United States Patent [19]

Smedley

[11] **3,830,416**

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[54] **SKI LOCK AND CARRIER**

[76] Inventor: **Richard W. Smedley,** 1008 Alann Dr., Joliet, Ill. 60435

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[52] **U.S. Cl.** ..... **224/45 S,** 224/49, 224/52

[51] **Int. Cl.**..... **B65d 71/00**

[58] **Field of Search**..... 224/45 S, 49, 45.16, 5 Z; 70/58

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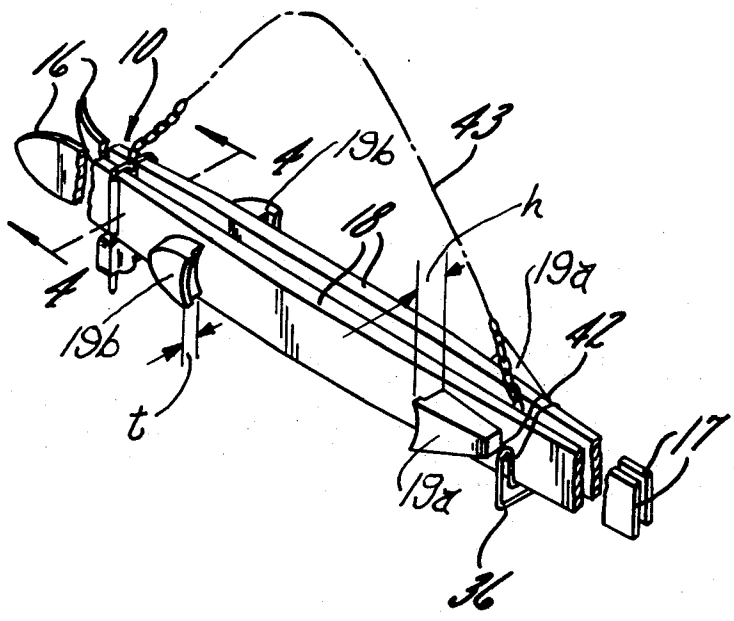
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Primary Examiner—Robert J. Spar
Assistant Examiner—Kenneth Noland
Attorney, Agent, or Firm—John L. Parker

[57] **ABSTRACT**

A lock and carrier device is provided for snow skis and like objects. The lock includes a lock body and a shackle for retaining the skis. One end of a flexible link such as a chain or cable is attached to either the lock shackle or body, and the other end is attached to a carrier member. When the skis are placed within the lock and carrier, the flexible link functions as a handle for carrying the skis. In an alternate use, the carrier end of the flexible link may be looped around a fixture such as a ski rack, and the lock member attached to the link passed through an opening in the carrier so that the lock member, carrier and link are secured to the fixture in slip-knot fashion. When the lock body and shackle are thereafter attached together, the lock (with or without retained skis) becomes secured to the fixture.

1 Claim, 5 Drawing Figures



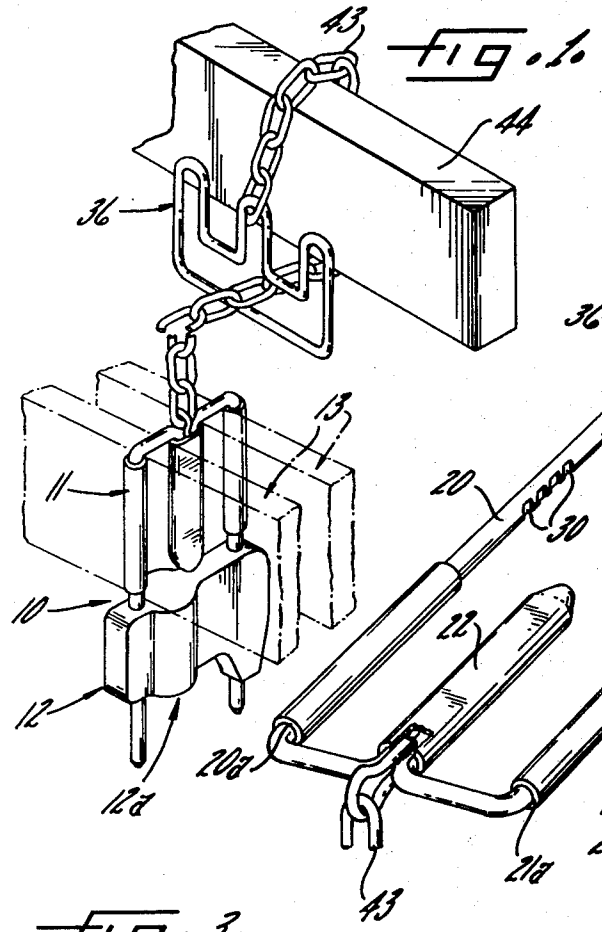


Fig. 1.

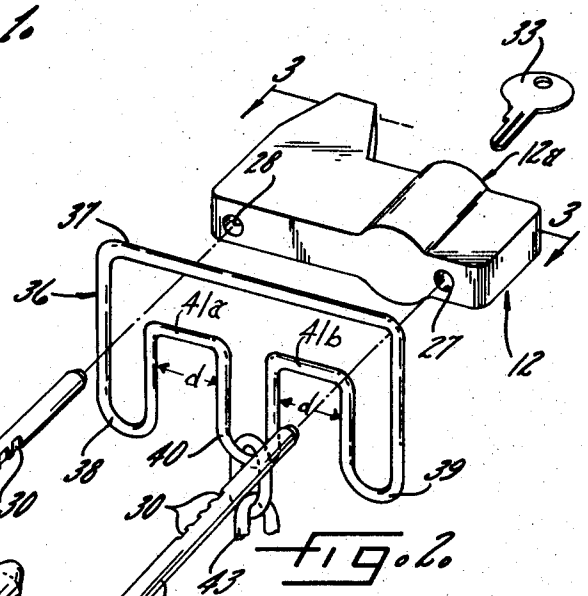


Fig. 2.

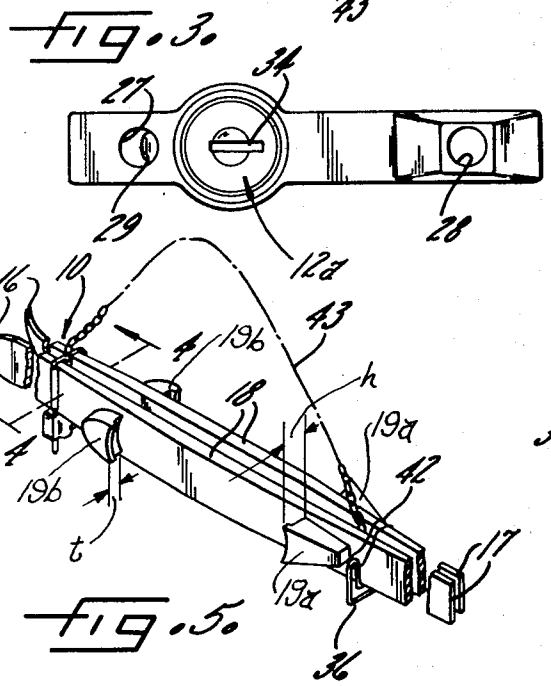


Fig. 3.

Fig. 5.

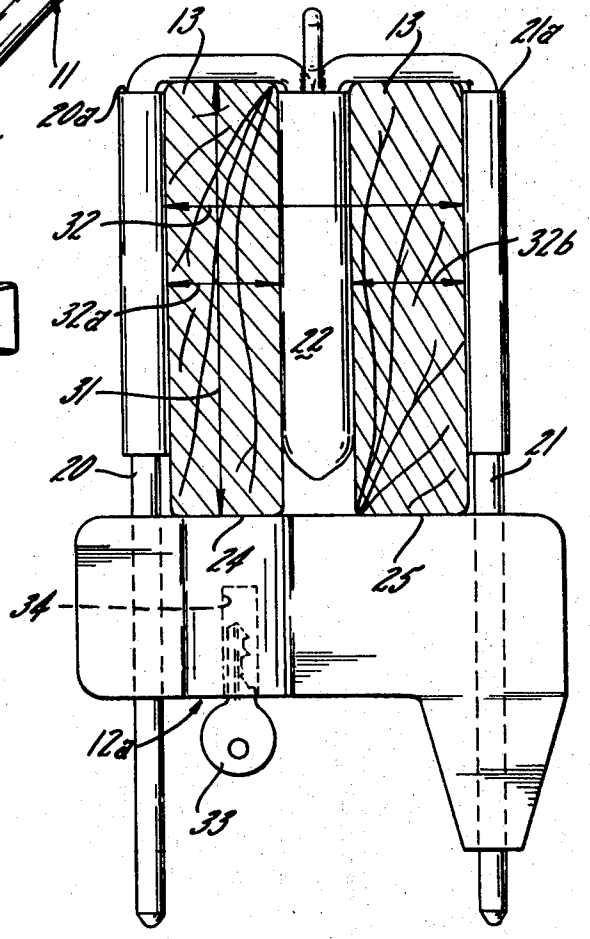


Fig. 4.

SKI LOCK AND CARRIER

DESCRIPTION OF THE INVENTION

This invention relates to a ski carrying device, and more particularly concerns a combination ski carrying and locking device.

The rise in popularity of the sport of skiing in the United States and elsewhere in recent years has been phenomenal. Unfortunately, a great increase in the incidence of theft of skis from ski lodges and storage areas has also been experienced. To prevent such thefts, ski locks such as that disclosed in Smedley U.S. Pat. No. 3,636,739 have been offered to the ski trade and have met with commercial success. The Smedley ski lock typically includes a shackle shaped to fit snugly around the midportions of the skis and a detachable body for locking engagement with the shackle to prevent removal of the skis from the lock.

It is a principal object of the present invention to provide a ski carrying device for use with such a ski lock, which enables the user to readily fasten or unfasten the lock and retained skis to a permanent fixture such as a ski rack, and to easily carry the locked skis by hand when they have been unfastened from the fixture.

It is another object to provide a carrying device of the above type which may alternatively be used to fasten the locked skis to any of a variety of different ski racks or like permanent fixtures.

Yet another object of the invention is to provide a combined ski carrying and retaining device which is inexpensive to manufacture, easy to use, and difficult or impossible to damage.

Other objects and advantages of the invention will become apparent upon reading the following detailed description and upon reference to the drawings, in which:

FIG. **1** is a perspective view showing an illustrative lock and carrier device (with retained skis shown in dotted outline) secured to a permanent base or fixture,

FIG. **2** is an exploded perspective view showing parts of the illustrative ski lock,

FIG. **3** is an end view, taken along the line **3—3** in FIG. **2**, of the illustrative ski lock body,

FIG. **4** is a view, partly in section, taken substantially in the plane of line **4—4** in FIG. **5**, showing an illustrative ski lock in place on the skis, and

FIG. **5** is a fragmentary perspective view showing an illustrative lock and carrier device attached to the skis for carrying the skis.

Turning to the drawings, there is shown a lock of the type described in Smedley U.S. Pat. No. 3,636,739. As shown, the lock **10** includes a U-shaped shackle **11** and a lock body **12** containing, in this instance, a suitable key operated locking mechanism **12***a*. Combination-type lock mechanisms may also be utilized.

The illustrative lock is particularly suited for use with conventional skis **13**, which as is generally known, are not uniform in cross-sectional shape. Rather, most skis **13** are relatively broad and thin near their tips **16** and tails **17**, gradually narrowing and thickening toward their mid-portions. The skis become narrowest and thickest at a ski mid-sectional point, designated as **18** in the drawings (FIG. **5**). Each ski is also typically arched or bowed with a bottom camber, and is provided with a binding including a heelpiece **19***a* and/or a toepiece **19***b* mounted on the top surface of the ski for attaching the skier's boot to the ski. Each heelpiece **19***a* extends above the top surface of the ski a distance *h*, and each toepiece extends above this surface a distance *t* (see FIG. **5**). The distance *h* is usually somewhat greater than the distance *t* because of the way the skier's boots are constructed, although this need not be the case.

The illustrative lock **10** as constructed takes advantage of the gradual change in cross-sectional shape of the skis **13** to lockably retain the skis within the shackle and lock body. To this end, the illustrative shackle **11** is rigidly formed in the shape of a squared U having two parallel legs **20** and **21** and a central tongue **22** disposed parallel to the legs. In this instance the shackle is formed of bent wire rod, and the tongue **22** and upper portions of the legs **20, 21** are covered with plastic coatings **20***a* and **21***a*.

To retain the bottom ski camber and to avoid straining the skis **13** when they are inserted in the shackle, the tongue member **22** has a minimum thickness or width substantially equal to the distance between the bottoms of the skis when the tips and tails of the skis are in engagement and the skis are placed bottom to bottom (see FIG. **5**).

To secure the skis **13** in the lock, the shackle **11** is placed around the skis near their ends and moved along the skis toward the ski mid-point **18** as far as it will go, so that the cross-sectional thicknesses of the skis substantially fill the space within the shackle. The lock body **12** is then thrust onto the ends of the shackle legs **20, 21** and advanced to the illustrated position snugly abutting the ski sides **24** and **25** (see FIGS. **1, 4, 5**). To accomodate the shackle legs **20** and **21,** spaced holes **27** and **28** are formed in the lock body.

The lock mechanism **12***a* includes one (as illustrated) or more key-operated latches **29** positioned within one (as illustrated) or both holes **27, 28** for engaging selected ones of the notches **30** formed on the shackle legs **20** and **21.** Several such notches **30** are provided so that the lock may accommodate skis of varying widths. The lock mechanism **12***a* is thus operable regardless of which shackle leg **20** or **21** is inserted into which hole **27** or **28.**

When the lock body **12** is thus attached to the shackle **11,** the shackle and lock body together define an enclosed free space into which the tongue **22** extends to lockably retain the skis. The length **31** of this enclosed free space (see FIG. **4**) is less than the maximum but greater than the minimum width of the skis. The space width **32,** defined as the sum of the distances **32***a* and **32***b* when the shackle includes a central tongue **22,** is less than the sum of the maximum thicknesses of the skis, but is at least as great as the sum of the thicknesses of the skis at the point along the length of the skis where the width of the skis is equal to the length of the enclosed free space.

When attached to the skis **13** in this manner, the lock **10** cannot be removed from the skis. The shackle **11** cannot be moved toward the tips **16** (or tails **17**) of the skis, for the increasing widths of the skis cannot be accommodated between the shackle and the attached lock body (i.e., the ski width would exceed the length **31** of the enclosed free space). And the shackle cannot be moved further toward the mid-point **18** of the skis, for the increasing thicknesses of the skis cannot be ac-

commodated in the space **32** (or **32***a* and **32***b*) between the shackle legs **20, 21** (and tongue **22**).

In this instance the lock **10** is opened by a key **33** insertable into a keyway **34** provided in the lock body **12,** the keyway being aligned longitudinally in the same direction as the shackle **11.** The keyway **34** thus faces outwardly so that the key **33** is inserted from the side of the lock body **12** opposite the shackle **11.** Or, if a combination lock is used, the manually operable combination dial or discs (not shown) are accessible from the side of the lock body **12** opposite the closed end of the shackle.

In accordance with the invention, a carrier device is provided for assisting the lock user in carrying his skis. As illustrated, a carrier **36** formed of heavy wire **37** and generally shaped as a hollow "E" is provided. The "E" includes two outer ski support legs **38, 39,** and an inner separator leg **40.** The outer legs **38, 39** are separated from the inner leg **40** by cross bar portions **41***a* and **41***b* of the carrier structure. The "E" shape of the carrier **36** thus defines two generally U-shaped pockets for cradling the skis.

Alternatively, the inner separator leg of the carrier may be omitted, in which case the carrier is generally shaped as a hollow "U" (not shown). In this event, the carrier provides a U-shaped cradle for the skis.

To permit installation of the illustrative carrier **36** under the sides of the skis, each distance *d* is chosen to be greater than the minimum thickness of the ski, but less than the sum of *a.*) the greater of the distances *h* and *t*, and *b.*) the thickness of the ski at the point along the ski where the greater distance *h* or *t* is located. In this way the carrier pockets are large enough to receive the skis at least at their points of minimum thickness, and yet are sized alternatively to snugly fit around the skis at the points just forward or behind where the boot heelpieces **19***a* or toepieces **19***b* are attached to the skis. The sizing of the carrier pockets thus prevents the carrier from slipping past the ski binding.

The cradling effect of the legs thus discourages inadvertent disengagement of the carrier **36** from the skis, as well as inadvertent sliding of the carrier **36** forward toward the ski tips **16** (or backward toward the ski tails **17**). To further secure the carrier **36** to the skis, a flexible strap **42,** shown in FIG. **5,** may be passed across the skis from one support leg **38** to the other **39.**

Joining the carrier **36** and the lock **10** is a flexible link member **43,** which may take the form of a chain as illustrated. When the lock **10** and the carrier **36** are installed on the skis, as illustrated in FIG. **5,** the flexible link **43** provides a carrying handle for the skis. This handle may be gripped in the hand of the user, or may be slung over the user's shoulder. As an alternate construction (not illustrated), the flexible link **43** may be attached to the lock body **12** rather than the shackle **11.**

In accordance with another aspect of the invention, the carrier **36** is also constructed to provide means for fastening the lock **10** with or without its retained skis to a permanent base or fixture **44.** To this end, the carrier **36** is formed to define an opening of sufficient size to allow passage of the shackle **11** therethrough. In this instance the opening corresponds to the hollow part of the "E." This opening is sized, however, too small to allow passage of the lock and skis when the lock is secured on the skis. To secure the lock **10** to the fixture **44** such as a ski rack, the lock user passes the shackle around the fixture (see FIG. **1**) and then passes at least one leg of the shackle through the carrier opening. He then locks the shackle **11** to the lock body **12.** If the link **43** is alternatively attached to the lock body **12,** the carrier **36** may be formed to allow passage of the lock through the opening in the carrier.

I claim as my invention:

1. A ski lock and carrier combination for use with a pair of skis placed bottom to bottom and which include at least one toepiece or heelpiece for the skier's boots, each having a tip portion and a tail portion each of relatively broad and thin cross-section and having a midsectional portion of relatively narrow and thick cross-section, and each ski being bowed with a bottom camber, comprising a lock body having a planar side and a shackle for lockable connection with the lock body, the shackle rigidly formed in the shape of a squared U and having two parallel legs, the shackle and lock body when locked together defining between the shackle and the planar side of the body an enclosed free space, the length of the enclosed free space being less than the maximum but greater than the minimum width of the skis, and the width of the enclosed free space being less than the sum of the maximum thicknesses of the skis but at least as great as the sum of the thicknesses of the skis at the point along the length of the skis where the width of the skis is equal to the length of the enclosed free space, a ski carrier formed to define a rigid cradle for the skis for engagement with the skis at a location spaced along the skis from the lock, and a flexible link attached at one end to the lock and attached at the other end to the carrier so as to form a carrying sling for the skis when the lock and carrier are attached thereto, the ski carrier being formed with two outer ski support legs and an inner leg therebetween, the legs being separated from one another by cross-bar means, the distance between the adjacent legs being greater than the minimum thickness of a ski, but less than the sum of a). the greater of the distances *h* and *t* that the heelpiece or toepiece, respectively, extend from the top surface of the ski, and b). the thickness of the ski at the point along the ski where the greater distance *h* or *t* is located, and said carrier being provided with an opening sufficient in size to allow passage therethrough of the lock member which is attached to the flexible link but insufficient in size to permit passage therethrough of both the lock and the skis when the lock is secured on the skis.

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