United States Patent [19]

Effenheim

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[54] **SKI SUPPORT AND LOCK**

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

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

[58] **Field of Search** ..... 70/14, 57, 58, 59; 280/11.37 R, 11.37 B, 11.37 D, 11.37 H, 11.37 C, 11.37 K, 11.37 A; 211/60 SK

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[57] **ABSTRACT**

A ski lock includes a support member providing several openings having configurations for receiving the rigid portions of skis and ski poles while one or more locking bars are pivotally connected to the support member for rotation in a plane substantially parallel to the outer surfaces of the support member. A lock having a latching pin is removably positioned within selectively aligned openings within the support member and the securing members for confining the ski members therein while a flexible tether is preferably connected to the support member and the lock.

5 Claims, 9 Drawing Figures

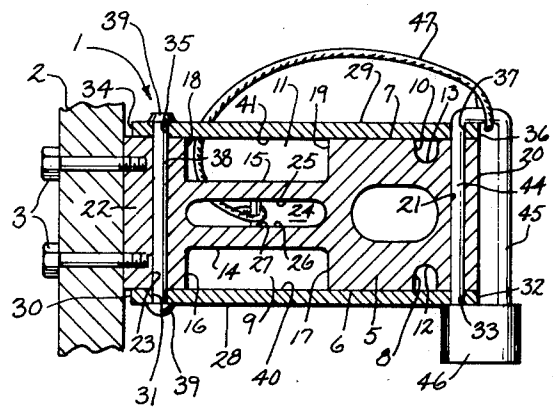


Fig. 1

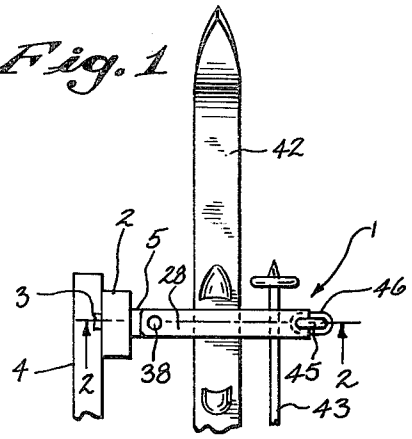


Fig. 2

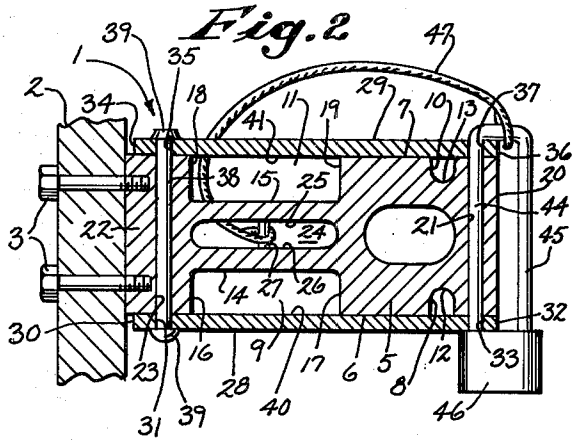


Fig. 3

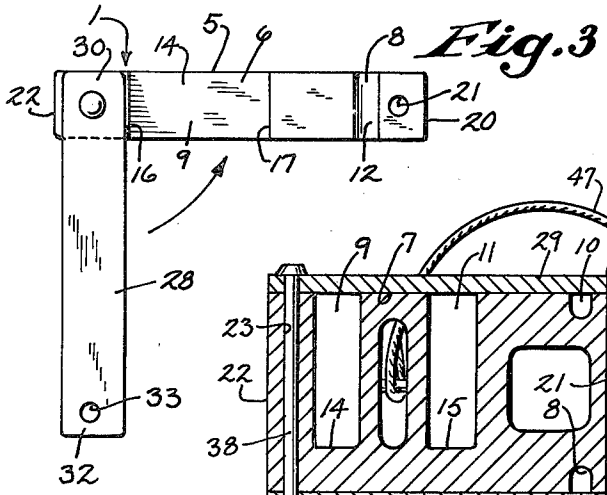


Fig. 4

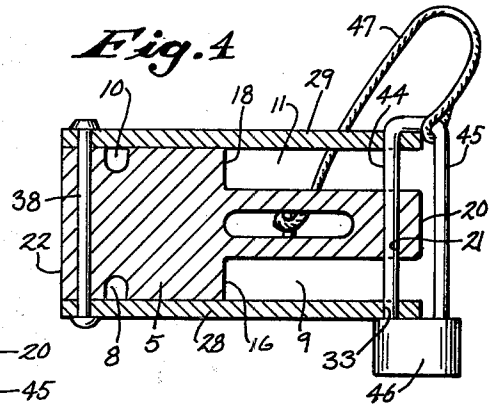
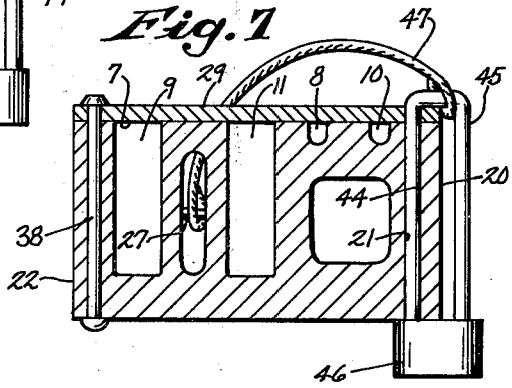


Fig. 5

Fig. 7



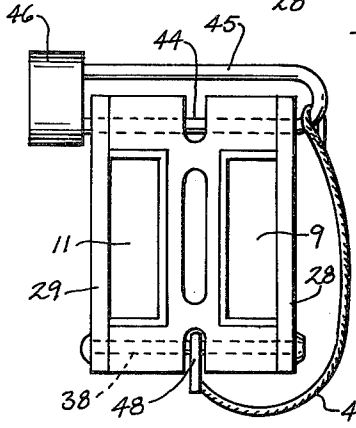


Fig. 6

Fig. 8

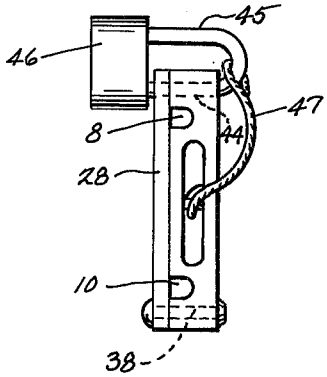
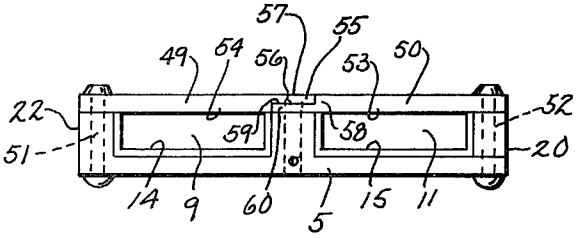


Fig. 9



SKI SUPPORT AND LOCK

BACKGROUND OF THE INVENTION

This invention relates to a ski lock and more particularly to an apparatus for releasably securing skis and ski poles to discourage the theft thereof.

Many devices have been devised for holding and securing ski equipment members such as ski poles and skis so as to make them inaccessible for removal by vandals and/or thieves. Several known devices wrap a flexible cable about the loosely held ski equipment and an adjacent binding post so that the free ends of the cable may be secured by a lock. Other ski locks have employed support members and hinged members for enclosing the ski equipment therebetween but generally either have not firmly secured the ski equipment in locked position thus permitting the equipment to be damaged through movement or have employed a member which rotates away from the plane of the selected openings frequently interfering with the removal of the ski equipment.

SUMMARY OF THE INVENTION

This invention relates to a ski lock and specifically to a securing apparatus for rigidly confining ski equipment members.

The ski member securing apparatus provides a durable support member having one or more outer surfaces each providing one or more openings therein corresponding to the configuration of a rigid self-supporting portion of the ski equipment members. One or more securing members are pivotally connected to the support member for rotatable movement in a plane substantially parallel to one of the outer surfaces of the support member for enclosing the openings. A latch is provided for releasably engaging the support member and the securing members for securing the rotating surfaces adjacent to the corresponding outer surfaces thereby confining the ski equipment members within the openings.

The support member is preferably formed from a durable, light weight material and is constructed of sufficient thickness so as not to be readily damaged or destroyed. The securing members each include a locking bar having sufficient thickness to discourage the breaking thereof and which are pivotally connected to the support members by durable pivot pins. The support member and the locking bar may be formed from a light weight metal, such as aluminum, or of a strong plastic while the pivot pin is generally constructed of a metal which may be hot or cold formed to provide locking tabs at outer ends thereof for rotatably securing the securing members to the support member.

Applicant has thus provided a ski lock which is relatively economical to fabricate and simple to utilize particularly since the securing members are generally rotatable within a plane which is substantially parallel to the outer surfaces of the support member. Such rotation permits the securing members, or locking bars, to be selectively positioned in a lower, out-of-the-way location to permit easy access to the openings for the ready placement of the rigid selfsupporting portions of the ski equipment members therein without interference with the securing members, such as sometimes experienced with hinged closure members which pivot in in front of the openings.

The openings within the support member are specially designed to correspond to the substantial configuration of the rigid self-supporting portions of the ski equipment members for firmly securing the skis and ski poles. Specifically, rectangular openings are provided to retain the skis while semi-circular shaped openings are provided to retain the ski poles with both types of openings containing abutting surfaces which firmly abut the ski equipment members. Utilization of the present invention thus makes it possible for both the skis and ski poles to be securely confined within a single unitary support member by only a single securing member or locking bar although it is frequently desirable to use several securing members in combination with one or more outer surfaces of the support member.

In one form of the invention, an anchoring pin is positioned to span the opposite sidewalls of an anchor opening within the support member. A flexible tethering member such as a chain, cable, rope or the like is secured to the anchoring pin and is releasably connected to the latch, the latter preferably including a U-shaped locking pin of a padlock. Another form of the invention utilizes a flexible tethering member which is connected to the pivot pin which pivotably secures one or more securing members and is further connected to the latch. When utilizing the ski lock as a carrier, the flexible tethering member can be secured about a fixed object such as a tree, locking post or the like to prevent removal of the ski members and lock. In any event, the tethering member is generally connected to the locking pin to retain the lock in close proximity to the support member.

In one aspect of the invention, two or more securing members or locking bars may conveniently be located on opposite outer sidewalls of the support member. Latch openings are thus provided within the support member and the latching bars which may be selectively aligned to receive a single locking pin thus securing a plurality of securing members by only a single padlock.

In one embodiment of the invention, a pair of securing members are pivotally mounted on the same outer surface of the support member and rotate within a single plane. The two rotatable securing members each provide outer ends which are tapered or recessed to mutually overlap with each overlapping portion providing a latch opening which are selectively aligned with a latch opening within the support element for receiving the latching pin.

BRIEF DESCRIPTION OF THE DRAWING

The drawing furnished herewith illustrates the best modes presently contemplated by the inventor and clearly discloses the above advantages and features, as well as others which will be readily understood from the detailed description thereof.

In the drawings:

FIG. **1** is an elevational view of a ski equipment securing apparatus mounted to a fixed support and containing skis and ski poles;

FIG. **2** is a sectional view of the securing apparatus of FIG. **1** taken along the lines **2—2** but without the skis and poles;

FIG. **3** is a detailed elevational view of the securing apparatus of FIG. **1** but without the skis and poles and showing the securing member in an opened position;

FIG. 4 is an alternative embodiment of a ski equipment securing apparatus;

FIG. 5 is an alternative embodiment of a ski equipment securing apparatus;

FIG. 6 is an alternative embodiment of a ski equipment securing apparatus;

FIG. 7 is an alternative embodiment of a ski equipment securing apparatus;

FIG. 8 is an alternative embodiment of a ski equipment securing apparatus;

FIG. 9 is an alternative embodiment of a ski equipment apparatus.

DESCRIPTION OF THE PREFERRED ILLUSTRATED EMBODIMENT

Referring to the drawing and particularly FIGS. **1, 2** and **3,** the illustrated embodiment of the invention includes a ski equipment securing apparatus **1** which is fixedly secured to a stationary mounting member **2** by a pair of bolts **3.** The mounting member **2** may, in turn, be connected or attached to a ski rack **4** or alternatively to the side of a ski lodge, a tree or other convenient location to prevent removal by vandals, thieves or the like.

The ski equipment securing apparatus **1** includes a support member **5** having a pair of oppositely disposed outer surfaces **6** and **7.** The support member **5** further includes a pair of openings **8** and **9** located within the outer surface **6** and openings **10** and **11** located within the outer surface **7.** The openings **8** and **10** are semicircular shaped and contain a base or abutting portions **12** and **13,** respectively, for rigidly confining the stick or shaft portion of the ski poles. The openings **9** and **11** are rectangularly shaped and contain a base or abutting portions **14** and **15,** respectively, for rigidly confining the rigid, rectangular portions of the skis. Specifically, the opening **9** contains oppositely disposed sidewalls **16** and **17** adjacent to the abutting portion **14** and the opening **11** contains oppositely disposed sidewalls **18** and **19** adjacent to the abutting portion **15.**

The support member **5** further provides an outer end **20** which contains a latch opening **21** and an oppositely disposed outer end **22** into which the mounting bolts **3** are secured and providing a pivotal opening **23.**

The support member **5** further provides an anchor opening **24** having a pair of oppositely disposed sidewalls **25** and **26** between which is secured an anchoring pin **27.**

A pair of securing members **28** and **29** each consist of a rectangular locking bar having sufficient dimensions for securely enclosing the openings **8, 9, 10** and **11** by the selective positioning thereof and are rotatably connected to the outer surfaces **6** and **7,** respectively, of the support member **5.** Specifically, the securing member **28** includes a first end **30** having a pivotal opening **31** and a second end **32** having a latch opening **33** while the securing member **29** includes a first end **34** having a pivotal opening **35** and a second end **36** having a latch opening **37.**

The securing members **28** and **29** are rotatably secured to the support member **5** by a pivot pin **38** which is positioned within the aligned pivotal openings **23, 31** and **35** and further includes locking lugs **39** for maintaining the members **28** and **29** in secure rotatable relationship with respect to the support member **5.** The securing members **28** and **29** therefore each provide a rotating surface **40** and **41,** respectively, which rotates about the pivot pin **38** within planes which are substantially parallel to the corresponding outer surfaces **6** and **7** and the corresponding abutting surfaces **12, 13, 14** and **15** within the support member **5.**

In operation, the securing members **28** and **29** are selectively rotated about the pivot pin **38** to a lower, opened positioned as illustrated in FIG. **3** thereby permitting the placement of skis **42** within the openings **9** and **11** and poles **43** within the openings **8** and **10** without interference with the locking bars **28** and **29.** The securing members **28** and **29** are thereafter selectively rotated so that the respective rotating surfaces **40** and **41** are disposed in engaging relationship to the outer surfaces **6** and **7,** respectively, thereby enclosing the openings **8, 9, 10** and **11** to rigidly confine the ski equipment members therein.

With the securing members **28** and **29** rotated into an enclosing position as illustrated in FIG. **2,** the latch openings **21, 33,** and **37** become aligned to permit the insertion of a latching pin **44** therein. The placement of pin **44** within the aligned latch openings thus securely restrains the securing members **28** and **29** from movement with respect to the support member **5** thus securely enclosing the openings **8, 9, 10** and **11.** The latching pin **44** is part of a U-shaped locking member **45** which is secured from removal from the aligned openings **21, 33** and **37** by a lock **46** thereby preventing removal of the enclosed poles **43** and skis **42.**

A flexible tethering member **47** is securely connected to the anchoring pin **27** and removably connected to the locking member **45.** The tethering member **47** may consist of a cable, chain, rope or any other suitable device effective for retaining the lock **46** in close proximity to the support member **5** when removed from active locking engagement. The tethering member **47** may also be secured about a fixed object such as a tree, post or the like when the ski lock **1** is being utilized as a carrier.

FIGS. **4–9** set forth alternative embodiments of applicant's ski equipment securing apparatus and identical numbers are being retained for identical or similarly functioning elements which were previously discussed with respect to FIGS. **1–3** and further discussion thereof is deemed unnecessary for a clear understanding of applicant's invention. With reference to the embodiment in FIG. **4,** the ski pole openings **8** and **10** are located adjacent to the pivot pin **38** while the ski openings **9** and **11** are located adjacent to the latching pin **44.** The end **20** of support member **5** is substantially reduced in thickness to provide access to the openings **9** and **11** when the locking member **45** is removed which results in the elimination of the sidewalls **17** and **19.** Thus, the latching pin **44** is effective when secured within the aligned latch openings **21, 33** and **37** to enclose the openings **9** and **11** along with the securing members **28** and **29,** respectively.

With reference to the embodiment in FIG. **5,** the ski lock is somewhat similar to the lock described in FIG. **2** except that openings **9** and **11** both open to the same side of support members **5** within the outer surface **7.** The securing member **29** in FIG. **5** is therefore effective for enclosing all three openings **9, 10** and **11** to secure two skis and one ski pole therein while the securing member **28** remains effective for enclosing the opening **8.**

With reference to the embodiment in FIG. **6,** the openings **9** and **11** are disposed on opposite sides of

support member **5** while openings are not provided for the retention of ski poles **43.** The tethering member **27** is permanently connected to the pivot pin **38** specifically at **48** so that the pivot pin **38** serves the dual purpose of pivotally securing the securing members **28** and **29** to the support member **5** and anchoring the flexible tethering member **47.**

With reference to the embodiment of FIG. **7,** only one securing member **29** is employed to enclose the openings **8, 9, 10** and **11.** Specifically, the openings **8,** 9, 10 and **11** open outwardly to the same side of the support member **5** and are located within the outer surface **7** so that all may be enclosed by the selective rotation and positioning of the securing member **29.**

With reference to the embodiment of FIG. **8,** the support member **5** contains the ski pole retaining openings **8** and **10** which are both selectively enclosed by only one securing member **28.**

With reference to the embodiment in FIG. **9,** the openings **9** and **11** open toward the same side of support member **5** and are located within the outer surface **7.** A pair of securing members **49** and **50** are each pivotally connected to the support member **5** by pivot pins **51** and **52,** respectively. Specifically, securing member **50** is pivotally connected at end **20** of support member **5** and provides a pivotal surface **53** which rotates in a plane substantially parallel to outer surface **7** and abutting surface **15** within opening **11.** In like mannner, the securing member **51** is pivotally connected at end **22** of the support member **5** and provides a pivotal surface **54** which rotates in a plane substantially parallel to outer surface **7** and abutting surface **14** within opening **9.** An outer end **55** of securing member **49** is recessed at **56** and provides a latch opening **57** while an outer end **58** of securing member **50** is recessed at **59** and provides a latch opening **60.** The recesses **56** and **59** are designed to overlap so that the latch openings **57** and **60** become aligned with the centrally located latch opening **21** within the support member **5.** When enclosing the openings **9** and **11** by the securing members **49** and **50,** a latching pin **44** is positioned therein the aligned latch openings **21, 57** and **60** to thereby secure the skis **42** within the enclosed openings **9** and **11.**

While the embodiment set forth in FIGS. **1–3** illustrates a permanent connection of the ski equipment securing apparatus **1** to a fixed support **2** by the bolts **3,** the securing apparatus **1** may also serve as a portable carrier which can be selectively secured to fixed objects by the flexible tethering member **47** which may also serve as a carrying handle.

It is therefore evident that various embodiments may be constructed employing applicant's invention which would be within the letter and spirit of the claims presented hereinafter.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims, particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. An apparatus for securing first and second ski equipment members, comprising a support member having a first outer surface providing a first opening and a second outer surface providing a second opening with said first and second surfaces located on opposite sides of said support member and said first and second openings receiving said first and second ski equipment members, respectively, first and second securing members having first and second rotating surfaces, respectively, pivotally connected to said support member, said first rotating surface rotatable in a plane substantially parallel to said first outer surface and said second rotating surface rotatable in a plane substantially parallel to said second outer surface, and latching means releasably engaging said support member and said first and second securing members for selectively securing said first and second rotating surfaces in spaced relationship to said first and second outer surfaces, respectively, for confining said first and second ski equipment members within said first and second openings, respectively.

2. An apparatus for securing first and second ski equipment members, comprising a support member having a first outer surface providing a first opening and a second outer surface providing a second opening with said first and second surfaces located on opposite sides of said support member and said first and second openings receiving said first and second ski equipment members, respectively, first and second securing members having first and second rotating surfaces, respectively, said support member and said first and second securing members each having aligned pivotal openings, a pin positioned within said pivotal openings for pivotally connecting said first and second securing members to said support member, said first rotating surface rotatable in a plane substantially parallel to said first outer surface and said second rotating surface rotatable in a plane substantially parallel to said second outer surface, and latching means releasably engaging said support member and said first and second securing members for selectively securing said first and second rotating surfaces in spaced relationship to said first and second outer surfaces, respectively, for confining said first and second ski equipment members within said first and second openings, respectively.

3. An apparatus for securing first and second ski equipment members, comprising a support member having a first outer surface providing a first opening and a second outer surface providing a second opening with said first and second surfaces located on opposite sides of said support member and said first and second openings receiving said first and second ski equipment members respectively, first and second securing members having first and second rotating surfaces, respectively, pivotally connected to said support member, said first rotating surface rotatable in a plane substantially parallel to said first outer surface and said second rotating surface rotatable in a plane substantially parallel to said second outer surface, said support member and said first and second securing members each contain selectively aligned latch openings, and latching means including a latching pin releasably positioned within said latch openings to releasably engage said support member and said first and second securing members for selectively securing said first and second rotating surfaces in spaced relationship to said first and second outer surfaces, respectively, for confining said first and second ski equipment members within said first and second openings, respectively.

4. The apparatus of claim **2** wherein said first and second outer surfaces and said first and second rotating surfaces each contain a latch opening, and said latching means includes a latching pin releasably positioned within said latch openings, and including a flexible teth-

ering member connected to said pivotal pin and releasably connected to said latching pin.

5. The apparatus of **3** wherein said support member contains an anchor opening, and including an anchoring pin secured to said support member on opposite sides of said anchor opening and spanning said anchor opening, and a flexible tethering member connected to said anchoring pin and releasably connected to said latching pin.

* * * * *