knob and the associated disc, while the pointed end of the triangular ridge functions as a pointer with respect to digits, corresponding to the number of recesses and applied to the cover about the circumference of the knob.

The triangular ridge preferably terminates at each end short of the rim of the knob, leaving a rim 87, with the cover provided with openings centered at the axes of the shafts 71 and of a diameter such as to comfortably receive the ridges 85. The cover when applied and secured, will preclude withdrawal of the knobs, while permitting rotatable adjustment thereof.

The cover may be secured in any appropriate manner which will render on the spot removal, inconvenient and difficult. One manner of accomplishing this has been illustrated in the form of a spring biased pin 91 installed at two or more loca-

tions in the edge of the base plate, each pin being adapted to enter an aligned opening in the wall of the cover as the cover is applied, it being noted that as the cover approaches each pin, the pin is manually depressed to allow for continued application of the cover until the pin openings each arrives in alignment with its proximate pin. A reverse order of sequence will permit of removal of the cover.

The ski equipment lock assembly as thus described, is for permanent attachment to a ski, and for the purpose of such attachment, a pair of screw holes are provided in the base plate whereby the base plate may be securely screwed by means of suitable screws **95** to the ski, before application of the cover thereto. With the cover secured, nothing is accessible except the tip of the cable and the ridges on the control knobs.

In using the lock assembly to lock up ski equipment, the knobs are adjusted to the combination for which the lock mechanism is set. This places all disc notches in alignment with their respective latches, thereby withdrawing all latches which might be partially occupying the passageway **53**.

The cable is then withdrawn and wrapped about and through the ski equipment and around an anchor rail, post, tree . . . etc., following which, the end of the cable is threaded into the passageway **53** and the latches are then forced into locking position by rotating each knob to any position other than the notch position.

To release the cable, all latches must be withdrawn, by rotating each knob to its notch position in accordance with the combination known only to the owner and those in privity with him.

This combination may be changed by removing the cover to permit removal of each knob and its restoration to a different angular position and noting the digit at which the knob brings the notch of the associate disc into alignment with the proximate latch.

We claim:

1. In combination, a ski and a ski lock assembly having means totally enclosed therein and normally inaccessible from without for affixing said lock assembly to said ski, said ski lock assembly including a spring controlled cable reel with a cable on said reel, said cable having a free end to permit withdrawal of said cable for threading through and wrapping about other equipment to the protected from theft, and means for locking said free end of said cable in said lock assembly, said locking means including a passageway into which to thread the free end of said cable, and releasable means for engaging said cable through a wall of said passageway to preclude its withdrawal from said passageway.

2. A ski equipment lock assembly comprising a casing adapted for affixing same to a ski, a cable having one end anchored within said casing and capable of being threaded through and wrapped about equipment to be protected against theft, means in said casing for receiving the free end of said cable, and means for precluding withdrawal of said cable end from said cable end receiving means,said means for receiving the free end of said cable including a passageway having a wall with at least one opening therein, and said means for precluding withdrawal of said cable end from said passageway including a rotatable indicia wheel in proximity to said wall opening and having a notch in the rim thereof, a stop alongside said wall and adapted to move from a position in said notch through said wall opening and into engagement with said cable end, means normally biasing said stop toward said indicia wheel and into said notch when said notch is in alignment with said stop, and means for rotatably adjusting said indicia wheel to drive said stop out of said notch and into said passageway to preclude withdrawal of said cable end.

3. A ski equipment lock assembly in accordance with claim **2**, characterized by cable end having a collar just beyond the said wall opening.

4. A ski equipment lock assembly in accordance with claim **3** characterized by a plurality of spaced passageway wall openings, said cable end having a collar just beyond each of said spaced wall openings, a rotatable indicia wheel in proxmity to each of said wall openings and a stop associated with each, whereby the notches of all indicia wheels must be similarly located to effect withdrawal of said cable end from said passageway.

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