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[54] **SKI LOCK**

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[52] **U.S. Cl.** .....**70/58,** 280/11.37 K

[51] **Int. Cl.** **E05b 73/00**

[58] **Field of Search**.....70/14, 15, 57, 58, 49, 50; 280/11.37 R, 11.37 K, 11.3

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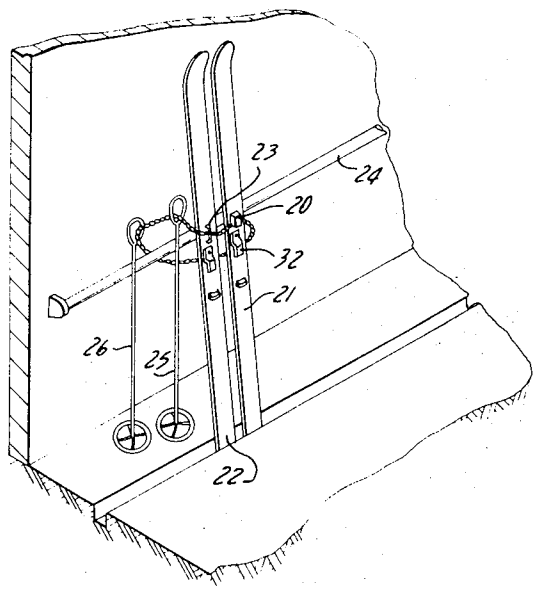
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[57] **ABSTRACT**

A ski lock adapted to be mounted on one of a pair of skis and being normally in the unlocked position and adapted to be altered to a locked condition whereby the pair of skis is affixed to a support. Retractable means are mounted in a housing and are adapted to be partially extended through an opening in the housing. A two-piece fastener is provided with one part of the fastener on the exterior of the housing and the other part of the fastener connected to the retractable means. There are means in the housing to facilitate the extension and retraction of the retractable means which is attachable to the support and the other ski with the two-part fastener in locked engagement thereby locking the skis to the support to minimize the danger of the skis being stolen until it is desirable to utilize the skis whereupon the parts of the fastener are unlocked and disengaged.

1 Claim, 3 Drawing Figures



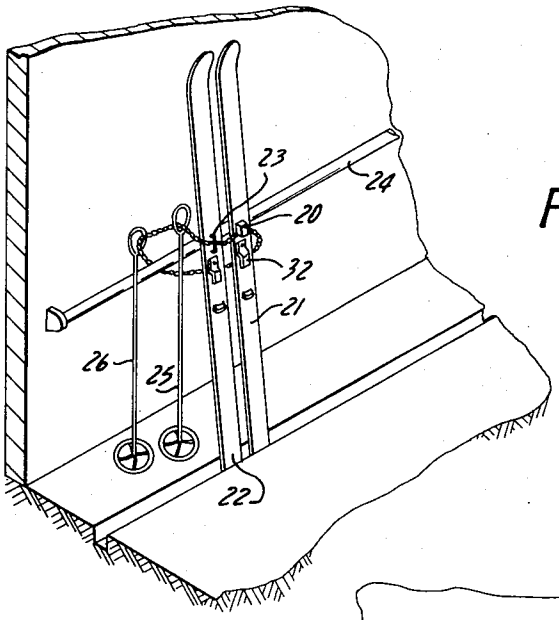


FIG. 1

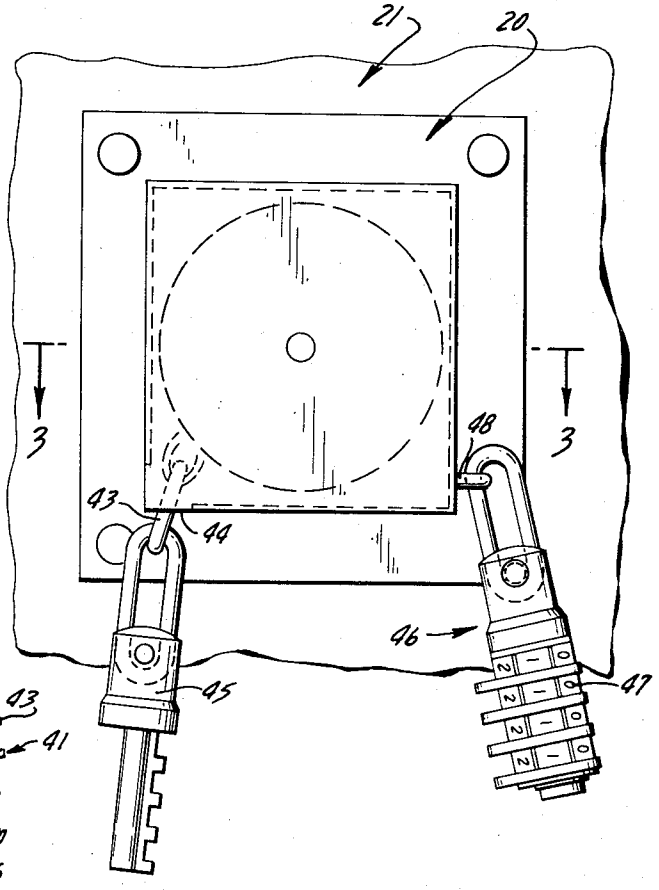
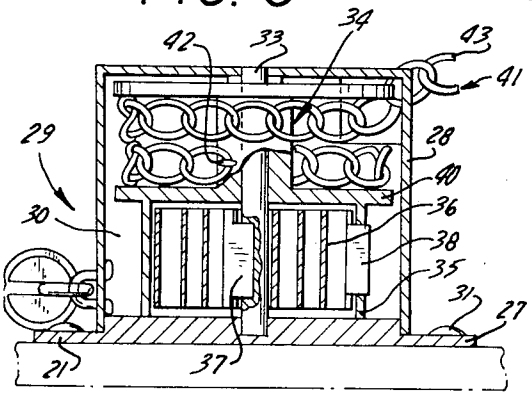


FIG. 2

FIG. 3



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SKI LOCK

BACKGROUND OF THE INVENTION

The recreational attraction of skiing at the present time is well known to those familiar with the sport. Each year an ever-increasing number of people are indulging in this sport. In recent years, particularly with the large number of people congregated about populous ski areas, a significant problem has arisen. This problem involves stolen property, particularly the loss of skis and ski poles, for the average skier.

The thievery or misappropriation of the skis and poles generally occurs when the skier takes a break during a day. Often it is to go indoors for some reason such as for food or drink. In that instance, he must leave his skis outside the building. Many skiing areas provide a bar against which the skis and poles may be rested while the skier is inside the building. Thereafter, when the skier returns to pick up his skis, more and more frequently he is finding that they have been taken from where he has left them.

This problem has given rise to many attempts to provide a satisfactory means for protecting the skier from loss of his skis and poles in this manner. For example, many skiers are carrying a chain and lock arrangement around with them in their pocket so that they can lock the bindings of the skis to the poles and the support bar when they go indoors. This solution facilitates the locking function; however, it is quite unwieldy for a skier to carry a heavy chain and lock around on his person during the day. It is quite an inconvenience.

Another solution which has been attempted is a provision of a sophisticated locking mechanism in the ski pole itself, or alternatively, an expensive and sophisticated interlocking plate arrangement on the pair of skis. These particular solutions are quite expensive and complicated to operate. Additionally, the location suggested for these types of locking mechanisms in respect to the skis and poles creates a different problem for the skier. This is in regard to distribution of weight of the skier's equipment. Any imbalance in the weight distribution with respect to the skis and poles could naturally adversely affect the skill and control of the skier during down-hill travel. For similar reasons, the skier is not pleased with the prospect of having to carry a heavy chain and lock around in his clothing which also might affect his balance during travel down the ski slope.

With the above in mind, it is readily apparent that an inexpensive lock which may be inconspicuously mounted on the skis without substantially affecting the weight distribution of the skier and which may be quickly and efficiently shifted between the locked and unlocked positions in order to easily protect the skis and associated poles from theft when not in use would be extremely advantageous to skiers.

SUMMARY OF THE INVENTION

A ski lock is provided which is adapted to be mounted on one of a pair of skis and is normally in the unlocked position. A lock is adapted to be altered to a locked condition whereby the pair of skis is affixed to a support. The lock includes a housing mounted to one of the skis with retractable means mounted in the housing which are adapted to be partially extended through an opening in the housing. A two-piece fastener is provided with one part of the fastener on the exterior of the housing and the other part of the fastener connected to the retractable means. Means are positioned in the housing to facilitate the extension and retraction of the retractable means. The retractable means are attachable to the support and to the other ski with the two-part fastener in locked engagement to thereby lock the skis to the support to minimize the danger of said skis being stolen until it is desirable to utilize the skis whereupon the parts of the fastener are unlocked and disengaged.

Among the primary objectives of the invention is to provide a low cost and efficiently operable locking mechanism which may be mounted on a ski in a position and manner where it will not interfere with normal activity of the skier. Additionally, it must be a locking mechanism which may quickly and efficiently be operated to lock the skis, and if desired, the poles to a support means such as a rest bar in a ski area and which may be also easily unlocked and quickly and efficiently stored when it is desirable once again to utilize the skis. Additionally, it should be kept in mind that the locking mechanism should be unitary in construction so that no additional parts such as loose lock members, keys or chains need be employed in either locking or unlocking the ski lock. A compact one-piece system is provided.

With these and other objects in mind, reference is had to the attached drawing embodying the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. **1** is a perspective view of the ski lock of the invention showing the lock mounted to a ski in the locked position so as to lock a pair of skis and accompanying poles to a support bar;

FIG. **2** is an enlarged fragmentary top view of the ski lock of the invention mounted on a ski in the unlocked condition; and

FIG. **3** is a sectional elevation view thereof taken along the plane of line **3—3** of FIG. **2**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIG. **1**, the ski lock **20** is adapted to be mounted in a convenient manner to one ski **21** of a pair of skis. The companion ski **22** may or may not have a receptacle **23** to receive a portion of lock **20** as will be discussed in detail below. With certain types of bindings, a receptacle **23** is not needed. In other instances, a receptacle **23** could be effectively utilized in order to lock ski **22** with ski **21** to a support bar **24** as shown in FIG. **1**. Additionally, the poles **25** and **26** which the skier would utilize with his pair of skis may also be locked to support bar **24** with skis **21** and **22** by means of ski lock **20** as shown in FIG. **1** and as will be discussed in detail below.

Ski lock **20** includes a base plate **27** and a hollow cup **28** affixed to base plate **27** which together form housing **29** containing an interior chamber **30** to house the moving components of ski lock **20**.

Base plate **27** of housing **29** is mounted to ski **21** in a convenient manner such as by screws or bolts **31**. The preferable place for mounting of lock **20** is adjacent to and in front of binding **32** of ski **21**. In this location, the lock is positioned approximately at the center of weight

of the skier during actual travel down the ski slope. Consequently, there would be little or no effect on the efficiency of the skier. In any event, the housing of lock **20** can be constructed of light-weight material such as plastic which would also greatly reduce the weight factor of the lock upon the ski. If desired, a balancing weight can be positioned on ski **22** to maintain the uniform distribution of weight upon the respective pair of skis. The weight would be positioned at approximately the same location on ski **22** as lock **20** is positioned on ski **21**. It could be made doubly functional in that it could provide the receptacle mean **23** which operates with lock **20** during the locking function. As stated above, the preferable location for the lock would be adjacent to and in front of the binding of the ski, however, it may be positioned at any other convenient location along the length of ski **21**.

Housing **20** also contains a fixed central shaft **33** and a spindle **34** mounted on fixed shaft **33** and rotatable with respect thereto.

Spindle **34** has a lower cup-shaped portion **35** which provides a chamber for a fixed coiled negater spring **36**. Other well known return spring devices may also be utilized in a similar manner. Spring **36** is caged in position by means of the cup **35** of spindle **34** and the top face of the inner portion of base plate **27**. The inner end **37** of spring **36** is mounted in fixed shaft **33** in any convenient manner. For example, in FIG. **3**, inner end **37** is positioned in a corresponding slot in shaft **33**. The outer end **38** of spring **36** is fixed to the side wall of cup portion **35** of spindle **34**. Consequently, if spindle **34** is rotated in one direction, a load will be placed on negater spring **36** as it is more tightly coiled. Upon release of spindle **34**, spring **36** will tend to return to its original position and will therefore rotate spindle **34** in an opposing direction.

The upper portion of spindle **34** contains two cylindrical flanges **39** and **40** which form a recess therebetween to receive a retractable chain **41**. Chain **41** may be of the type having metal links, as shown, or may be a length of flexible metal cable or rope or any other well known material commonly utilized for the same purpose. It is fastened at its inner end **42** to spindle **34**. It is then wound concentrically on spindle **34** between flanges **39** and **40**. The opposite end **43** of chain **41** extends through opening **44** in housing **29** and has affixed thereto in a convenient manner half **45** of fastener or combination lock **46**. The other half **47** of combination lock **46** is mounted permanently in a convenient manner to housing **29** such as by means of loop **48** extending from housing **29**.

As stated above, lock **20** is preferably mounted adjacent to and in front of binding **32** of ski **21**. The entire lock assembly is contained within or attached to housing **20**. In the unlocked position, all of the moving elements are contained within housing **20** with the exception of combination lock **46** and the outward end **43** of chain **41**.

In operation, when it is desired to lock the skis and possibly the poles to assure their safety while they are being left for a period of time, reference is made once again to FIG. **1**. The skis **21** and **23** as shown are positioned against support or rest bar **24** along with poles **25** and **26**. Part **45** of fastener or combination lock **46** is grasped and chain **41** is pulled from housing **20**. This is facilitated by rotation of spindle **34** as chain **41** is unwound therefrom. Naturally, as discussed above, as chain **41** is pulled from housing **20**, the rotation of spindle **34** places a load upon spring **36** by more tightly winding the coiled spring. As shown, the chain is passed around support bar **24**, through the two hand loops of poles **25** and **26** and then through a receptacle member **23** permanently mounted on ski **22**. In some instances, there are equivalent locations on the mounted binding of ski **22** which will work equally as well as a separate receptacle **23**. It should be kept in mind that the provision of receptacle **23** may also be utilized as a counterweight for the added weight present in the form of lock **20**. Alternatively, if desired, a separate counterweight may be mounted on ski **22** to balance the weight added to ski **21** by lock **20**. Half **45** of fastener **46** and chain **41** being withdrawn from the housing **29** should pass around support bar **24** and then through the hand loops of poles **25** and **26**. Half **45** is then mated with half **47** of fastener or combination lock **46** and the locking function is accomplished. The skis and poles are locked to support bar **24** and cannot be removed from that location without knowing the combination of fastener **46** or breaking the chain or lock. It should also be kept in mind that other locks may be employed in place of combination lock **46**. For instance, a key type lock may be utilized if desired. However, the combination lock shown is the preferred embodiment since no additional elements such as a key is required for the entire lock assembly.

Naturally, when the skis are to be once again utilized, combination fastener **46** is unlocked and half **45** is released. Loaded spring **36** acting as a biasing means will then rotate spindle **34** in the opposite direction thereby winding chain **41** back upon spindle **34** within housing **29**. This will continue until substantially all of chain **41** is once again contained within housing **29** and spring **36** is in substantially the relaxed position. To assure that half **45** is not drawn into housing **29** where access to it would be difficult for subsequent use, half **45** of fastener **46** has a larger diameter than opening **44** in the housing.

In this manner, a compact low cost ski lock is provided with a minimum amount of component parts and which may be easily and inconspicuously mounted on a ski and which may be quickly and efficiently utilized to lock and unlock the skis and, if desirable, a corresponding pair of poles to a support means.

Thus, the above objectives of the invention, among others, are most effectively attained.

I claim:

1. A ski lock mounted on one of a pair of skis and being normally in the unlocked position and adapted to be altered to a locked condition whereby said pair of skis is affixed to a support, the lock comprising:

a housing having means thereon for attachment to said one ski;

a chain having one end mounted in said housing;

an opening in the exterior of said housing to permit passage of said chain therethrough;

a two-piece fastener including locking means with one part of said fastener on the exterior of said housing and the other part of said fastener connected to the other end of said chain;

a spindle rotatably mounted inside said housing;

a spring in said housing;

said chain and spring being associated with said spindle so that when said chain is pulled outwardly from the opening in said housing, said spindle will rotate in one direction and a load will be placed on said spring and when said chain is released, said spring will automatically return to its relaxed position and rotate said spindle in the opposite direction and draw said chain back into said housing;

said chain being attachable to the support and said other ski with the parts of said fastener in locked engagement thereby locking said skis to said support to minimize the danger of said skis being stolen until it is desirable to utilize the skis when the parts of the fastener are unlocked and disengaged to permit the chain to be automatically returned by said spring into said housing; and

the lock assembly adapted to be entirely mounted on said ski to eliminate the necessity of any additional disconnected components to operate the lock and locking means.

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