April 23, 1963 M. A. VIKRE 3,086,688

HANDLE-EQUIPPED SKI CARRIER

Filed Jan. 20, 1959

FIG. 5

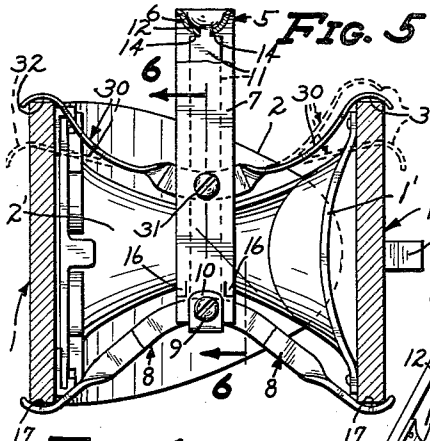


FIG. 1

FIG. 2

FIG. 6

FIG. 3

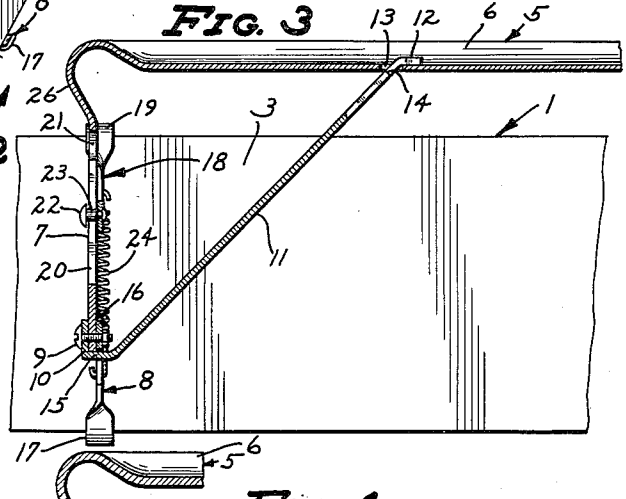


FIG. 7

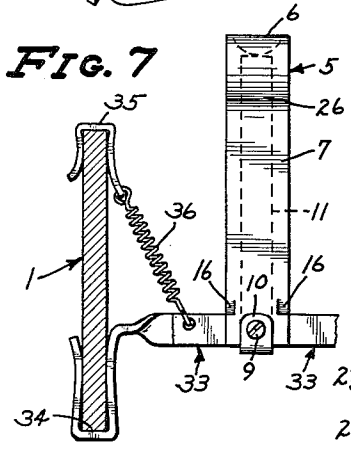
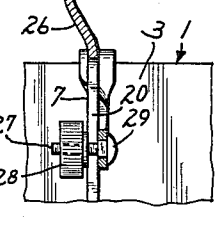


FIG. 4



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HANDLE-EQUIPPED SKI CARRIER

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9 Claims. (Cl. 224—45)

Generally stated, my present invention relates to devices for securing a pair of skis together in a neat, compact package that can be conveniently carried in one hand, shipped, stored, or displayed. While devices of the invention are adapted for use in connection with any type of ski, whether they be water skis, snow skis, or the like, they probably will fulfill the greatest need in connection with, and are expected to find the greatest acceptance in connection with, water skis.

Another object of the invention is the provision of improved devices of the kind and for the purpose above set forth which, when used in connection with water skis, or any skis that are used in conjunction with a tow rope, provide means for readily packaging together a pair of skis and tow rope and which complete package can be readily carried in one hand, shipped, stored or displayed.

Another objective of the invention is the provision of low cost, easily manipulated devices of the kind and for the purposes set forth.

Another objective of the invention is the provision of improved devices whereby a pair of skis can be readily secured or bound together in a neatly packaged easily carried condition complete with foot bindings and in which condition the said foot bindings are protected by the skis and said devices against damage from external sources and are retained in normal undistorted conditions.

Another objective of the invention is the provision of improved devices of the general character set forth above whereby a pair of skis, together with attached foot bindings and a tow rope, may be readily secured together in a neatly packaged condition convenient for shipping, storing, or displaying.

Preferably, and as illustrated herein, the devices of the invention are applied near the longitudinal centers of the skis and are provided adjacent the centers of balance of the pair of skis with a carrying handle.

The above and numerous other important objects and advantages of the invention will be made apparent from the following specification, claims and appended drawings.

In the accompanying drawings like characters indicate like parts throughout the several views.

Referring to the drawings:

FIG. 1 is a top and end perspective view of a commercial embodiment of the invention applied to a pair of water skis;

FIG. 2 is an enlarged sectional view taken on the line 2—2 of FIG. 1 with portions of a tow rope added;

FIG. 3 is a sectional view on the approximate scale of FIG. 2 and taken on the line 3—3 of FIG. 2, but with the tow rope removed;

FIG. 4 is a fragmentary view corresponding to the upper left hand portion of FIG. 3 but showing a somewhat modified species or form of the invention;

FIG. 5 is a sectional view corresponding generally to FIG. 2 but showing a further modified form or species of the invention;

FIG. 6 is a detail sectional view taken on the line 6—6 of FIG.5; and

FIG. 7 is a fragmentary view corresponding generally to FIGS. 2 and 5 but showing a still further species or form of the invention and having the right hand portion thereof broken away and omitted.

In the drawings hereof each of a pair of water skis is

indicated as an entirety by 1, the turned up front end portions thereof by 2, and the generally flat intermediate and rear end portions by 3. These water skis are shown as being equipped with commercially available foot bindings comprising flexible toe-receiving portions 1' and flexible heel-receiving portions 2'. While water skis vary considerably in character, those illustrated herein are of the type provided at their rear end portions with short keels 4 and are otherwise of the general type which are of substantially constant width throughout their flat, intermediate and rear end portions. However, when considering the merits of the device or apparatus to be described, it is important to bear in mind that many water skis are of continuously varying width throughout their relatively flat, intermediate and rear end portions.

Figures 1–3

First to be described will be the commercial form of the invention illustrated in FIGS. 1–3. The device or apparatus of these figures comprises a main body indicated as an entirety by 5 which main body is of generally inverted U-shape and comprises an elongated intermediate body portion 6 defining a carrying handle and a pair of depending generally parallel legs 7 each depending from an opposite end portion of the handle defining body section. In the interest of providing a convertible hand grip and adding rigidity to the intermediate body portion 6, said body portion is preferably made concavo-convex with the convex portion at the bottom. Carried by the bottom end portions of each of the depending body legs 7 is a ski-supporting structure comprising a pair of ski-supporting arms 8. The arms 8 of each pair thereof are rigidly anchored to their respective body legs 7 at their inner ends and project outwardly in opposite directions and are disposed generally normal to a vertical plane through the transverse centers of the body legs 7 and intermediate portion 6; and which latter plane is represented by the section line 3—3 of FIG. 2. In the preferred embodiment of the invention illustrated in FIGS. 1–3, the supporting arms 8 of each common pair thereof are integrally formed and secured to the associated body leg 7 by a nut-equipped anchoring bolt 9 which also serves to anchor the upturned end portion 10 of an associated diagonal brace 11, the upper end of which is connected to the intermediate handle defining body section 6 by an integrally formed anchoring tab 12 passed through a handle aperture 13 and bent over at its upper end to prevent downward displacement; upward movement of the diagonal braces 11 with respect to the intermediate portion 6 of the body 5 being prevented by engagement of shoulders 14 with the underside of said body portion. By reference to the drawings and particularly to FIG. 3, it will be noted that the bottom portions 15 engage the common inner ends of the integrally formed ski-supporting arms 8 and lock the latter against pivotal swinging movements on their respective body legs 7. By further reference to the drawings and particularly FIGS. 2 and 3, it will be seen that the body legs 7 are formed at 16 to provide stops underlying the upper edges of the arms 8 and providing further precaution against pivotal swinging movements of said arms with respect to the legs 7. By further reference to the drawings and particularly to FIGS. 1 and 2, it will be seen that the ski-supporting arms 8 are provided at their outer end portions with upwardly opening ski-receiving sockets 17. With this arrangement the sockets 17 of arms 8 located on the same side of the body 5 and the plane represented by the section line 3—3 are adapted to receive the lower longitudinal edge of a common horizontally disposed ski. In the preferred arrangement illustrated, these sockets 17 of a common pair of arms 8 are spaced to accommodate a pair of skis orientated as shown in FIG. 1 with their straight main body

portions 3 lying in spaced generally parallel relationship and the curved front end portion 2 of each ski directed toward and disposed in closely spaced relationship to the rear end portion of the other ski and in which condition, it will be noted by reference to FIGS. 1 and 2, the foot bindings 1' and 2' of the pair of skis 1 are disposed in the space between the skis where they are maintained in undistorted conditions and protected against damage from external sources.

For the purpose of retaining the pair of skis 1 snugly seated in the shallow upwardly opening sockets 17 of the supporting arms 8 of FIGS. 1–3, each body leg 7 is provided above each pair of supporting arms 8 with releasable ski-retaining means. Preferably, and as shown, each said means comprises a ski-retaining upper arm indicated as an entirety by 18. The arm 18 for each leg 7 is centrally or intermediately connected to its respective body leg 7 and projects in opposite directions therefrom with each half thereof disposed in generally overlying relation to a ski-supporting arm 8. Each of the arms 18 is provided at its outer end portion with a downwardly opening ski-receiving socket 19 adapted for reception of the upper longitudinal edge of a ski carried by the supporting arms 8 located on its respective side of the body 5 and the plane represented by section line 3—3. By reference to the drawings and particularly FIGS. 2 and 3, it will be seen that the main body legs 7 are each provided with an elongated slot 20 extending generally parallel to the vertical plane represented by section line 3—3 and each terminating at its upper end in an enlarged opening 21 sized to receive the head 22 of an anchoring pin 23 shown best in FIG. 3. The retaining arms 18 are intermediately connected to their respective body legs 7 with freedom for pivotal swinging movements on the axes of the pins 23 and for vertical sliding movements with respect to their associated body legs 7 by means of the said pins 23 which, as shown, are in the nature of shouldered rivets rigidly anchored to the arms 18, and working in and projecting through the body legs 7 and provided outwardly thereof with the said heads 22. The pin heads 22 are of a diameter greater than the width of the slots 20, and hence, overlap the outer faces of the legs 7. However, the diameters of the heads 22 of pins 23 are less than the diameters of the enlarged openings or passages 21 at the upper end of the slots 20 and will pass freely therethrough for the purpose of assembly and disassembly of the retaining arms 18 on the body legs 7.

The retaining arms 18 of FIGS. 1–3 are yieldingly urged in a downward direction by coil tension springs 24 applied between the intermediate portion of each half section thereof and an underlying relatively rigid supporting arm 8. When the device of FIGS. 1–3 is in an inoperative condition, the springs 24 will pull the retaining arms 18 to an extreme downward position wherein the pins 23 seat on the bottoms of the slots 20 and in operative conditions of the device with skis interposed between the arms 8 and 18 the arms 18 will be elevated to positions wherein the pins 23 are positioned in various intermediate portions of the slot 20 depending upon the width of the particular skis. However, the slots 20 are of such length that the pins 23 will be positioned below the slot openings 21 in all normal conditions of use so that there will be no danger of accidental displacement of the anchoring pins 23 from their respective legs 7.

The device of FIGS. 1–3 is very easily and quickly applied to a pair of skis and when applied, as shown in FIGS. 1–3, will firmly bind the skis together in a neat package suitable for carrying by one hand, storing, or shipping. Since the device is generally applied at the approximate longitudinal centers of the skis, and since the elongated handle defining portion 6 is located at the approximate transverse center of the package or unit, it is easy to find a location on the handle portion 6 that is at the center of balance of the unit. For storage purposes, of course, the unit may be suspended from a suitable wall fixture such as a hook, nail, pin, bracket or the like, applied under the handle portion 6. It should be understood that in the application of the device of FIGS. 1–3 to a pair of skis, the skis are applied one at a time; the first ski being seated in the sockets 17 of the arms disposed at a common side of the body 5 after which the retaining arms 18 on that side are forcefully elevated and seated on the upper edges of that ski and following which the second ski is applied in a similar fashion.

As shown in FIG. 2, a tow rope 25, such as conventionally used in connection with water skis, and which is apt to be on the order of seventy feet in length, may be and usually will be coiled about the upper portions of the depending body legs 7 below the plane of the handle defining intermediate body section 6. This, of course, provides a complete easily carried, stored and shipped package comprising a pair of skis 1 equipped with foot bindings 1'—2' and a tow rope 25. It will be obvious that the device of FIGS. 1–3 is suitable for use with skis of any length and of widely varying widths. Also, attention is here called to the fact that, whereas the skis 1 illustrated are of uniform width throughout the portions thereof engaged by the arms 8 and 18 of the device of the invention, many skis vary in width or flare from one end toward the other. Hence, with the latter type of ski when the two are reversed end for end in the manner illustrated, the portions of the skis clamped between arms 8 and 18 at one side of the device will be of much greater width than the corresponding portions of the skis at the opposite side. However, it will be obvious that because the retaining arms 18 are swingably mounted this nonsymmetrical arrangement will be handled with ease. By particular reference to FIG. 3, it will be seen that the upper ends of the depending body legs 7 are provided with outward projections 26 the main purpose of which is to retain a tow rope coiled about the legs 7 against accidental upward displacement therefrom.

Figure 4

In FIG. 4 parts corresponding to parts of FIGS. 1–3 are indicated by like characters. The form of the device shown in FIG. 4 differs from that of FIGS. 1–3 only in the following respects: (*a*) The springs 24 of FIGS. 1–3 have been omitted in FIG. 4 as has also the enlarged openings 21 at the upper ends of the slots 20; and (*b*) the pins 27 of FIG. 4 are of somewhat different character than the pins 23 of FIGS. 1–3 and are screw-threaded and provided with knurled finger nuts 28. In fact, the pins 27 of FIG. 4 are in the nature of bolts having heads 29. With this device of FIG. 4 the retaining arms 18 are merely forcefuly applied to the upper edges of the skis and then locked in position by means of the finger nuts 28. Obviously, of course, the springs 24 of FIGS. 1–3 may also be used with the arrangement of FIG. 4.

Figures 5 and 6

In these figures parts corresponding to parts in FIGS. 1–3 are also indicated by like characters. In fact, the only difference between the device of FIGS. 5 and 6 and that of FIGS. 1–3 resides in the substitution for the relatively rigid retaining arms 18 and springs 24 of FIGS. 1–3 of spring retaining arms 30 in FIGS. 5 and 6, which substitution also makes possible the omission of the slots 20 of FIGS. 1–3 in the device of FIGS. 5 and 6. In FIGS. 5 and 6 the arms 30 are formed of spring steel and are centrally pivotally connected to their respective body legs 7 by nut-equipped bolts 31. At their outer end portions the spring arms 30 are formed with downwardly opening sockets 32 corresponding to the sockets 19 of FIGS. 1–3. The advantage of the device in FIGS. 5 and 6 over the device of FIGS. 1–3 resides in lower initial cost. On the other hand, the device of FIGS. 1–3 has the inherent advantage of being suitable for use in connection with skis of greater width variation.

Figure 7

The form of the invention shown in this figure also has much in common with the device of FIGS. 1–3, and therefore, parts in FIG. 7 corresponding to parts in FIGS. 1–3 are indicated by like characters. In the form of the invention shown in FIG. 7 the upper arms have been omitted completely and the lower ski-supporting arms, indicated by 33, are formed at their outer ends to provide deep ski-receiving sockets 34 formed to snugly receive the skis 1. In fact, the portions of the arms 33 defining the sockets 34 may be shaped and proportioned and of material having sufficient resilience to exert a yielding lateral clamping pressure on the skis sufficient to retain the latter in operative position without resort to other or supplemental retaining means. However, additional retaining means may be provided and this may comprise clips 35 adapted to be applied over the upper edge portions of the skis and provided with tension springs 36 anchored to the body 5 through the medium of the underlying arms 33.

What I claim is:

1. In a device for binding together and carrying a pair of skis disposed in generally parallel spaced relationship, a main body comprising an elongated intermediate body section defining a carrying handle and a pair of generally parallel mounting legs each carried by and depending from an opposite end portion of said handle defining intermediate body section, a ski-supporting structure carried by each of said depending legs, the ski-supporting structure of each leg comprising a pair of ski-supporting arms projecting outwardly in opposite direction from and anchored at their inner ends to an associated main body leg, said ski-supporting arms each being provided at its outer end with an upwardly opening ski-receiving socket spaced outwardly from a vertical plane through the transverse centers of said legs and intermediate body section, the sockets located at one side of said plane being adapted to receive longitudinally spaced edge portions of one of a pair of skis and the sockets located at the other side of said plane being adapted to receive longitudinally spaced edge portions of the other of said pair of skis, means for releasably retaining a pair of skis in the supporting arm sockets, the said depending main body legs each being provided with a generally vertically elongated slot opening therethrough in the direction of the slot in the other leg, and said means comprising a ski-retaining upper arm associated with each body leg and intermediately connected thereto for pivotal swinging movements in a plane generally normal to the above said plane and for sliding movements in the slot of its associated leg by fastening means extending through such slot, the last said arms each having ski-engaging outer ends each adapted to engage the upper longitudinal edge of an opposite one of a pair of skis seated in the sockets of the first said arms, and means for releasably retaining the last said arms in ski-engaging positions.

2. In a device for binding together and carrying a pair of skis disposed in generally parallel spaced relationship, a main body comprising an elongated intermediate body section defining a carrying handle and a pair of generally parallel mounting legs each carried by and depending from an opposite end portion of said handle defining intermediate body section, a ski-supporting structure carried by each of said depending legs, the ski-supporting structure of each leg comprising a pair of ski-supporting arms projecting outwardly in opposite directions from and anchored at their inner ends to an associated main body leg, said ski-supporting arms each being provided at its outer end with an upwardly opening ski-receiving socket spaced outwardly from a vertical plane through the tranverse centers of said legs and intermediate body section, the sockets located at one side of said plane being adapted to receive longitudinally spaced edge portions of one of a pair of skis and the

sockets located at the other side of said plane being adapted to receive longitudinally spaced edge portions of the other of said pair of skis, means for releasably retaining a pair of skis in the supporting arm sockets, the said depending main body legs each being provided with a generally vertically elongated slot opening therethrough in the direction of the slot in the other leg, and said means comprising a ski-retaining upper arm associated with each body leg and intermediately connected thereto for pivotal swinging movements in a plane generally normal to the above said plane and for sliding movements in the slot of its associated leg by fastening means extending through such slot, the last said arms each having ski-engaging outer ends each adapted to engage the upper longitudinal edge of an opposite one of a pair of skis seated in the sockets of the first said arms, and yielding means urging the last said arms in a downward direction.

3. In a device for binding together and carrying a pair of skis disposed in generally parallel spaced relationship, a main body comprising an elongated intermediate body section defining a carrying handle and a pair of generally parallel mounting legs each carried by and depending from an opposite end portion of said handle defining intermediate body section, a ski-supporting structure carried by each of said depending legs, the ski-supporting structure of each leg comprising a pair of ski-supporting arms projecting outwardly in opposite directions from and anchored at their inner ends to an associated main body leg, said ski-supporting arms each being provided at its outer end with an upwardly opening ski-receiving socket spaced outwardly from a vertical plane through the transverse centers of said legs and intermediate body section, the sockets located at one side of said plane being adapted to receive longitudinally spaced edge portions of one of a pair of skis and the sockets located at the other side of said plane being adapted to receive longitudinally spaced edge portions of the other of said pair of skis, means for releasably retaining a pair of skis in the supporting arm sockets, the said depending main body legs each being provided with a generally vertically elongated slot opening therethrough in the direction of the slot in the other leg, and said means comprising a ski-retaining upper arm associated with each body leg and intermediately connected thereto for pivotal swinging movements in a plane generally normal to the above said plane and for sliding movements in the slot of its associated leg by fastening means extending through such slot, the last said arms each having ski-engaging outer ends each adapted to engage the upper longitudinal edge of an opposite one of a pair of skis seated in the sockets of the first said arms, and yielding means urging the last said arms in a downward direction, the last said means comprising a pair of coil tension springs for each of said ski-engaging upper arms, each said spring being anchored at its upper end to a portion of an associated ski-engaging upper arm lying on an opposite side of the first said plane and connected at its bottom end in fixed relation to the main body.

4. The structure defined in claim 1 in which the said fastening means for intermediately connecting each upper ski-retaining arm comprises a pin carried by said arm and working in and projecting through an associated body leg slot and provided at its outer end with an enlarged retaining head of greater width than the slot, and said slots each being enlarged at its upper end portion to provide an opening sized to receive the head of the associated pin, said enlarged slot portions being located above the uppermost level of the pins in their normal conditions of use.

5. The structure defined in claim 2 in which the said fastening means for intermediately connecting each upper ski-retaining arm comprises a pin carried by said arm and working in and projecting through an associated

body leg slot and provided at its outer end with an enlarged retaining head of greater width than the slot, and said slots each being enlarged at its upper end portion to provide an opening sized to receive the head of the associated pin, said enlarged slot portions being located above the uppermost level of the pins in their normal conditions of use.

6. The structure defined in claim 3 in which the said fastening means for intermediately connecting each upper ski-retaining arm comprises a pin carried by said arm and working in and projecting through an associated body leg slot and provided at its outer end with an enlarged retaining head of greater width than the slot, and said slots each being enlarged at its upper end portion to provide an opening sized to receive the head of the associated pin, said enlarged slot portions being located above the uppermost level of the pins in their normal conditions of use.

7. The structure defined in claim 1 in which each said ski-retaining upper arm is provided at its outer end portion with a downwardly opening ski-receiving socket.

8. The structure defined in claim 2 in which each said ski-retaining upper arm is provided at its outer end portion with a downwardly opening ski-receiving socket.

9. The structure defined in claim 3 in which each said ski-retaining upper arm is provided at its outer end portion with a downwardly opening ski-receiving socket.

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