

[54] **SKI PROTECTION SYSTEM AND PARTS THEREFOR**

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[58] Field of Search 70/14, 58; 24/73 SG; 211/4, 8, 60 SK; 248/201; 280/11.13; 287/100; 16/128 A

[56] **References Cited**

UNITED STATES PATENTS

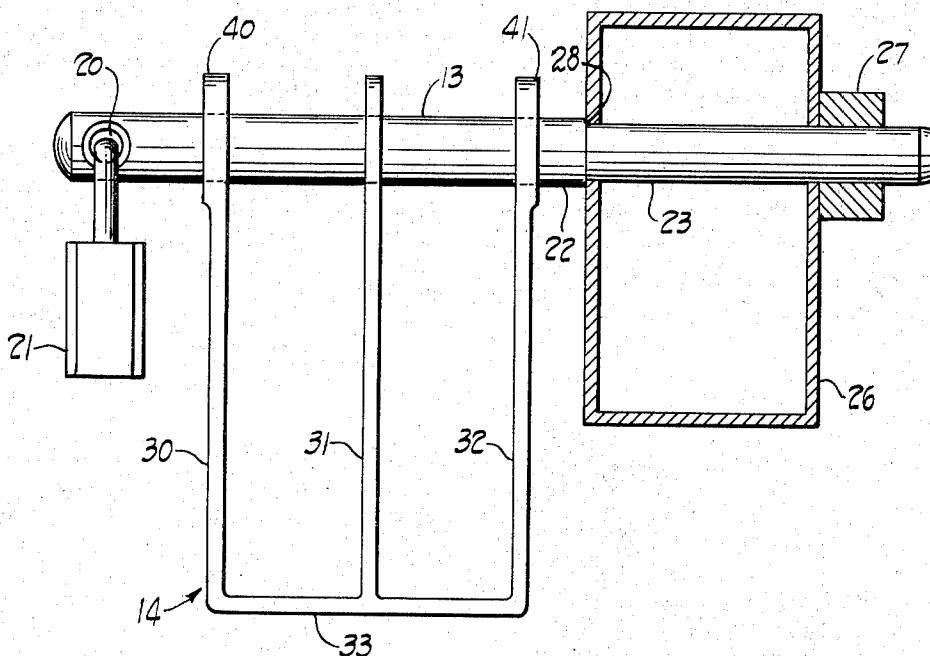
822,341	6/1906	Black et al.	211/100
2,657,889	5/1949	Smalley	248/67.7
3,636,739	1/1972	Smedley	70/58
3,594,073	7/1971	Liautaud	16/128 A

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[57] **ABSTRACT**

A device for securing skis, ski poles, and the like, including a rod secured to a beam, wall, or other supporting structure, a frame adapted to slide over the rod and means for locking the frame on the rod. The frame includes at least two interconnected members and is open at one side to receive the skis between them. Each member has a rod receiving aperture by which the frame is mounted over the rod to close the open side of the frame once the skis are disposed within the frame. An aperture is also provided in the rod at its outer end to receive a padlock for securing the frame on the rod.

15 Claims, 7 Drawing Figures



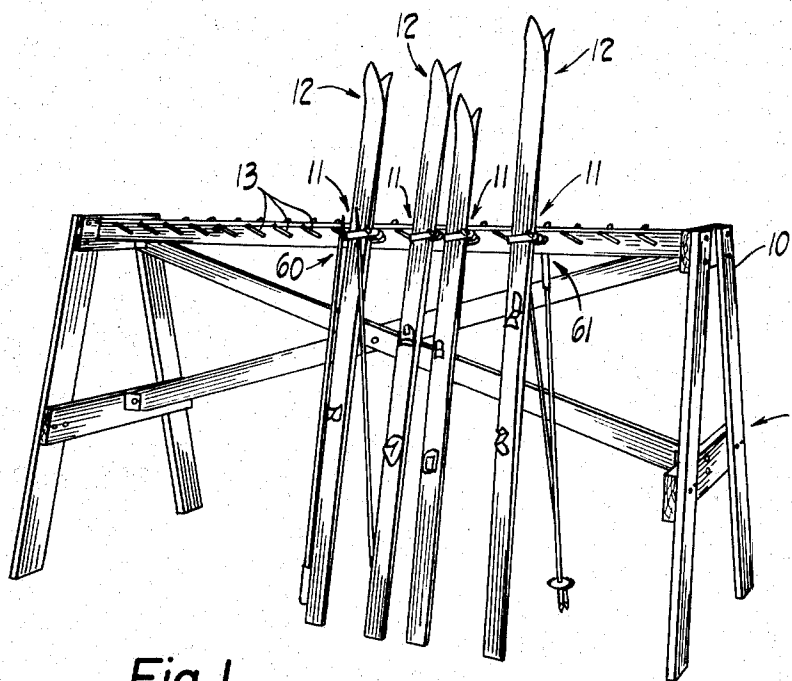


Fig. 1

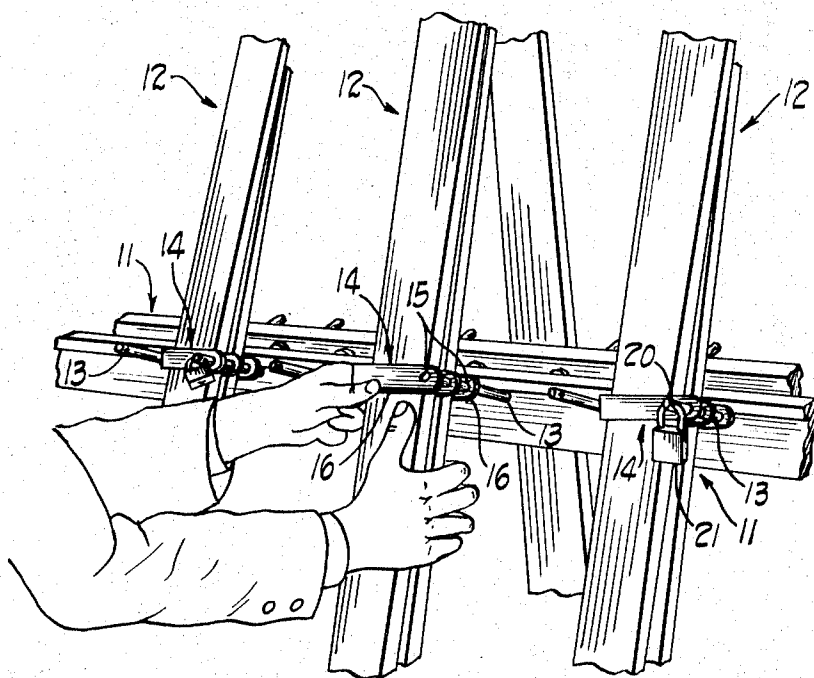


Fig. 2

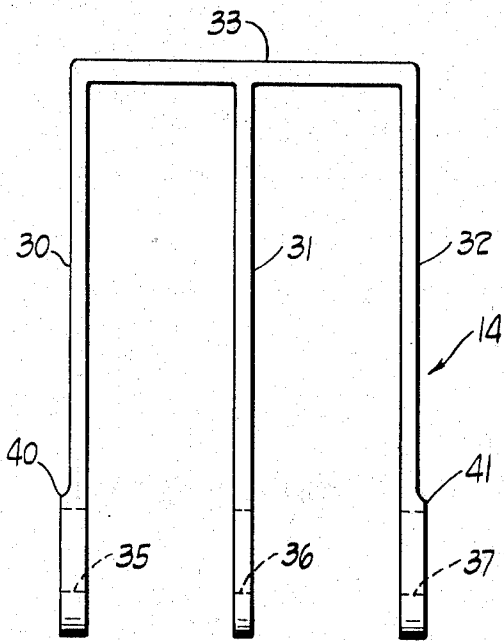


Fig. 3

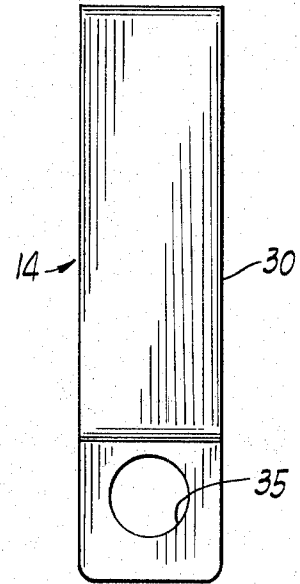


Fig. 4

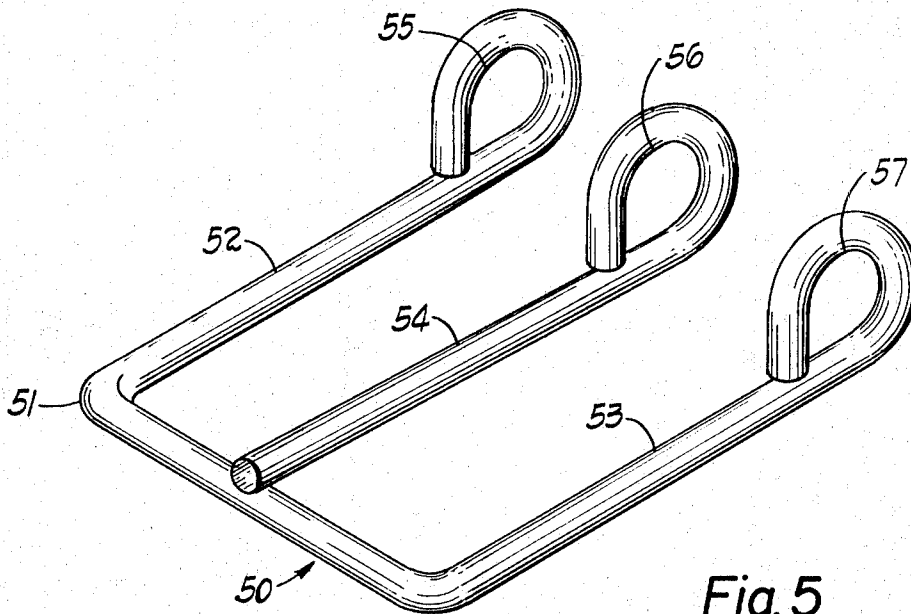
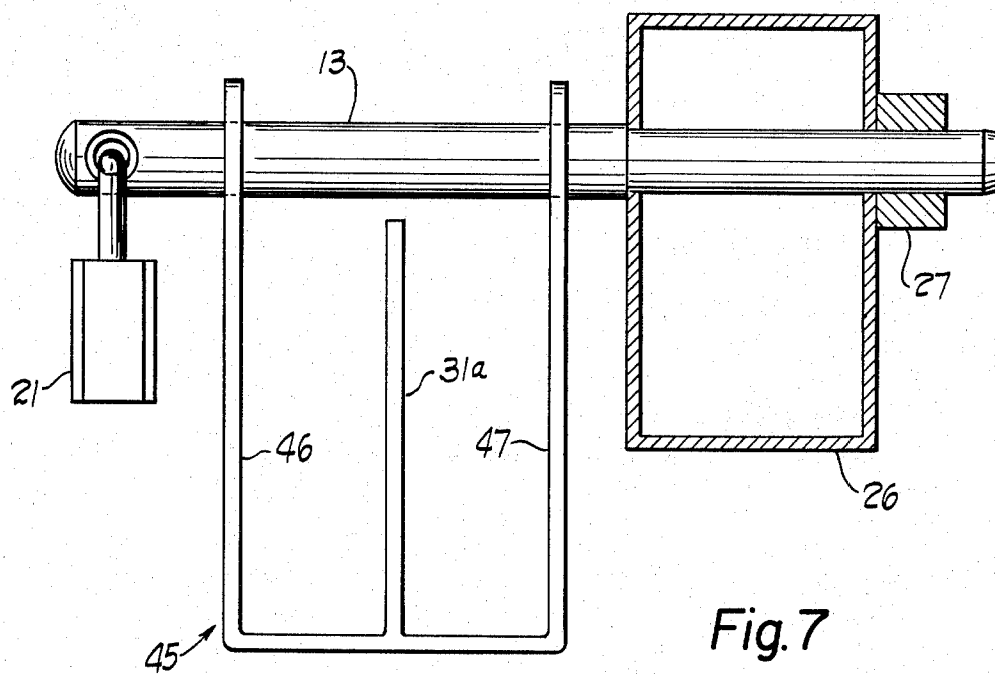
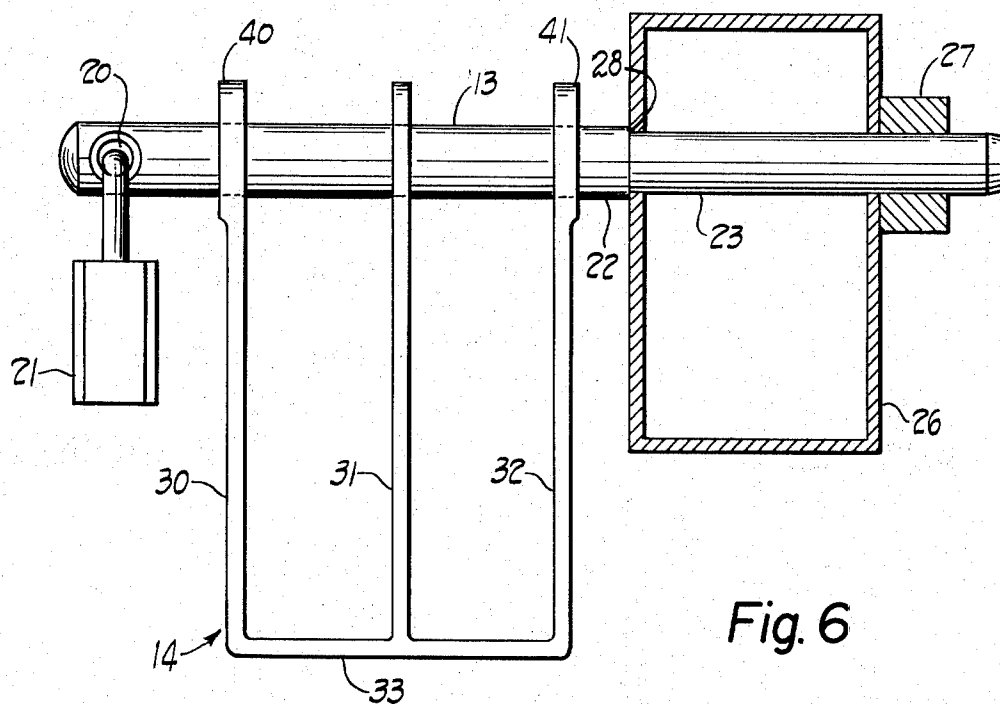


Fig. 5



SKI PROTECTION SYSTEM AND PARTS THEREFOR

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to improvements in locking devices and systems, and more particularly to improvements in locking devices and systems for securing skis, ski poles, and the like.

2. Description of the Prior Art

In many ski installations at ski slopes or lodges, it is frequently desirable to provide a rack or the like for the skiers in which their skis may be individually, temporarily locked or secured. Ski mounting and securing devices have long been available, some including provisions for securing ski poles and other ski paraphernalia as well. Many such prior art devices are only usable with skis of a given size, instead of with skis of different size as is desirable where the devices are provided for public use.

Many prior art ski holding devices have also been developed for carrying skis on cars or other vehicles. Such devices frequently incorporate a rack with a plurality of holders, all of which may be enclosed with a bar overfitting the entire rack. In such instances the overfitting bar commonly includes means by which it may be locked in place to prevent theft of the skis from the rack. Thus, such carriers may not be, and indeed are generally not intended to be, used to secure individual pairs of skis at a ski-lodge, slope or other public place.

Still other prior art ski locking and securing apparatus includes an elastomeric member which may be looped about the skis and affixed at its end to a bar or rod clamped between braces which may be locked thereabout. Although useful in securing only single pairs of skis, such apparatus is cumbersome in use, and is primarily used for carrying a number of sets of skis.

Another prior art structure for holding skis comprises a first G-shaped cross-section bracket mounted on a frame or wall for receiving a pair of skis, and a second bracket which engages and encloses the first and which may be locked thereto.

Still another prior art device embodies a U-shaped rod having one leg of longer length than the other. The longer leg is slidable into a vertical wall, the other leg being free to swing. To operate such devices, the skis are positioned next to the wall and the rod swung or rotated to surround the skis when the longer leg is pushed into the wall. A coin and key controlled rod brake is provided which can selectively engage the longer rod to hold it or disengage it to release it. A lock built into the wall is operated to control the brake.

Most of these prior art devices are of relatively complicated structure or operation. Additionally, most require many complex moving parts, which lend to increased maintenance and its concomitant expense, and, therefore, may be undesirable for use in numbers, as, for instance, at ski lodges or such installations.

None has in fact found wire acceptance for holding and protecting skis against theft at public ski slopes, lodges and the like.

SUMMARY OF THE INVENTION

It is therefore a general object of this invention to provide a new and improved device and system for

temporarily holding individual sets of skis, poles and the like.

It is a further object of this invention to provide a device which is of simple structure and which is easily used, even by mechanically unskilled persons, for quickly and conveniently securing skis and poles.

It is yet a further object of this invention to provide a frame or holder for holding or enclosing skis, poles and the like which mounts on and is used with a cylindrical rod to complete a ski locking and securing device.

Other objects of this invention include the provision of a new and improved device and system for locking and securing skis and the like which includes a first portion or part which may be mounted on a building or other structure which is not easily or inconspicuously moved and a second portion or part which is or may be provided by the ultimate user and is adapted to be mounted on the first portion or part to provide a completed ski lock or holding system; which comprises separable parts, only one of which need be mounted or secured against easy transportation or dislocation; which is easily and economically manufactured and used; which is useful for holding and securing skis having a wide range of lengths; which does not grip the surface of the skis or otherwise have deleterious effect thereon; which prevents unostentatious, accidental or purposeful taking of the skis therefrom; and which obtains one or more of the objects and advantages set forth herein.

These and other objects and advantages of this invention will become apparent from the following description of a preferred form thereof, reference being made to the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

The invention is illustrated in the accompanying drawings, wherein,

FIG. 1 is an elevational view of a ski lock and system embodying this invention;

FIG. 2 is a broken enlarged elevational view of the lock and system of FIG. 1, showing the assembly, during use, of the clamp member on a permanent rod or bracket;

FIG. 3 is an elevational view of a preferred form of the clamp member embodying and for use in a system embodying this invention;

FIG. 4 is a side view of the clamp member shown in FIG. 3;

FIG. 5 is a perspective view of another form of clamp member embodying and for use in a system embodying this invention;

FIG. 6 is a view partly in elevation and partly in section, of another preferred form of lock and locking system embodying this invention; and

FIG. 7 is a view similar to FIG. 6 showing still another form of clamp member embodying and for use in a system embodying this invention.

Among the figures of the drawing, like reference numerals are used to denote like or similar parts.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Broadly, this invention comprises apparatus for securing skis and the like against misappropriation, whether accidental or otherwise. The apparatus includes a rod having a hole near one end and affixed at its other end to a support structure. The apparatus also

includes a frame for receiving the skis within which the poles, etc., may be placed. The frame has at least two interconnected members, each having an aperture therein adapted to slidably engage over the rod. When the skis are placed within the frame, and the frame slides over the rod which extends through the aperture in the frame, the skis are held within the frame. A padlock or the like may be placed in the aperture in the rod to prevent removal of the frame and, therefore, the skis therefrom.

A ski lock and system embodying this invention is indicated generally at 1, FIG. 1. The system includes a support structure 10 onto which a plurality of the ski-securing devices 11, embodying this invention, are mounted. The rack 10 conveniently of wood, aluminum channels, or the like, is fabricated to enable the skis 12, when secured, to be substantially vertically disposed, as illustrated. Although the securing devices 11 are mounted onto the sawhorse-shaped support structure 10, it is understood that they may equally well be carried by support structures of any configuration, and may, indeed, be applied to a wall or the like. The important thing is that the devices 11 have their fixed member mounted on a support of whatever nature which is either permanent such as a wall, or only moved with difficulty and obviousness such as the rack 10.

As illustrated in FIG. 2, the ski-securing device 11 includes a rod 13 fixedly mounted on and extending outwardly from the support structure 10. As may be seen in FIGS. 1 and 2, a plurality of the rods 13 may be incorporated onto a single support structure 10, as, for instance, in a public installation, such as a ski lodge. A ski-receiving frame 14 is provided which includes aperture 15 at the ends of its upstanding members 16 (described in detail below) to fit over the rod 13 to completely surround the skis 12 which are disposed within the frame 14. An aperture 20 is provided at the outer end of the rod 13 into which a padlock 21, or the like, may be placed to secure the frame 14 on the rod 13 and the skis 12 against removal.

More particularly, the structures of the parts of the locking device 11, embodying this invention, are shown in FIGS. 3, 4 and 6. In the preferred form of this invention shown in FIG. 6, rod 13, onto which the frame 14 is positioned, conveniently has two portions 22 and 23 of different diameters, although rods of a single diameter may be used in some installations, if desired. The portion of the rod 13 having the smaller diameter 23 extends through a member 26 of the support structure 10. A collar 27 is press-fitted or otherwise attached to the rod 11 adjacent the back side of the member 26. The rod 13 is secured in position in the member 26 on one side by the collar 27 and on the other side by the shoulder 28 formed by the diameter difference between the diameters 22 and 23. As mentioned, an aperture 20 is provided at the end of the rod 13 away from the member 26 within which a padlock 21 or the like may be placed. Frame 14 is adapted to receive the skis edgewise and partially encircle and surround them on three sides so that they may be entirely encircled or surrounded by the coaction of the frame 14 and rod 13.

More particularly, as shown in FIGS. 3, 4 and 6, the frame 14 within which the skis 12 are to be disposed preferably includes three parallel flat members 30, 31 and 32 (corresponding to the members denoted by the reference numbered 16 in FIG. 1) having a common base 33, and may, for example, be formed of extruded

aluminum or any other rigid, preferably lightweight, material. At the end of each of the members 30-32 away from the base 33 are apertures 35, 36 and 37, respectively, which are of such size as to slide over (or receive) rod 13. The length of the members 30-32 between the base 33 and the inner or nearer edge of the aperture formed therein is approximately equal to the width of the skis 12 to be secured, for example, about three inches. The members 30, 31 and 32 are spaced apart a distance, about 1 inch, for example, to receive one ski edgewise between each fork (adjacent pair of members 30, 31 and 32) of frame 14. The strength of the members 30-32 at the portion overfitting the rod 13, is conveniently increased as by providing an extra thickness 40 and 41 shown respectively on members 30 and 32. The method for achieving such extra thickness when frame 14 is an extrusion is well known in the extrusion molding art and is not described in detail herein.

In use, each ski 12 is disposed within a separate "fork" of frame 14 which is then slid over the rod 13 and locked into position thereon by padlocks 21. The frame 14 and rod 13 completely encircle the skis 12. The boot bindings prohibit the skis from being slid longitudinally in one direction to remove them from the frame and the flare of the skis near the front thereof prohibit the skis from being slid for removal in the other direction.

Another preferred form of frame embodying this invention is shown in FIG. 7 and is indicated generally at 45. In this instance, the center member 31a is shortened so as to separate the skis but not, itself, engage over the rod 13. Obviously, center member 31a could be eliminated entirely with, however, the loss of the facility to separate the skis, one from the other, within the frame.

Also, in frame 45, the outer members 46 and 47 of the frame are shown as being the same thickness throughout their length. Obviously, the presence or absence of the center member and the strengthening of the members with extra thickness at their area of engagement with the rod may be permuted as desired. The rod 13, lock 21, and rod mounting means may, of course, be identical to those described with reference to other embodiments of the invention, a primary consideration of the invention being to provide a system which may be universally adopted, and in which the skier may, in fact, provide his own ski-securing frame and padlock for use at any installation whereat a rod support structure is provided, as is described more fully below.

Still another preferred form of frame embodying this invention is indicated generally at 50, FIG. 5. Frame 50 is fabricated of a wire 51, or the like, having one section thereof formed into a U-shape to form outside members 52 and 53, and having the third member 54 intermediate thereof welded at approximately the mid-distance of the cross section of the U (weld not shown). Each of the ends of the wires may be looped to define holes 55, 56 and 57 which are axially aligned so that the frame 50 may be shut over the rod 13 in the same manner as frames 14 and 45.

Although the ski-receiving frames in the various embodiments described have been discussed primarily with specific reference to use in securing skis, it will be appreciated that the ski poles may be secured, simultaneously or alone, on the various frame embodiments

merely by positioning one or more of the frame members through the circles near the bases of the ski poles, as illustrated generally in FIG. 1, as with the set denoted therein by the reference numeral 60, or by looping the arm straps of the ski poles, as with the set denoted therein by the reference numeral 61.

The ski lock and system embodying this invention has the further advantage that it is standardized and interchangeable in that any frame 14 can fit over any rod 13 as long as the diameters of the rod portion 23 and of the apertures in the frame members are such that the frame will slide over the rod 13.

The aperture 20 in rod 13 is of sufficient size to receive the shank of ordinary padlocks and the like.

As a result, the system is particularly adapted for use in and at public ski-lodges, slopes, and the like, because the owner or operator of the lodge or slope can provide the rod 13, or permanent installation, and the ski owner can provide the frame and lock, knowing it will fit and work.

Thus, the frames will not be separated from the device when no skis are locked therein, as the frames are not kept with the rods, to the loss of the owner and operator, and no one but the skier will have the key or combination to his or her lock, thus providing greater protection to the skis.

Such a system lends itself to practical usefulness because the basic installation, a plurality of rods in a wall or rack which cannot be moved without attracting attention, i.e. is permanent within the meaning of this invention, can be provided by the owner or operator of the lodge, slope, or the like, who can then sell the frame (and lock) to the skier who utilizes them anytime he or she wants to protect his or her skis against theft or misappropriation, the frame and lock fitting any available rod not in use at that lodge or slope or at other such establishments having similar installations (of rods) whereby a universal locking system provided in part by the establishment and in part by the skier is provided.

Modifications, changes and improvements to the preferred forms of the invention herein disclosed, described and illustrated may occur to those skilled in the art who come to understand the principles and precepts thereof. Accordingly, the scope of the patent to be issued hereon should not be limited to the particular embodiments of the invention set forth herein, but rather should be limited by the advance by which the invention has promoted the art.

I claim:

1. A ski-securing apparatus comprising rod means permanently mounted on and extending outwardly from a support structure, frame means for receiving a pair of skis, said frame means being adapted to partially surround said pair of skis, means for detachably assembling said frame means and rod means together to completely encircle said skis, and means for locking said frame means and rod means in said assembled position.

2. The apparatus according to claim 1 in which said frame means includes a plurality of apertures and said rod means and said frame means are assembled by sliding said frame means over said rod means with said rod means extending through said apertures, respectively.

3. The apparatus according to claim 2 in which said rod means extends outwardly beyond said frame means, and said locking means comprises an aperture in said rod means which is outwardly of said frame-

means and adapted to receive a padlock to prevent sliding said frame means off of said rod means.

4. The apparatus according to claim 2 wherein said frame means comprises a bent and formed, generally "U" shaped wire member with spaced parallel leg portions, and the wire member at the end of each said leg is looped to define one of said apertures.

5. The apparatus according to claim 4 in which said frame means also comprises a second wire member, disposed between said leg portions, to provide a generally E-shaped frame means.

6. The apparatus according to claim 5 in which the last-named member has a bent and shaped looped portion to form another said aperture in axial alignment with said other apertures.

7. The apparatus according to claim 2 wherein said frame means comprises a rigid, unitary, generally U-shaped member having a base portion and spaced parallel leg portions and said apertures are in said leg portions, respectively, at the ends thereof remote from said base portion.

8. The apparatus according to claim 7 wherein said frame means is of extruded aluminum.

9. The apparatus according to claim 2 wherein said frame means is of extruded aluminum configured into a generally E shape having a base portion and spaced parallel leg portions, with said leg portions being of the same length and with a said aperture formed in each said leg portion remote from said base portion.

10. The apparatus according to claim 9 wherein each said leg of said frame means is approximately 3 inches long between said base portion and the nearest edge of said aperture therein.

11. The apparatus according to claim 2 wherein said frame means is of extruded aluminum configured into a generally E shape having a base portion and spaced parallel leg portions, the outer two of said leg portions being of the same length and having a said aperture formed therein remote from said base portion, the center of said leg portions being of less length than the distance between said base portion and the near edge of said apertures in said outer leg portions.

12. Apparatus for securing a pair of skis to a support structure comprising:

a rod having a reduced diameter along a portion of its length from one end thereof and having an aperture therethrough at the other end,
said rod extending through the support structure along the length of the reduced diameter,
a retaining collar about said rod at its reduced diameter adjacent one side of the support structure to secure said rod therein, and
a frame including,

a base,
three parallel members extending from said base, said three parallel members each having a rod receiving aperture in an end thereof away from said base,

each of said three members being of a length between said base and said aperture therein approximately equal to the width of the skis to be secured,

whereby when the skis are disposed between the members of said frame and said rod extends through said apertures in said frame, respectively, and a lock is placed in said aperture in said rod, the skis are secure.

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13. A ski-receiving frame adapted to mount upon a support rod and to receive and hold a pair of skis within the frame and between the frame and support rod, said ski-receiving frame comprising a pair of side members and a base member, said side members being interconnected by said base member and extending in spaced, parallel relation with each other, each said side member having an aperture means having a sliding fit with said support rod, both said aperture means being axially aligned, the length of each said side member intermediate said base member and said aperture means, respectively, being about 3 inches to be substantially equal to, but no less than, the width of the skis to be received in said ski-receiving frame and the width of said ski-receiving frame between said side members being about 2 inches to be substantially equal to, but no less than, the thickness of said pair of skis when juxtaposed on top of one another.

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14. The ski-receiving frame according to claim 13 including an intermediate member extending from said base member intermediate and parallel with said side members and being spaced from said side members, respectively, sufficiently to permit the reception of one said ski in each space between a said side member and said intermediate member, each said space being of a width of about 1 inch, to be substantially equal to, but no less than, the thickness of the ski to be received therein.

15. The ski-receiving frame according to claim 14 wherein said intermediate member has an aperture means in axial alignment with the said aperture means in said side members and is of the same length intermediate said base member and said aperture means therein as said side members are intermediate said base member and aperture means, respectively.

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