United States Patent

[11] 3,604,228

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[21] Appl. No. **53,826**
[22] Filed **July 10, 1970**
[45] Patented **Sept. 14, 1971**

[54] **LOCKING DEVICE FOR SKIS AND SKI POLES**
9 Claims, 7 Drawing Figs.

[52] **U.S. Cl.** ..... **70/58,** 211/60 SK
[51] **Int. Cl.** **E05b 73/00,** A47f 7/00
[50] **Field of Search** ..... 70/14, 58, 62, 63; 211/60 SK, 4; 280/11.37 K, 11.37 A; 194/64, 65

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ABSTRACT: A stationary lockable device for concurrently engaging a pair of skis and ski poles to prevent the unauthorized removal of the same from the device. The lockable device includes a rigid rectangular box that occupies a fixed position, and has a removable door associated therewith. The sides and bottom of the box are slotted to permit the handle portions of a pair of ski poles to be inserted therein, and when so inserted removably gripped by spring-loaded means to prevent a downward movement of the poles relative to the box.

The movable door of the box has ski-engaging means mounted thereon to so support the skis that when the door is in a closed position the bindings of the skis are within the confines of the box. The skis extend upwardly and downwardly relative to the box through slots formed in the top and bottom thereof. The slots are of sufficiently narrow width that the bindings of the skis cannot pass therethrough. The door is provided with a lock to hold it in a closed position relative to the box, and when the door is so closed wall members are moved within the box to close the pole-handle-receiving openings therein. So long as the door of the box remains in a closed and locked position, the ski poles and skis that are partially situated in the confines thereof are held in a nonremovable position relative to the box, and theft or unauthorized removal of the skis and ski poles from the locking device is prevented.

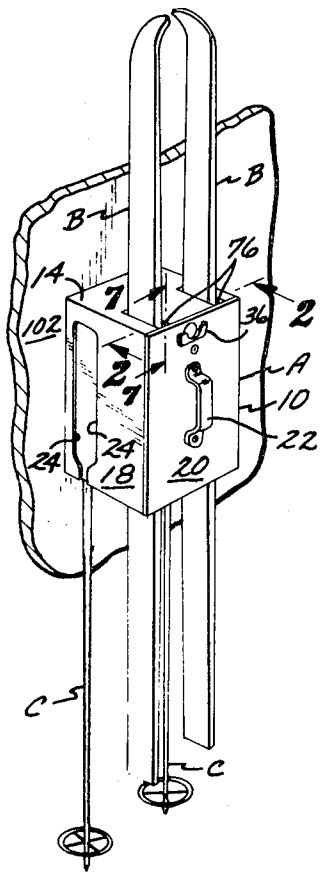


FIG. 1

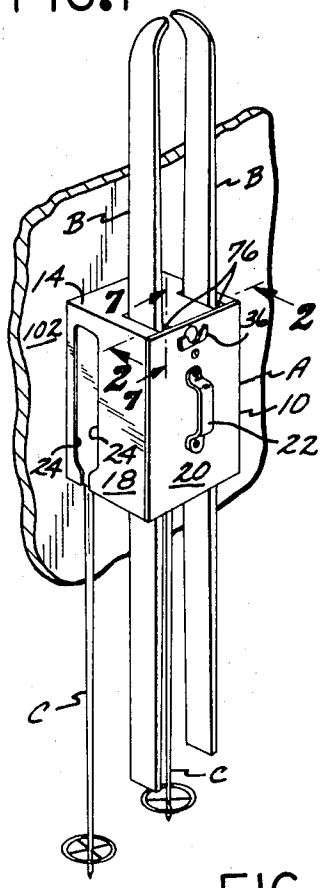


FIG. 2

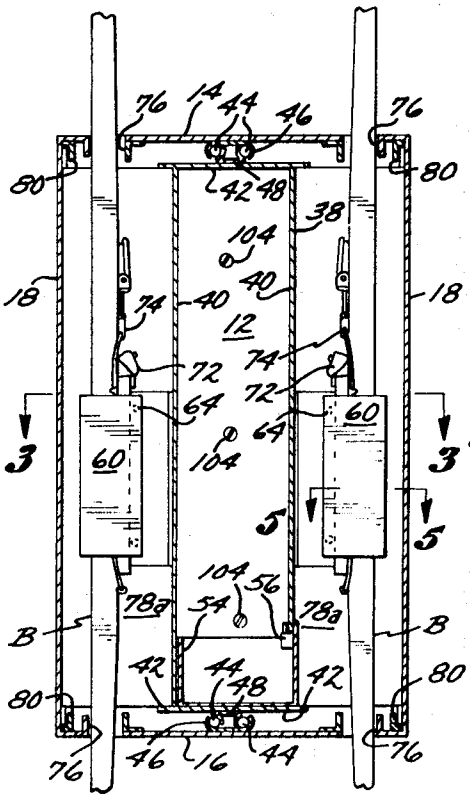


FIG. 5

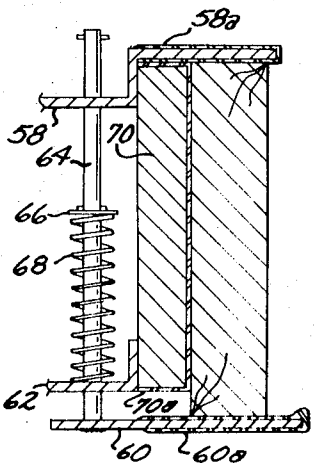


FIG. 6

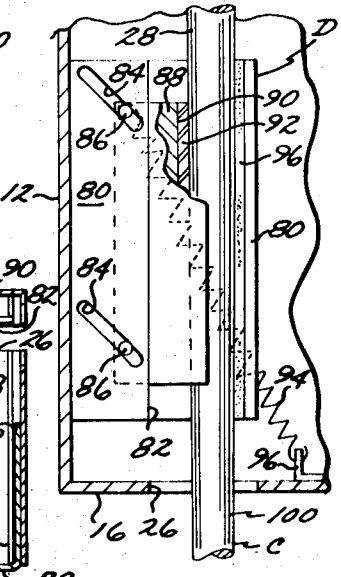


FIG. 3

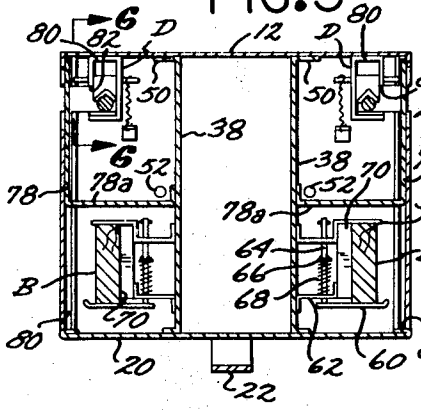


FIG. 4

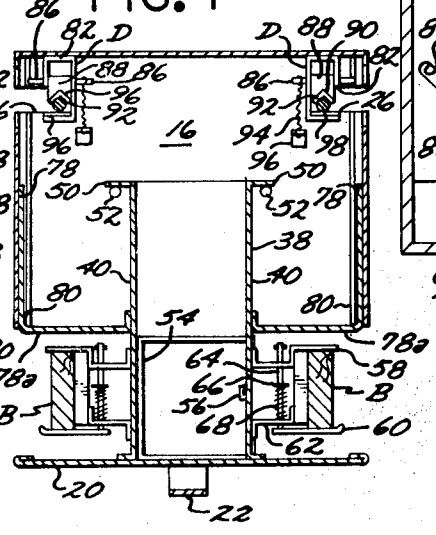
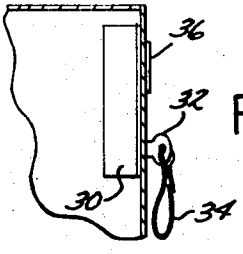


FIG. 7



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LOCKING DEVICE FOR SKIS AND SKI POLES

BACKGROUND OF THE INVENTION

1. Field of the Invention

Lockable device for concurrently engaging a pair of ski poles and skis.

2. Description of the Prior Art

During the past few years, the popularity of skiing has increased tremendously, and as a result in many winter resorts hundreds of people engage in this sport. When such persons are not on the slopes, it is common practice to find pairs of expensive skis and ski poles temporarily stored in exposed positions from which they may easily be stolen. Prior to the present invention, the only locking device of which the applicant is aware that would prevent theft of such equipment, or the unauthorized removal and use thereof, are chains that may be extended through the bindings of skis and the chains then closed to encircle a tree or other upright structure, with the free ends of the chain being locked together by a combination padlock or the like.

Such locking devices have proved to be of little or no value, as it is a simple matter to snip the locked chain with a bolt cutter should a thief desire to steal a pair of skis. Prior to the present invention the applicant knows of no locking device other than a relatively high cost locker in which both skis and ski poles may be disposed when not in use to prevent the same from being stolen.

The primary purpose in devising the present invention is to supply a relatively compact device for use at ski resorts that is preferably mounted on a sturdy upright structure, with the device when so mounted capable of being used to removably lock a pair of skis and ski poles therein, and the device being actuated to permit a pair of skis and ski poles to be secured thereto by depositing a coin in the device. The device not only provides a definite service to skiers in minimizing the hazard of their skis and ski poles being stolen, but also serves as a source of revenue to the person or persons installing such devices at a ski resort.

SUMMARY OF THE INVENTION

A device for concurrently engaging a pair of skis having bindings thereon and a pair of ski poles that include elongate tapered handles. The device includes a rigid elongate box that is preferably secured at an elevated position on a sturdy upright structure. The box includes a movable door that may be disposed to close the forward open end thereof. Two pairs of elongate axially aligned slots are formed in the top wall and bottom wall of the box, and are of such width as to engage a pair of skis, but are of sufficiently narrow width that the skis and bindings thereon may be slid through said slots.

The door has means for removably engaging and supporting a pair of skis to dispose the latter in said slots, and with the bindings on the skis being situated within the interior of the box. When the door is in a closed and locked position, the skis cannot be removed from the box due to the bindings being of too great size as to slide through said slots. Transversely aligned recesses are formed on the sides of the box. The recesses are of such size as to have the handles of ski poles inserted therethrough, and these recesses being in communication with transverse openings formed in the bottom of the box.

The interior of the box has spring-loaded means associated therewith that grip the handles when the latter are moved into the confines of the box and the spring loaded means preventing the handles being moved downwardly out of the box. Upward movement of the ski poles in the box to the extent that they may be separated therefrom when the door is in a closed and locked position is prevented by the upper extremities of the handles striking the interior surface of the top wall of the box.

Slidable wall sections that are secured to the door close the ski pole handle receiving recesses when the door is moved into a closed position. After the handles of the ski poles are disposed within the interior of the box, and the skis are mounted on the door, the door is moved to a closed position relative the box with the skis extending upwardly and downwardly therefrom. The door is then locked in a closed position relative to the box. The skis and ski poles are removable from the box only after the door is unlocked and moved to an open position.

A primary object in devising the present invention is to supply a locking device that is preferably coin operated and one that can concurrently engage a pair of skis and the handle portions of a pair of ski poles to maintain the skis and ski poles in substantially fixed positions relative to the box until such time as the door is unlocked and moved to an open position.

Another object of the invention is to provide a locking device for a pair of skis and ski poles that has a simple mechanical structure, can be fabricated from standard commercial materials, requires no elaborate plant facilities for its production, and one that provides security for the person locking his skis and ski poles therein, as well as financial remuneration for the person or persons installing the device at locations where they may be utilized by skiers.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the lockable device mounted at an elevated position on a sturdy nonmovable upright structure, and the device supporting a pair of skis and ski poles in substantially fixed positions relative thereto when a door that forms a part of the device is in a closed and locked position;

FIG. 2 is a cross-sectional view of the device taken on the line 2—2 of FIG. 1;

FIG. 3 is a transverse cross-sectional view of the device taken on the line 3—3 of FIG. 2 and with the door thereon in a closed and locked position;

FIG. 4 is the same transverse cross-sectional view as shown in FIG. 3, but with the door in the open position;

FIG. 5 is an enlarged cross-sectional view of a portion of the device that removably grips the longitudinal sides of a ski;

FIG. 6 is an enlarged fragmentary longitudinal cross-sectional view of a portion of the device taken on the line 6—6 of FIG. 3; and

FIG. 7 is a fragmentary cross-sectional view of the upper portion of the device that includes a lock that may only be actuated after a coin has been placed in a box associated with the lock.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A lockable device A for holding a pair of skis B and ski poles C at generally fixed positions relative thereto is shown in FIG. 1. The device A as may best be seen in FIG. 1, 2, 3 and 4 includes a rectangular box 10 that is preferably formed from rigid sheet metal, and includes a backwall 12, a top wall 14, a bottom wall 16, and two laterally spaced sidewalls 18. A rectangular door 20 is provided, as may best be seen in FIGS. 1, 3 and 4 that has a handle 22 mounted on the forward surface thereof.

The two sidewalls 18 each have elongate recesses 24 therein with each recess being in communication with a transverse opening 26 formed in the bottom wall 16 as may best be seen in FIG. 4. Two spring-loaded first means D are provided within the box 10 to removably grip the ski pole handles 28 as shown in FIG. 3, 4 and 6, after the handles portions have been moved inwardly through recesses 24 to have the poles C depend downwardly from the box 10 through the openings 26.

The door 20 may occupy either the closed position shown in FIG. 7, that is preferably operated by a key 32 that has a spring clip 34 secured thereto. The key 32 can only position the lock 30 in a locking position relative to the box 10 after a coin (not shown) has been deposited in a coin-receiving assembly 36 that is mounted on the forward portion of the door 20. The door 20 has a rectangular support designated generally by the numeral 38 extending rearwardly from the central portion thereof as may best be seen in FIGS. 2, 3 and

4. The support 38 is preferably formed from two laterally spaced vertically disposed rigid sheet members 40 that are connected on their ends by two crosspieces 42. The support 38 is movably secured to the box 10 by a number of ball bearings 44 that rotatably engage first rearwardly extending guides 46 secured to the top wall 14 and bottom wall 16, and second guides 48 that are affixed to the crosspieces 42 as shown in FIG. 2. The support 38 so maintains the door 20 that it may occupy either the closed position shown in FIG. 3 or the open position illustrated in FIG. 4. Flanges 50 project outwardly from the rearward ends of the support 38, and these flanges limit the forward movement of the door 20 by engaging stops 52 as shown in FIG. 4. The support 38 has a transverse coin-receiving drawer 54 mounted therein that can only be opened when a second conventional lock 56 is freed from engagement with one of the vertical member 40. The owner of the locking device A will have a key (not shown) to the lock 56, to permit coins to be removed from the drawer 54 when the drawer is placed in an open position. Coins deposited in the coin-receiving assembly 36 drop therefrom by gravity into the coin-receiving drawer 54.

Two ski support assemblies E are provided for the skis B, which assemblies are mounted on and extend outwardly in opposite directions from the vertical members 40. Each assembly E includes a first stationary ski-engaging member 58 and second movable ski-engaging member 60. Each ski-engaging member 58 is rigidly secured to the member 40 most adjacent thereto. A bracket 62 extends outwardly from each of the members 40 and is intermediately positioned between the ski-engaging members 58 and 60.

Each first ski-engaging member 58 and the bracket 62 associated therewith has axially aligned openings therein that slidably support a rod 64 that has one end thereof secured to second ski-engaging member 60. Each rod 64 has a collar 66 mounted thereon. A compressed helical spring 68 encircles each rod 64 and has the ends thereof in abutting contact with one of the collars 66 and one of the second ski-engaging member 60.

Two elongate blocks 70 are longitudinally aligned relative to box 10 and supported by first ski engaging members 58 and brackets 62. Blocks 70 serve as supports on which the toe plates 72 of ski bindings 74 rest when the skis B are mounted on the device A. Each pair of first and second ski engaging members 58 and 60 is capable of frictionally contacting the longitudinal sides of a ski B to so support the ski that when the door 20 is placed in the closed position, the ski B engages axially aligned slots 76 formed in the top wall 14 and bottom wall 16 as shown in FIG. 2. The slots 76 are of sufficient width to permit the skis B to be disposed therein, but not of sufficient width to permit bindings 74 to be slid therethrough. The length of the box 10 is greater than that of the bindings 74. The portions of blocks 70 and ski-engaging members 58 and 60 adjacent skis B have layers of soft resilient materials 70*a*, 58*a* and 60*a* covering these portions to prevent damage to the skis as shown in FIG. 5.

Two laterally spaced, parallel, rigid rectangular member 78 are disposed adjacent the interior surfaces of sidewalls 18 and slidably supported in guides 80 as shown in FIGS. 2, 3 and 4. The members 78 are connected to support 38 by transverse extensions 78*a*. Guides 80 prevent members 78 being moved inwardly by force applied through the recesses 24 to allow tampering with the elements inside box 10.

The first means D include two elongate, hollow, vertically disposed members 80 of transverse rectangular cross section that are disposed inside box 10 and secured to backwall 12 by conventional means. Openings 82 are formed in members 30 that are in communication with recesses 24 and openings 26.

Pairs of upwardly and rearwardly extending slots 84 are formed in opposite sides of the members 78, which slots are slidably engaged by pins 86 that extend outwardly therefrom. The pins 86 associated with each member 78 are connected on their inner ends to a ski-handle-gripping member 88 that has a V-shaped forward surface 90 that is covered by a resilient sheet 92. Pins 86 are connected to tensioned helical springs 94 that extend forwardly to anchor members 96, which members are secured to bottom members 16 as shown in FIG. 6. The forward interior surface of each member 80 has a resilient sheet 98 secured thereto.

When the door is in the open position as shown in FIG. 4, a finger (not shown) of the user of device A may be inserted through one of the recesses 24 to contact one of the pins 86 and one of the gripping members 88 upwardly and rearwardly to the extent that a handle 100 of a ski pole C may be inserted through a recess 24 to be gripped between the resilient sheets 92 and 98, with the portion of the ski pole C below the handle extending downwardly through opening 26. Upon release of the pin by the finger (not shown) the tensioned spring pulls the gripping member 88 downwardly and forwardly for the handle 100 to be frictionally gripped between resilient sheets 92 and 98.

Handle 100 tapers downwardly and inwardly as shown in FIG. 6 after handle 100 has been frictionally gripped between resilient sheets 92 and 98, any downward force exerted on pole C in an endeavor to remove it from the device A will cause the sheets 92 and 98 to exert an increased gripping force on handle 100. The box 10 is of less height than the length of the pole C. The box is secured to a vertically extending structure 102 as shown in FIG. 1 at a sufficient elevation that the lower ends of the ski poles C are disposed above the ground surface (not shown). When the door 20 is moved to the closed position shown in FIG. 3 the members 78 extend across the recesses 24 to prevent the pins 86 being engaged to move the gripping 88 upwardly and rearward to release sheets 92 and 98 from gripping contact with handle 100.

Prior to the door 20 being closed and after the handles 100 are positioned in the device A as above described, the second ski-engaging members are moved outwardly to permit the skis B to be positioned between members 58 and 60. The skis B are now vertically positioned with the toe plates situated above the blocks 70. Moving the door 20 to the closed position when the skis B are so supported thereon results in the slots 16 engaging the skis above and below the bindings 74 thereon. Key 32 is now used to lock door 20 in a closed position relative to box 10. Clip 34 may be used to removably affix the key 32 to a belt (not shown) of a user of the device A.

When it is desired to remove the skis B and ski poles C from the device A, the key 32 is used to unlock the lock 30, with the door 20 then being manually moved from the closed position illustrated in FIG. 3 to the open position shown in FIG. 4. The skis B and poles C may now be disengaged from the device A. The lockable device A may be supported at an elevated position above the ground surface from the structure 102 by screws 104 that extend through openings (not shown) in backwall 12 into the structure.

The use and operation of the lockable device A has been described previously in detail and need not be repeated.

I claim:

1. A lockable device for concurrently engaging a pair of skis having bindings thereon and a pair of ski poles that include elongate tapered handles when said device is secured at an elevated position to a fixed rigid structure, said device comprising:

a. a rigid rectangular box of greater length than the lengths of said bindings, said box including a rearwardly disposed vertical backwall, a top wall, a bottom wall and two laterally spaced sidewalls, said top wall and bottom wall having pairs of axially aligned slots therein that extend rearwardly from the forward edges thereof, said slots of greater width than the thickness of said skis but of insufficient widths as to permit said bindings being slid therethrough,, with said sidewalls having vertically extending recesses therein that communicate with transverse openings in said bottom wall, and said recesses of sufficient lengths to have at least portions of said handles passed therethrough for portions of said poles to depend downwardly from said box through said openings;

b. first spring operated means inside said box for engaging said handles when said handles are inserted through said recesses to prevent said ski poles being moved downwardly relative to said box:

c. a door of such size as to close the forward end of said box;

d. second means for movably supporting said door from said box for permitting said door to be moved to a first position where said door closes said box;

e. third means for locking said door in said first position;

f. fourth means for so supporting said skis relative to said door that said bindings are disposed in said box and said skis extend through said slots in substantially vertical positions when said door is in said first position; and

g. fifth means operatively associated with said door for closing said recesses when said door is in said first position to prevent said poles being moved laterally out of said box, said poles being prevented from moving upwardly out of said box due to the upper ends of said handles contacting said top wall, and said skis being maintained in engagement with said box when said door is in said first position due to said bindings being too large to slide through said slots.

2. A lockable device as defined in claim **1** in which said first means includes:

h. two laterally spaced elongate hollow members of transverse rectangular cross section that have second openings therein that are transversely aligned with said first openings in said bottom member and said recesses to permit said handles to be removably inserted within said hollow members;

i. two handle-gripping members supported for forward and rearward movement in said hollow members;

j. sixth means for movably supporting said handle-gripping members in said hollow members; and

k. spring means that at all times tend to move said handle-gripping members into frictional gripping contact with said handles to prevent said poles being moved downwardly out of said box.

3. A lockable device as defined in claim **2** which in addition includes:

l. resilient surface defining means on said handle-gripping members and on the interior surfaces of said hollow members to prevent said handles being defaced when said handles are gripped in said hollow members;

4. A lockable device as defined in claim **1** in which said second means includes:

h. a rigid member that extends rearwardly from said door into said box;

i. first guide means secured to the interior surfaces of said top wall and bottom wall;

j. second guide means connected to said rigid member and adjacently disposed to said first guide means; and

k. movable rigid means that are engaged by both said first and second guide means to permit said door to move forwardly and rearwardly relative to said box.

5. A lockable device as defined in claim **4** in which said first and second guide means are of arcuate transverse cross section and said movable rigid means are a plurality of rigid balls.

6. A lockable device as defined in claim **1** in which said second means includes:

i. a rigid member that extends rearwardly from said door into said box; and

j. sixth guide means that movably supports said rigid member from the interior of said box.

7. A lockable device as defined in claim **6** in which said fourth means includes:

k. two stationary ski-engaging members on opposite sides of said rigid member;

l. two movable ski-engaging members on opposite sides of said rigid member;

m. spring means for moving said movable ski-engaging members towards said stationary ski-engaging members for said ski-engaging members to grip opposite longitudinal sides of said skis.

8. A lockable device as defined in claim **6** in which said fifth means are rigid sheets connected to said rigid member and moving concurrently therewith, said rigid sheets closing said recesses when said door is in said first position.

9. A lockable device as defined in claim **8** which in addition includes:

k. guide means on the interior of said box that are slidably engaged by said sheets, said guide means preventing inward movement of said sheets by forces applied transversely thereto through said recesses.