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Heil

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[54] **SKI STORING, PROTECTING, AND CARRYING APPARATUS**

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[52] **U.S. Cl.** ..... **224/45 S;** 220/8; 190/45

[51] **Int. Cl.²** **B65D 7/24**

[58] **Field of Search** ..... 224/45 S, 45 R, 42.42, 224/46 R, 2 A, 5 Z, 47; 190/44, 45; 150/52; 220/8; 70/58; 280/11.37 K, 11.37 A; 292/175; 206/443

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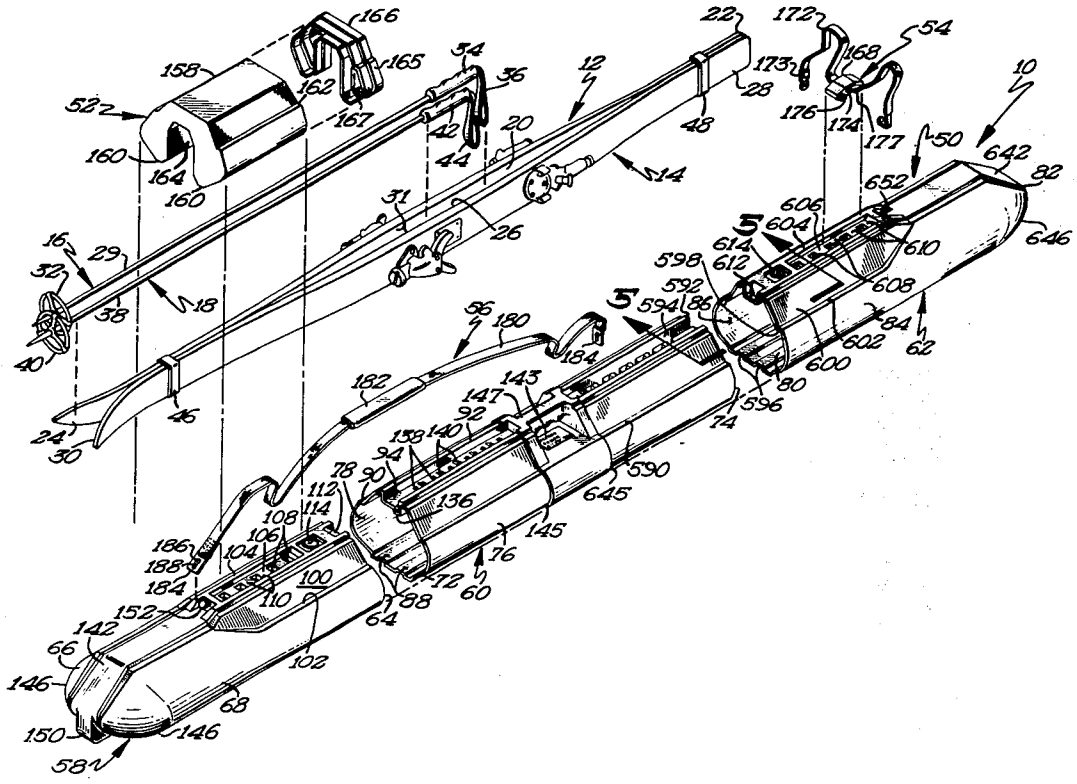
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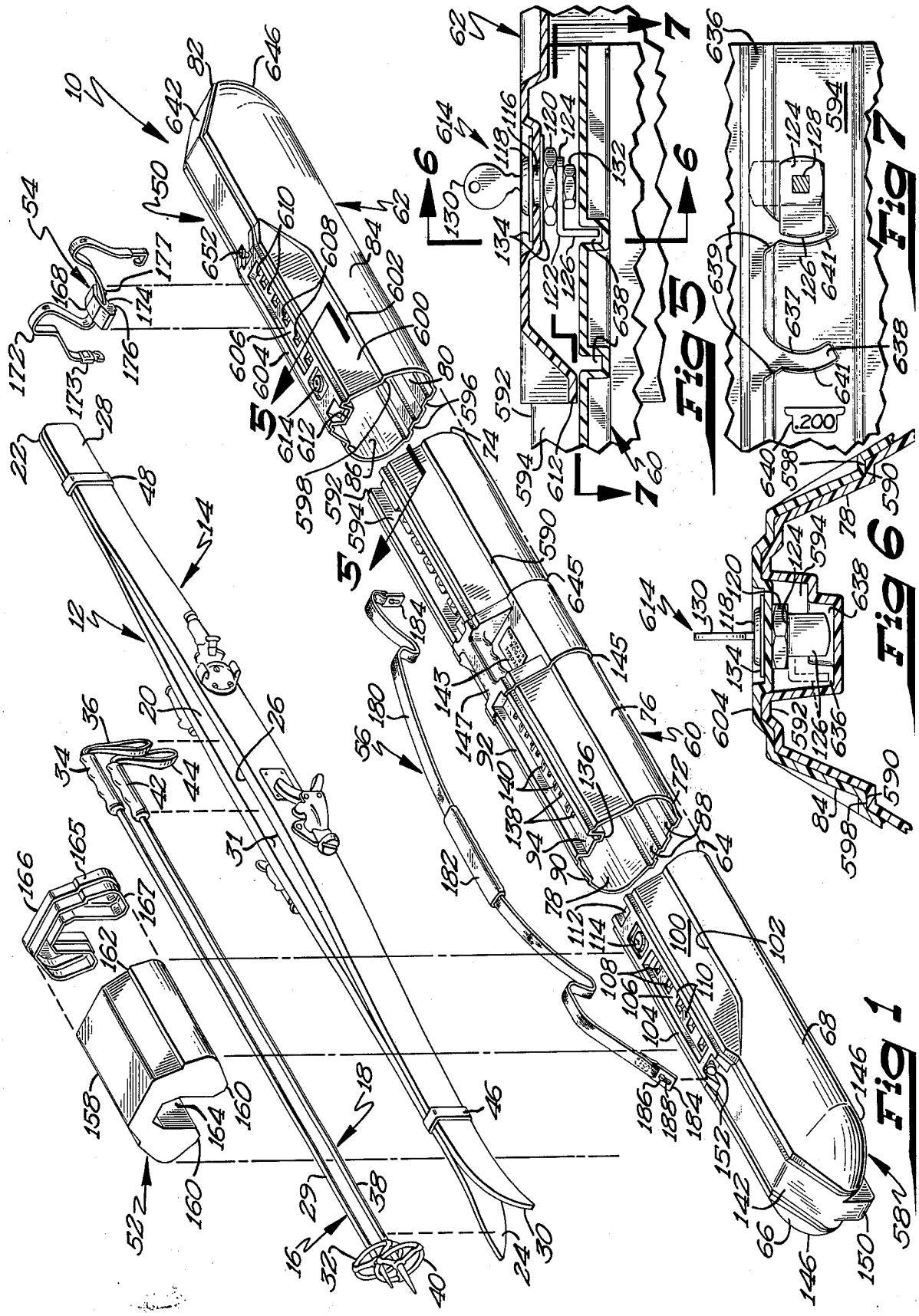
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[57] **ABSTRACT**

Apparatus for storing, protecting, and carrying first and second snow skis having their bottom surfaces placed adjacent to each other is disclosed including, in the preferred embodiment, a container and a saddle. The container is thin-walled, elongated, and hollow and includes container portions arranged in a telescopic relation. The preferred three portions of the container can also be locked at any of several desired step locations intended to conform to differing length skis. First and second snow skis are removably captured within the interior of the container first by a protrusion formed integrally with a closed end of one of the container portions which engages and holds the ends of the skis, second by a sloped bottom surface formed integral with the closed end of another container portion which urges the ski tips upward, and third by the saddle located within the tip container portion which limits the upward movement of the skis. The container can be carried by either a handle formed in the container or by a shoulder strap which can be attached to the container. The container can further be attached to a ski rack by use of an anchor disclosed.

65 Claims, 7 Drawing Figures





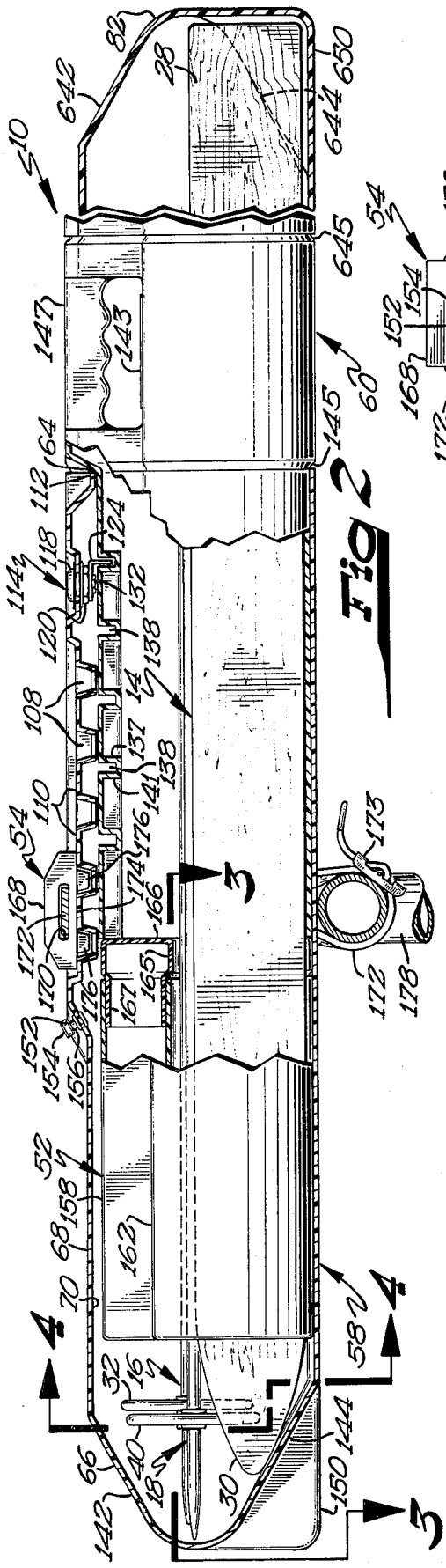


Fig. 2

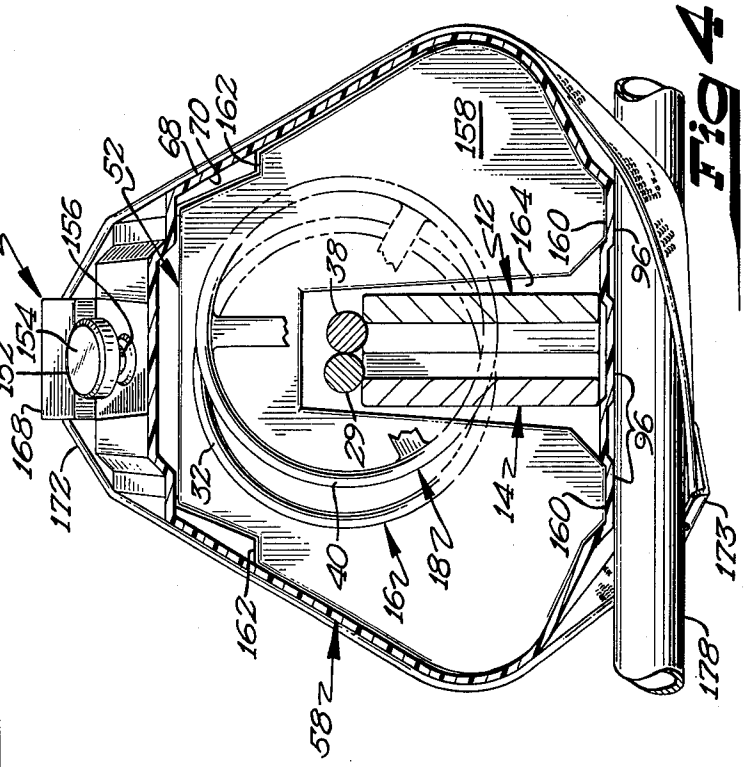


Fig. 4

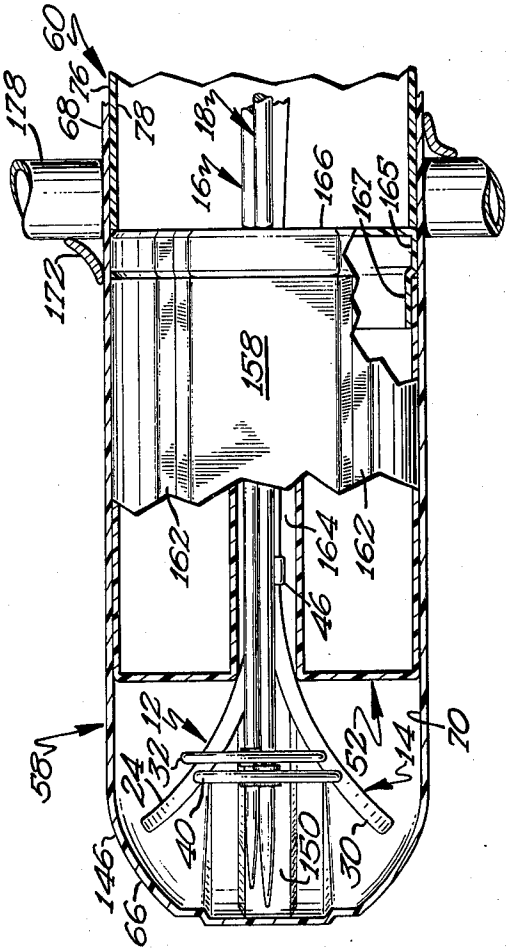


Fig. 3

SKI STORING, PROTECTING, AND CARRYING APPARATUS

BACKGROUND

The present invention relates generally to apparatus for storing, protecting, and carrying and more specifically to apparatus storing, protecting, and carrying first and second snow skis.

With the increasing interest in skiing, an increasing need has arisen for apparatus for transporting ski equipment which prevents damage to the ski equipment during transit or handling, especially during transit by air or rail. Such apparatus should be light in weight allowing inexpensive shipment thereof, small easy to carry without large expenditures of energy, and able to accommodate several length of skis. Further, such apparatus should protect the skis from external forces such as accidentally dropping the apparatus or dropping other items such as luggage on the apparatus and should prevent the skis from bouncing or moving within the apparatus.

SUMMARY

The apparatus of the present invention solves these and other problems in apparatus for storing, protecting, and carrying skis by providing, in the preferred embodiment, a rigid, hollow, thin-walled, elongated container having a first closed end and a second closed end and divided into a first container portion in a telescopic relation. The container further includes means for telescopically capturing a first snow ski and a second snow ski in the interior of the container and for allowing the container to be used for several differing lengths of skis.

Also, the apparatus of the present invention further provides, in the preferred embodiment, an anchor for attaching a ski container to a support unit.

It is thus a primary object of the present invention to provide novel ski storing, protecting, and carrying apparatus.

It is a further object of the present invention to provide such novel apparatus for storing, protecting, and carrying a first and a second snow ski.

It is a further object of the present invention to provide such novel ski storing, protecting, and carrying apparatus which is small in size, easy to carry, and light in weight.

It is a further object of the present invention to provide such novel storing, protecting, and carrying apparatus which telescopically captures skis therein to prevent skis from bouncing or otherwise moving within the container during transit to thus avoid damage.

It is a further object of the present invention to provide such novel storing, protecting, and carrying apparatus which protects skis from external forces applied to the container.

It is a further object of the present invention to provide such novel storing, protecting, and carrying apparatus which protects ski equipment during handling thereof.

It is a further object of the present invention to provide such novel storing, protecting, and carrying apparatus which can be used on several lengths of skis.

It is a further object of the present invention to provide such novel storing, protecting and carrying apparatus which can be locked at any of several desired stop locations to allow it to be used on several lengths of skis.

It is a further object of the present invention to provide an anchor for attaching a ski container to a support unit.

It is a further object of the present invention to provide such novel ski storing, protecting, and carrying apparatus which is simple in design, easy to manufacture, and which maximizes the materials used.

These and further objects and advantages of the present invention will become clearer in the light of the following detailed description of an illustrated embodiment of this invention described in connection with the drawings.

DESCRIPTION OF THE DRAWINGS

FIG. **1** shows an exploded perspective view of a ski storing, protecting, and carrying apparatus according to the present invention, in association with snow skis and ski poles to be stored.

FIG. **2** is a side view of the apparatus of FIG. **1** with portions of the apparatus broken away.

FIG. **3** is a partial longitudinal cross sectional view of the apparatus of FIG. **1** according to section line **3—3** of FIG. **2.**

FIG. **4** is a cross sectional view of the apparatus of FIG. **1** according to section line **4—4** of FIG. **2.**

FIG. **5** is a cross sectional view of the apparatus of FIG. **1** according to section line **5—5** of FIG. **1** with the container telescoped together.

FIG. **6** is a fragmentary cross sectional view of the apparatus of FIG. **1** according to section line **6—6** in FIG. **5.**

FIG. **7** is a fragmentary cross sectional view of the apparatus of FIG. **1** according to section line **7—7** in FIG. **5.**

All figures are drawn for ease of explanation of the basic teachings of the present invention only; the extensions of the figures with respect to number, position, relationship, and dimensions of the parts to form the preferred embodiment will be explained.

Where used in the various figures of the drawings, the same or similar numerals designate the same or similar parts of the various members of the ski storing, protecting, and carrying apparatus. Furthermore, when the terms "right," "left," "front," "back," "vertical," "horizontal," "right end," "left end" "left half," "right half," and similar terms are used herein, it should be understood that these terms have reference only to the structure shown in the drawings as it would appear to a person viewing the drawings and are utilized only to facilitate describing the invention.

DESCRIPTION

In the figures, apparatus for ski storing, protecting, and carrying, generally designated **10,** is shown in association with a first snow ski **12,** a second snow ski **14,** a first ski pole **16,** a second ski pole **18,** and other miscellaneous ski equipment, as will be explained further hereinafter. First snow ski **12** includes a bottom surface **20** an end or heel **22,** and a tip, shovel, or toe **24** formed on the forward portion of ski **12** and curved upwards from bottom surface **20.** Second snow ski **14** similarly includes a bottom surface **26,** and end or heel **28,** and a tip, shovel, or toe **30** formed on the forward portion of ski **14** and curved upwards from bottom surface **26.** First ski pole **16** includes a pole member **29,** a basket **32,** a handle **34,** and a hand strap **36.** Second ski

pole 18 similarly includes a pole member 38, a basket 40, a handle 42, and a hand strap 44. First ski 12 is shown as held adjacent second ski 14 by elastic member 46 located on the forward portion of skis 12 and 14 and by elastic member 48 located on the rearward portion of skis 12 and 14 such that bottom surface 20 of first ski 12 is adjacent to bottom surface 26 of second ski 14. It should be noticed that the middle portions of skis 12 and 14 are bowed outwardly forming a haitus 31 between bottom surfaces 20 and 26. In the preferred embodiment, ends 22 and 28 and tips 24 and 30 of skis 12 and 14, respectively, are placed adjacent to each other, as best seen in FIG. 1.

Apparatus 10 includes a container, generally designated 50, and an insert 52, and optionally includes an anchor 54, and a shoulder strap 56. Container 50 is a rigid, hollow, thin-walled, elongated structure including a first container portion 58, a second container portion 60, and a third container portion 62. First container portion 58 includes an open end 64, a closed end 66, an outside surface 68, and an inside surface 70. Second container portion 60 includes a first, left open end 72, a second, right open end 74, an outside surface 76, and an inside surface 78. Third container portion 62 includes an open end 80, a closed end 82, an outside surface 84, and an inside surface 86. First container portion 58 is in a telescopic relation with second container portion 60 such that the open end 72 of second container portion 60 passes into open end 64 of first container portion 58 and inside surface 70 of first container portion 58 slides on outside surface 76 of second container portion 60. Third container portion 62 is similarly in a telescopic relation with second container portion 60 such that open end 74 of second container portion 60 passes into open end 80 of third container portion 62 and inside surface 86 of third container portion 62 slides on outside surface 76 of second container portion 60.

Outside surface 76 of the left half of second continer portion 60 further includes bottom rails 88, side rails 90, and an upraised top rail 92 having a depressed center section 94 whose purposes wil be explained further hereinafter. Rails 88, 90, and 92 are parallel to the longitudial axis of containenr 50.

Inside surface 70 of first container portion 58, as best seen in FIG. 4, includes bottom sllides 96 having a shape telescopically correspondingn to bottom rails 88 of second containter portion 60. First container portion 58 also includes side slides 98, as shown by a depressed area 100 forming a horizontal ledge 102 on outside surface 68 of first container portion 58 as best seen in FIG. 1, an upraised top slide 104. Slides 96, 98, and 104 are also parallel to the longitudinal axis of container 50. Slide 104 optionally includes depressed center section 106 including ridged portions having a series of depressions 108 and upraised portions 110 whose purpose will be explained hereinafter. First container portion 58 further includes an indicating lip 112 whose purpose will be explained further hereinafter.

It can now be appreciated that the cross section of first container portion 58 is substantially equal to but slightly larger than the cross section of second container portion 60. Thus inside surface 70 of first container portion 58 can slide on outside surface 76 of second container portion 60 allowing first container portion 58 to be in a telescopic relation with second container portion 60 as best seen in FIG. 2. Due to the shapes of first container portion 58 and second container portion 60 and due to rails 88, 90, and 92 interfitting with slides 96, 98, and 104, first container portion 58 will have a preferred orientation with respect to second container portion 60 and will easily slide without binding on second container portion 60. It should be further noted that due to rails 88, 90, and 92 of second container portion 60 and slides 96, 98, and 104 of first container portion 58, rigidity will be added to container 50 due to the added strength created by the bends in the wall of container 50.

It should further be noted that, while inside surface 70 of first container portion 58 and outside surface 76 of second container portion 60 are shown as contiguous in FIG. 2 for ease of presentation, engineering tolerances are required to allow first container portion 58 to slide on second container portion 60, and the tightness or looseness of the interfit between container portion 58 and second container portion 60 may vary with the amount of engineering tolerance allowed or desired between the cross section thereof.

A locking member 114 is carried by upraised top slide 104 of portion 58. As best seen in FIGS. 1, 5, and 6, locking member 114 includes a lock cylinder 116 having an enlarged head 118, a nut 120 threadably connected to lock cylinder 116, an L-shaped cam member 122 having a horizontal leg 124 and a downwardly protruding, arcuately shaped leg 126, a shaft 128 having at least a portion thereof being square and rotatable inside of lock cylinder 116 by a suitable key 130, and a further nut 132 for holding cam member 122 on rotatable shaft 128. Suitable washers 134 can be placed on opposite sides of the wall of upraised slide 104 enlarged head 118 and nut 120 to aid in preventing lock cylinder 116 from being pulled through the aperture formed in upraised slide 104 of first container portion 158.

Depressed center section 94 of second container portion 60 includes an elongated channel 136 which is parallel to the longitudinal axis of container 50, a multitude of cross channels 138, and an indicating member 140 in the form of indicia whose purpose will be explained hereinafter. Cross channels 138 are arcuate in shape corresponding to the arcuate shape of leg 126 including a leading edge 137 and a trailing edge 141, as will be explained in greater detail with respect to third container portion 62 as shown in FIG. 7. Trailing edge 141 further includes a notch 139 whose purpose will be explained further hereinafter.

Second container portion 60 may further include a member 147 used for carrying apparatus 10, shown in the preferred form as a handle formed in second container portion 60. Handle 147 further includes a shoulder 145 whose purpose will be explained hereinafter. A suitable ownership indicating member 143 can further be provided in the cut out hand grip area beneath handle 147, as shown in its preferred form as a name plate for identifying the name and address of the owner of apparatus 10.

It should be further noted that in the preferred embodiment of second container portion 60, the right half thereof is a reverse mirror image of the left half. Therefore, for ease of explanation, the corresponding parts of the right half of second container portion 60 are numbered by adding 500 to the numerical indication of the corresponding part of the left half of second container portion 60. For example, the elongated channel of the left half of second container portion 60 is numbered 136 and is numbered 636 on the right half of second container portion 60. Similarly, side rails of the left half

of second container portion **60** are numbered **90** and are numbered **590** on the right half of second container portion **60.** Similarly, the remaining corresponding parts of the left half are indicated by a numerical indication which is **500** larger than the numerical indication for the right half.

Returning to first portion **58,** and as best seen in FIGS. **2, 3,** and **1,** closed end **66** of first container portion **58** includes a sloping top surface **142,** an inclined bottom surface **144,** tear-shaped side walls **146** and a rectangular protrusion **150** all formed integral therewith. Protrusion **150** is of a width substantially equal to but slightly larger than twice the thickness of the skis **12** and **14.** In the preferred embodiment, the width of protrusion **150** is equal to 1.32 inches (3.4 centimeters).

First container portion **58** further includes an attachment member **152** having an enlarged head **154** and a shaft **156,** whose purpose will be explained further hereinafter.

First container portion **58** further includes an attachment member having an enlarged head and a shaft **156,** whose purposes will be explained further hereinafter.

It should be further noted that, in the preferred embodiment, first container portion **58** and third container portion **62** are identical. Therefore for ease of explanation, the corresponding parts of third container portion **62** are numbered by adding **500** to the numerical indication of the corresponding part of first container portion **58.** For example, lock member of third container portion **62** is numbered **614** and is numbered **114** for lock member of first container portion **58.** Similarly, the remaining corresponding parts of third container portions **62** are indicated by a numerical indication which is **500** larger than the numerical indication for first container portion **58.**

It can now be appreciated that the cross section of third container portion **62** is substantially equal to but slightly larger than the cross section of second container portion **60.** Thus, inside surface **86** of third container portion **62** can slide on outside surface **76** of second container portion **60** allowing third container portion **62** to be in a telescopic relation with second container portion **60.** Due to the shapes of third container **62** and second container portion **60** and due to rails **588, 590,** and **592** interfitting with slides **596, 598, 604,** third container portion **62** will have a preferred orientation with respect to second container portion **60** and will easily slide without binding on outside surface **76** of second container portion **60.** It should be further noted that rigidity will be added to container **50** due to the added strength created by the bends in the walls of container **50** due to rails **588, 590,** and **592** of second container portion **60** and slides **596, 598,** and **604** of third container portion **62.**

It should further be noted that, while inside surface **86** of third container portion **62** and outside surface **76** of second container portion **60** are contiguous in FIG. **6** for ease of presentation, engineering tolerances are required to allow third container portion **62** to slide on second container portion **60,** and the tightness or looseness of the interfit between second container portion **60** and third container portion **62** may vary with the amount of engineering tolerance allowed or desired between the cross sections thereof.

It can now also be appreciated that since first container portion **58** and third container portion **62** are identical, they can be interchanged with each other. Due to the reverse mirror image of the left half and right half of second container portions **60,** either first container portion **58** or third container portion **62** can be slid on either the right half of the left half of second container portion **60.** Therefore, when it is desired to place skis **12** and **14** into container **50,** as will be explained further hereinafter, it is not necessary to slide first container portion **58** onto the left half of second container portion **60** or to slide third container portion **62** on the right half of second container portion **60,** but rather either the first container portion **58** or third container portion **62** can be chosen at random and placed on either the right or left half of second container portion **60.**

Although inside surfaces **70** and **86** of first and third container portions **58** and **62,** respectively, are shown to slide on outside surface **76** of second container portion **60** in the preferred embodiment, it will be immediately apparent that the preferred embodiment of the apparatus of the present invention can also be changed so that inside surface **78** of second container portion **60** could slide on outside surfaces **68** and **84** of first and third container portions **58,** and **62,** respectively.

It can also now be appreciated that, due to the preferred relationship as disclosed, container **50** is easier to manufacture and has fewer parts. For example, since first and third container portions **58** and **62** are identical, a single mold can be used to produce both portions with assembly of the parts thereto being done and both portions being placed in a unitary bin such that, during packing, first and third container portions **58** and **62** can be chosen at random from the bin.

Insert **52** is shown, in the preferred form, as a saddle and comprises a hollow body **158** having a bottom surface **160** corresponding to slides **96** and **596** of first and third container portions **58** and **62,** respectively, shoulders **162** corresponding to side slides **98** and **598** of first and third container portions **58** and **62,** respectively, and an inverted U-shaped, removed portion **164.** Removed portion **164** has a width larger than twice the thickness of a snow ski **12** or **14** or the combined thickness of ski **12** and ski **14** and has a height larger than the height of snow skis **12** and **14** by an amount at least equal to the diameter of pole members **29** and **38** of ski poles **16** and **18,** respectively. In the preferred embodiment, the height of removed portion is approximately equal to 4.24 inches (10.8 centimeters) and the width is approximately equal to 1.56 inches (3.96 centimeters). It should further be noted that, in the preferred embodiment, the cross section of body **158** of saddle **52** is substantially similar to but slightly smaller than the cross section of first and third container portions **58** and **62** to allow saddle **52** to slide within first or third container portion **58** and **62** and is substantially similar to but equal to or larger than the cross section of second container portion **60** such that saddle **52** will not slide within second container portion **60.** In the preferred embodiment, the total length of saddle **52** is approximately equal to 11 inches (28 centimeters) which is less than the distance between the open ends **72** and **74** of second container portion **60** and the closed ends **66** and **82** of the first and third container portions **58** and **62** when the first and third container portions **58** and **62** are fully telescoped on second container portion **60,** the position shown in FIG. **2.**

Due to the hollow interior of body **158,** saddle **52** can be used as a storage compartment for storing miscellaneous equipment such as goggles, wax, sunglasses, wine

sack, gloves and a cap, not shown, around removed portion **164.** Saddle **52** can further include an end cap **166** for removably closing the hollow interior of body **158.** In the preferred embodiment, end cap **166** includes a first portion **165** whose cross section is substantially equal to the cross section of body **158** and a second portion **167** extending from portion **165,** whose cross section is slightly smaller than the cross section of body **158** such that second portion **167** can be slid inside the interior of body **158,** as best seen in FIG. **2,** allowing end cap **166** to be held by the force fitting second portion **167** into the interior of body **158.**

Apparatus **10** can optionally include an anchor **54** for attaching container **50** to a suitable support unit. Anchor **54** includes an anchor member **168** having a slot **170** formed therein for attaching an attachment strap **172** having suitable connecting members **173** to anchor member **168.** The bottom surface **174** of anchor member **168** corresponds in a complementary fashion to the ridged portions of center sections **106** and **606** of first and third container portions **58** and **62** and includes a pair of depending engagement members **176** and **177** which can be selectively positioned within depressions **108** to allow bottom surface **174** to rest on one of upraised portions **110** such that anchor member **168** is unable to slide longitudinally on container **50.** Anchor member **168** is of a width substantially equal to but less than the width of depressed center sections **106** or **606** of first and third container portions **58** and **62** such that the sides of anchor member **168** abut with the side wall of depressed center section **106** or **606** to prevent latitudinal movement of anchor member **168** in a direction perpendicular to the longitudinal axis of container **50.** Therefore, anchor means **168** can be positioned within depressed center sections **106** or **606** at any desired position, thus allowing engagement members **176** and **177** to be positioned in any two adjacent depressions **108** such that attachment strap **172** can extend around container **50** and around a bar **178** of a suitable ski rack, not fully shown, mounted to an automobile, for example, or any other support unit. Since anchor member **168** is positioned within depressed center section **106** or **606** of first or third container portions **58** and **62** with engagement members **176** and **177** positioned within any of the depressions **108,** and since attachment strap **172** is positioned around container **50** thus pulling anchor member **174** towards container **50,** anchor **54** is firmly held in a stationary position thus preventing longitudinal or latitudinal movement of anchor member **168** within center sections **106** or **606** of first or third container portions **58** and **62.**

As best seen in FIG. **1,** the preferred form of apparatus **10** may optionally include member **56** for carrying container **50** and shown in its preferred form as a shoulder strap. Shoulder strap **56** includes an elongated, flexible strap **180,** a shoulder pad **182** attached to flexible strap **180,** and strap attachment members **184** located on the opposite ends of strap **180.** In the preferred form, strap attachment members **184** include a key-shaped slot having an enlarged aperture **186** and a slot **188** intersecting with aperture **186** and having a width less than the diameter of aperture **186.** In the preferred embodiment, aperture **186** is of a size substantially equal to but slightly larger than the size of enlarged head **154** of attachment member **152** and the width of slot **188** is substantially equal to but slightly larger than the diameter of shaft **156** of attachment member **152.**

In the attached position, shaft **156** of attachment member **152** is positioned within slot **188** to strap attachment members **184** and enlarged head **154** prevents attachment member **152** passing through slot **188.** However, to remove strap attachment member **184,** strap attachment member **184** is slid until aperture **186** aligns with enlarged head **154** of attachment member **152,** allowing head **154** to pass through aperture **186** of strap attachment member **184.**

OPERATION

For the sake of example, it will be assumed that the skier has just come from the slopes after a day of skiing and desires placing his skiing equipment within apparatus **10** to protect his skis from damage and to allow the easy transportation of his ski equipment. After the skier has removed the ski equipment, the miscellaneous ski equipment such as goggles, wax, sunglasses, wine sack, gloves, and cap can be placed with saddle **52.** This is done by removing end cap **166** from body **158** thus exposing the hollow interior of body **158.** The miscellaneous ski equipment can then be placed within saddle **52** around removed portion **164.** After all desired equipment is placed within saddle **52,** cap **166** can be forced onto the body **158** of saddle **52** such that second portions **167** is forced into the interior of body **158** thus closing and sealing the hollow interior of body **158.**

Next, skis **12** and **14** are positioned together such that bottom surface **20** of first ski **12** is placed adjacent to bottom surface **26** of second ski **14** and elastic members **46** and **48** are placed on the forward and rearward portions of skis **12** and **14,** respectively, in the manner shown in FIG. **1.** In the preferred embodiment, ends **22** and **28** and tips **24** and **30** of skis **12** and **14,** respectively, are placed adjacent to each other as best seen in FIG. **1.** Ski poles **16** and **18** can then be positioned such that pole members **29** and **38** are parrallel to each other with the baskets **32** and **40** and handles **34** and **42** also placed adjacent to each other. This can be accomplished by placing the tip of first ski pole **16** through basket **40** of second ski pole **18** as best seen in FIGS. **1–4.** Ski poles **16** and **18** can then be positioned such that baskets **32** and **40** are located between tips **24** and **30** of skis **12** and **14.** At this time, saddle **52** can be positioned to straddle skis **12** and **14** and poles **16** and **18** to thereby secure ski poles **16** and **18** together and to skis **12** and **14.** This is accomplished by placing saddle **52** over skis **12** and **14** and poles **16** and **18** such that skis **12** and **14** and poles **16** and **18** are located within removed portion **164,** as best seen in FIG. **4.** Therefore, skis **12** and **14** and poles **16** and **18** are captured within and straddled by removed portion **164** of saddle **52** and held as a unitary member.

Skis **12** and **14** and ski poles **16** and **18** are then ready to be placed within container **50.** Several methods of placing skis **12** and **14** within container **50** are available, which will be appreciated after an example of one method is given. It should be noted that due to the reverse mirror image of the right and left halves of second container portion **60** and since first and third container portions **58** and **62** are identical, it does not matter whether tips **24** and **30** or ends **22** and **28** extend through either open end **72** or open end **74** of second container portion **60.** However, for the sake of example, it will be assumed the ends **22** and **28** will extend out of open end **74** and tips **24** and **30** will extend out of open end **72.**

Before skis 12 and 14 are placed in second container portion 60, third container portion 62 can be telescoped on second container portion 60, as follows: third container portion 62 is first positioned such open end 80 of third container portion 62 abuts with open end 74 of second container portion 60; third container portion 62 is then rotated such that slides 596, 598, and 604 align with rails 588, 590, and 592 and such that the lip 612 aligns with depressed center 594 of rail 592; at this time, inside surface 86 of third container portion 62 can be slid on outside surface 76 of second container portion 60, as shown in FIG. 7, such that slides 596, 598, and 604 ride on and slide along rails 588, 590, and 592; and finally, third container portion 62 is slid onto second container portion 60 until lip 612 aligns with indicating member 640 displaying a numeral corresponding to the length of the skiers skis 12 and 14, such as the numeral "200" as generally shown in FIGS. 6 and 7 and indicating a size for 200 centimeter length skis. It will now be realized that third container portion 62 can be positioned at any desired step location on second container portion 60 thus increasing or decreasing the longitudinal length of container 50.

Third container portion 62 can then be locked at the desired strp location by locking member 614. It should be noted that in an unlocked position, downwardly protruding leg 126 of cam 122 is located within elongated channel 636, as shown in phantom in FIGS. 6 and 7. Therefore as third container portion 62 slides on second container portion 60, leg 126 extends into and slides within elongated channel 636. When third container portion 62 is located at the desired step location, key 130 can be turned thus rotating shaft 128 within cylinder 116. Since cam 122 is connected to shaft 128 by nut 132 and since shaft 128 is square as best seen in FIG. 7, cam 122 will rotate with shaft 128 such that leg 126 will pass into arcuate slot 638 corresponding to the desired position as indicated by lip 612 and indicating member 640. If arcuate slot 638 is not directly in line with cam 122, third container portion 62 will tend to automatically align itself on second container portion 60 such that slot 638 will align with cam 122. For example, if leg 126 is positioned adjacent leading edge 637 of slot 638, as cam 122 is turned, the inside surface of leg 126 will cam against edge 637 of slot 638 and, due to the arcuate shape of leg 126 and slot 638, will cause third container portion 62 to slide forward slightly on second container portion 60 such that leg 126 will align with and pass into slot 638 located at the desired step location, such as the position indicated by the numeral "200" as generally shown in FIGS. 5 and 6. Similarly, if leg 126 is positioned adjacent trailing edge 641 of slot 638, as cam 122 is turned, the edge of leg 126 will abut against notch 639 formed on slot 638 at the desired step location such that leg 126 will cam against notch 639 thus forcing third container portion 62 slightly rearwardly on second container portion 60 to align leg 126 with slot 638 at the desired step location, as indicated by lip 612 and indicating member 640. At this time, key 130 can be conventionally removed from locking member 614.

Since leg 126 of cam 122 is located within slot 638, third container portion 62 is locked at a step location on second container portion 60. It thus is impossible to slide third container portion 62 rearwardly or forwardly on second container portion 60 since cam 122 will abut with slot 638. Further, since a sufficient portion of second container portion 60 extends into the interior of third container portion 62, it will be impossible to twist or turn third container portion 62 on second container portion 60 due to slides 596, 598, and 604 and rails 588, 590, and 592 and the corresponding shapes of second and third container portions 60 and 62.

After third container portion 62 is locked in the desired step location on second container portion 60, skis 12 and 14 are pushed rearwardly into second and third container portions 60 and 62 such that ends 22 and 28 extend into protrusion 650 of closed end 82, as best seen in FIG. 2. Since the width of protrusion 650 is substantially equal to twice the thickness of a ski 12 or 14 or, in other words, the combined thickness of both skis 12 and 14, ends 22 and 28 are firmly held within protrusion 650. Therefore, protrusion 650, which is integral with closed end 82, engages and holds end 22 of first snow ski 12 and engages and holds ends 28 of second snow ski 14 to thereby capture and retain ends 22 and 28 of skis 12 and 14 within protrusion 650.

Therefore, first container portion 58 can be positioned such that tips 24 and 30 of skis 12 and 14 are located adjacent to open end 64 of first container portion 58. First container portion 58 can then be pushed such that tips 24 and 30 of skis 12 and 14 extend into the interior of first container portion 58. After rearward movement of first container portion 58 towards second container portion 60, baskets 32 and 34 of skis 12 and 14 can then be positioned within the interior of first container portion 58. Upon continued rearward movement of first container portion 58, open end 64 of first container portion 58 will abut with the saddle 52. Saddle 52 is then aligned with first container portion 58 such that bottom surface 160 and shoulders 162 align with slides 96 and 98, respectively, such that saddle 52 slides within first container portion 58. First container portion 58 can then be pushed further rearward unitl open end 63 of first container portion 58 abuts with open end 72 of second container portion 60. First container portion 58 can then be turned such that slides 96, 98, and 104 align with rails 88, 90, and 92 and such that lip 112 with depressed center 94 of rail 92. At this time, inside surface 70 of first container portion 58 can be slid on outside surface 76 of second container portion 60 as shown in FIG. 2 and such that slides 96, 98, and 104 slide on and slide along rails 88, 90, and 92. Since the cross section of saddle 52 is substantially equal to or larger than the cross section of second container portion 60, as first container portion 58 is telescoped inwardly on second container portion 60, open end 72 abuts with saddle 52, thus urging it to slide forwardly on skis 12 and 14 and ski poles 16 and 18 toward ski tips 24 and 30 into the interior of first container portion 58.

Since skis 12 and 14 and poles 16 and 18 are located within removed portion 164, as saddle 52 moves forwardly on skis 12 and 14, saddle 52 centrally aligns the forward portion of skis 12 and 14 within the interior of first container portion 58. Since the cross section of saddle 52 is substantially equal to but less than the cross section of first container portion 58, saddle 52 prevents the forward portions of skis 12 and 14 from moving in any latitudinal direction perpendicular to the longitudinal axis of container 50. Further, since the height of removed portion is substantially equal to the height of skis 12 and 14 together with the diameter of ski poles 16 and 18, as best seen in FIG. 4, saddle 52

limits movement of skis **12** and **14** vertically upward.

Upon continued movement of first container portion **58** of second container portion **60,** ski tips **24** and **30** will engage inclined cam bottom surface **144.** After further movement, tips **24** and **30** will ride on inclined bottom surface **144** thus camming ski tips **24** and **30** vertically upward. It should be noted that while tips **24** and **30** are being cammed upwardly by the action of telescoping first container portion **58** inward on second container portion **60,** saddle **52** is simultaneously being moved to the interior of first container portion **58.** As tips **24** and **30** ride on inclined bottom surface **144,** inclined bottom surface **144** urges ski tip **24** of first ski **12** in a latitudinal direction perpendicular to the longitudinal axis of container **50** and inclined bottom surface **144** urges ski tip **30** of ski **14** in a latitudinal direction perpendicular to the longitudinal axis of container **50.** Therefore, inclined bottom surface **144** urges snow skis **12** and **14** vertically upward.

However, as previously explained, saddle **52** limits the movement of first snow ski **12** in a direction opposite to the latitudinal direction urged by inclined bottom surface **144** and saddle **52** limits the movement of second snow ski **14** in a direction opposite to the latitudinal direction urged by inclined bottom surface **144.** Therefore, the forward portions of skis **12** and **14** are placed under slight pressure by saddle **52** and inclined surface **144** to prevent latitudinal movement in a direction perpendicular to the longitudinal axis of container **50.** Further, ski ends **22** and **28** are located within protrusion **150,** thus also preventing latitudinal movement in a direction perpendicular to the longitudinal axis of container **50.** Still further, skies **12** and **14** are also prevented from moving in a direction parallel to the longitudinal axis of container **50** due to the telescopically capturing of skis between protrusion **130** of closed end **82** of third container portion **62** and inclined bottom surface **144** of first container portion **58** together with saddle **52.** Skis **12** and **14** are then removably captured within container **50** to prevent skis **12** and **14** from bouncing, rattling, or moving inside container **50** during transit.

It should be noted that, on shorter length skis, hiatus **31** will extend further in to the forward portion of skis **12** and **14** on which saddle **52** will be positioned. Therefore, to enable saddle **53** to straddle skis **12** and **14** and poles **16** and **18,** removed portion **164** must be of a width of at least equal to the combined thickness of skis **12** and **14** plus the width of hiatus **31** which extends into the forward portion of skis **12** and **14** on which saddle **52** is positioned for these shorter skis.

It should further be noted for longer skis, tips **24** and **30** of skis **12** and **14** may ride up further on bottom surface **144** than shown in FIG. **2** and saddle **52** will be located at a position rearwardly of the shown in FIG. **2.**

First container portion **58** can then be locked in position on second container portion **60** by lock member **114** in a similar manner as previously explained for third container portion **62,** second container portion **60,** and lock member **614.**

It should be noted that the numeral indicated by lip **112** on indicating member **140** can be identical to the numeral indicated by lip **612** on indicating member **640** if the length of skis **12** and **14** is equal to the numeral indicated, or can differ by **10,** if the length of skis **12** and **14** is not equal to the numeral indicated. For example, skis of a length equal to **195** centimeters are captured when the numeral "**190**" is indicated by one of lips **112** or **612** and the numeral "**200**" is indicated by the other. Also, it may be desired to have one of container portions **58** and **62** telescoped further into second container portion **60** for other reasons, as to adjust the center of gravity of the container **50.** For example if the length of skis **12** and **14** is equal to 190 centimeters, one of container portions **58** and **62** can be positioned such that one of lips **112** or **612** indicates the numeral "**180**" and the other indicates the numeral "**200.**" This may be necessary when a large amount of mass is located on one side of handle **147,** as for example, if a full wine sack together with other miscellaneous ski equipment is placed within saddle **52** such that the center of gravity is thus moved to the left of handle **147.** It may then be desired to have container portion **58** telescoped further onto second container portion **60** than container portion **62** to thus move the center of gravity under handle **147** to allow container **50** to be more easily carried.

At this time, container **50** can be carried away with all the ski equipment such as skis **12** and **14,** poles **16** and **18,** and other miscellaneous equipment within the hollow interior of body **50.** The skier may alternately carry container **50** by use of handle **147** or by use of shoulder strap **182.** Shoulder strap **182** can be attached to container **50** by attachment member **152** and strap attachment member **184,** as explained hereinbefore.

If it is desired to transport container **50** on a suitable support unit such as a ski rack on an automobile, for example, container **50** can be placed on bars **178** of the ski carrier mounted on an automobile. Anchor **54** can then be positioned on container **50** to attach container **50** to bars **178** of the ski carrier. As explained hereinbefore, anchor member **168** can be positioned within depressed center section **106** allowing engagement members **176** and **177** to be positioned in any two adjacent depressions **108** with bottom surface **174** resting on upraised portion **110** located between the adjacent depressions **108** such that anchor member **168** lies directly above bar **178** of ski carrier in FIG. **2.** Attachment strap **172** is then wrapped around container **50** and around bar **178** and the ends are connected together by suitable connecting members **173,** such as those shown in FIG. **2,** or strap **172** can be connected by any other suitable method, such as by tying the ends together. As explained hereinbefore, since anchor member **168** is located within center section **106** and engagement members **176** and **177** extend into depressions **108,** anchor **54** is firmly held in place on first container portion **58** and is therefore unable to slide in a direction parallel to or perpendicular to the longitudinal axis of container **50.** Similarly, another anchor **54** can be provided on third container portion **62** for attachment to a bar **178** of a ski carrier.

The set out advantages of the present invention, as shown in its preferred form as apparatus **10,** can now be readily appreciated. Several units of apparatus **10** can be stacked upon each other without damage to the ski equipment inside. Apparatus **10** can be dropped, or handled very roughly without damage to the ski equipment inside. Also, the ski equipment inside apparatus **10** will not be damaged due to bouncing or rattling within container **50** during transit. Apparatus **10** can also be used on skis of several different lengths. And, all ski equipment can be carried in a unitary package.

The advantages of the use of the preferred embodiment of apparatus **10** of the present invention can now be appreciated. Its use by airlines and railroad trans-

portation will prevent damage to skis **12** and **14** during transportation, will allow the use of containers for skis **12** and **14** during transportation, will allow the use of a single size container on several different lengths of skis, and will allow use of a light weight container, thus reducing the mass required for transportation and allowing the easy carrying of the container.

Now that the basic operation of the apparatus **10** of the preferred embodiment has been explained, the selection of the various parameters for the optimized container **50** shown can be explained. In the preferred embodiment, container **50** can be used on skis varying in length from 160 centimeters to 200 centimeters (63 inches to 79 inches). The total length of first and third container portions is 29.50 inches (75 centimeters) with the length of the first and third container portions from the open ends **64** and **80** to the beginning of the inclined bottom surfaces **144** and **644** of closed ends **66** and **82** of first and third container portions **58** and **60,** respectively, being 25 inches (63.5 centimeters) in length. The total length of second container portion **60** is 32.38 inches (82 centimeters). The total length that first and third container portions **58** and **62** can slide on second container portion **60** such that open ends **64** and **80** abut with shoulders **145** and **645,** respectively, as best seen in FIG. **2,** is approximately equal to 13 inches (33 centimeters).

Now that the basic teachings of the present invention have been explained, many extensions and variations will be obvious to one having ordinary skill in the art. For example, although container **50** is shown in the preferred embodiment as including three container portions, it will be immediately apparent to one skilled in the art that container **50** may include only two container portions. Similarly, although in the preferred embodiment, apparatus **10** is shown including anchor **54** and shoulder strap **56,** it will be immediately apparent to one skilled in the art that apparatus **10** may optionally include these members together with members associated therewith and formed on container **50** and may further optionally include any other similar members which aid in the transportation of container **50.** Therefore, it is intended that the apparatus, with or without such members included, be defined as in the appended claims.

Also, although the right half and left half of second container portion **60** are shown in the preferred embodiment as being reverse mirror images of each other and first and third container portions are shown as identical in the preferred embodiment, it is envisioned that once the present invention has been explained, other forms which are not identical and/or reverse mirror images are within the skill of the art.

Further, while the first closed end and second closed end are shown as being identical and each including a sloped bottom surface and a protrusion, no limitation to this feature is intended because differing ends are envisioned.

Furthermore, while anchor member **168** includes a pair of engagement members **176** and **177** formed on bottom surface **174,** it will become immediately apparent that other variations will become known to those skilled in the art, such as the use of a a single engagement member which can be placed on bottom surface **174** of anchor member **168** to prevent anchor member **168** from sliding on container **50.**

Likewise, the particular dimensions of the preferred embodiment are set out to particularly disclose the preferred and optimized embodiment thereof, and it is envisioned that once the present invention has been explained, other dimensions for the various parts of the present invention are within the skill of the art.

Similarly, other locking members can be provided, replacing the locking members **114** and **614** and channels **136, 138, 636,** and **638** of the preferred embodiment, such as a series of apertures formed in the top rails and top slides of the container portions into which a removable pin can be inserted.

Likewise, additional inserts can be provided which may be similar to saddle **52** as shown or may have any other desired shape.

Thus, since the invention disclosed herein may be embodied in other specific forms without departing from the spirit or general characteristics thereof, some of which forms have been indicated, the embodiments described herein are to be considered in all respects illustrative and not restrictive. The scope of the invention is indicated by the appended claims, rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are intended to be embraced therein.

What is claimed is:

1. Apparatus for storing, protecting, and carrying a first snow ski and a second snow ski with the first snow ski having a bottom surface, an end, and a tip formed on the forward portion of the snow ski and curved from the bottom surface and with the second ski having a bottom surface, an end, and a tip formed on the forward portion of the snow ski and curved from the bottom surface with the bottom surface of the first ski adjacent to the bottom surface of the second ski, comprising in combination: a rigid, hollow, thin-walled elongated container having a first closed end and a second closed end spaced from the first closed end, with the container also including at least a first portion and a second portion being in a telescopic relation; and means for telescopically capturing the first and second snow skis within the container when the second portion is telescoped with the first portion to prevent longitudinal movement of the first and second snow skis within the container and for allowing the container to be used for several length of skis, comprising: first means for engaging and holding the end of the first snow ski; second means for engaging and holding the end of the second snow ski; and third means for retaining the tip of the first snow ski and the tip of the second snow ski to prevent latitudinal movement in a direction perpendicular to the longitudinal axis of the container and for centrally aligning the forward portions of the first and second snow skis within the container when the second portion is telescoped with the first comprising: fourth means for urging the tip of the first snow ski in a latitudinal direction perpendicular to the longitudinal axis of the container; fifth means for urging the tip of the second snow ski in a latitudinal direction perpendicular to the longitudinal axis of the container; sixth means for limiting movement of the first snow ski in a direction opposite to the latitudinal direction which the first snow ski is urged by the fourth urging means; and seventh means for limiting movement of the second snow ski in a direction opposite to the latitudinal direction which the second snow ski is urged by the fifth urging means to thereby removably capture the first and second snow skis within the container when the second portion is telescoped with the first portion to prevent the skis from bouncing, rattling, or moving inside the

container during transit.

2. The apparatus of claim 1 wherein the fourth means comprises an inclined cam surface integral with one of the closed ends of the container on which the tip of the first snow skis rides when the second portion is telescoped with the first portion and wherein the fifth means comprises an inclined cam surface integral with one of the closed ends of the container on which the tip of the second snow ski rides when the second portion is telescoped with the first portion.

3. The apparatus of claim 2 wherein the sixth and seventh limiting means together comprise a saddle.

4. The apparatus of claim 3 wherein the saddle comprises a body having a cross section substantially similar to but slightly smaller than one of the portions of the container and having a cross section substantially similar to but at least equal to the other of the portions of the container such that the saddle is removably captured between one of the closed ends of the container and the portion of the container having a slightly smaller cross section than the saddle when the second portion is telescoped with the first portion and with the body including an inverted U-shaped removed portion having a width larger than twice the thickness of the snow ski and having a height larger than the height of the snow ski such that the removed portions can be placed around the first and second snow skis such that the saddle straddles the snow skis.

5. The apparatus of claim 4 wherein the saddle further comprises storage compartments located around the U-shaped removed portion and an end cap member for closing the storage compartments allowing storage of miscellaneous ski equipment within the saddle.

6. Apparatus of claim 3 wherein the first means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the first snow ski and wherein the second means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the second snow ski such that the ends of the skis are captured within and retained within the protrusions.

7. The apparatus of claim 6 wherein the container further includes a third container portion; and wherein the second container portion includes a first open end, a second open end, a right half, and a left half; the first container portion includes an open end and the first closed end; the third container portion includes an open end and the second closed end with the first and third container portions being in a telescopic relation with the second container portion.

8. The apparatus of claim 7 wherein the first container portion is identical to the third container portion and the right half of second container portion is a reverse mirror image of the left half of second container portion allowing the interchangement of the first container portion with the third container portion in the telescopic relation with the second container portion.

9. The apparatus of claim 2 wherein the first, second, fourth, and fifth means are formed on both the first and second closed ends.

10. The apparatus of claim 2 wherein the fourth and the fifth means are located on the same closed end.

11. The apparatus of claim 1 wherein the apparatus further comprises: means for locking the second portion on the first portion at any desired step location.

12. The apparatus of claim 11 wherein the locking means includes an elongated channel and a multitude of cross channels which abut and intersect with the elongated channel; the channel lying in a direction parallel to the longitudinal axis of the container; the channel and cross channels being formed in one of the container portions; and a lock member carried by the other container portion including a cam portion slidable within the elongated channel and engageable with the cross channels.

13. The apparatus of claim 1 wherein the container further includes a third container portion; and wherein the second container portion includes a first open end, a second open end, a right half, and a left half; the first container portion includes an open end and the first closed end; the third container portion includes an open end and the second closed end with the first and third container portions being in a telescopic relation with the second container portion.

14. The apparatus of claim 13 wherein the first container portion is identical to the third container portion and the right half of second container portion is a reverse mirror image of the left half of second container portion allowing the interchangement of the first container portion with the third container portion in the telescopic relation with the second container portion.

15. The apparatus of claim 1 wherein the second container portion further includes rails formed on the outside top and bottom surfaces and the first container portion further includes slides formed on the inside top and bottom surfaces adapted to slide along and are captured along the rails when the first portion is telescoped on the second portion.

16. The apparatus of claim 1 wherein the container further comprises ridged portions formed on an outside surface of the container and wherein the apparatus further includes means for attaching the container to a support unit comprising in combination: an attachment strap, an anchor member having a complementary bottom surface corresponding to the ridged portion of the container and means for attaching the strap to the anchor member.

17. Apparatus of claim 1 wherein the first means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the first snow ski and wherein the second means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the second snow ski such that the ends of the skis are captured within and retained within the protrusions.

18. The apparatus of claim 1 wherein the first means and the second means are located on the same closed end.

19. The apparatus of claim 11 wherein the second container portion further includes rails formed on the outside top and bottom surfaces and the first container portion further includes slides formed on the inside top and bottom surfaces and adapted to slide along and be captured along the rails when the first portion is telescoped on the second portion.

20. The apparatus of claim 11 wherein the container further comprises ridged portions formed on an outside surface of the container and wherein the apparatus further includes means for attaching the container to a support unit comprising in combination: an attachment strap, an anchor member having a complementary bottom surface corresponding to the ridged portion of the container and means for attaching the strap to the anchor member.

21. The apparatus of claim 11 wherein the first means comprises a protrusion formed on and integral

with one of the closed ends for receiving the end of the first snow ski and wherein the second means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the second snow ski such that the ends of the skis are captured within and retained within the protrusions

22. The apparatus of claim **11** wherein the first, second, fourth, and fifth means are formed on both the first and second closed ends.

23. The apparatus of claim **11** wherein the first means and the second means are located on the same closed end.

24. The apparatus of claim **11** wherein the fourth and the fifth means are located on the same closed end.

25. The apparatus of claim **11** wherein the sixth and seventh limiting means together comprise a saddle.

26. The apparatus of claim **25** wherein the saddle comprises a body having a cross section substantially similar to but slightly smaller than one of the portions of the container and having a cross section substantially similar to but at least equal to the other of the portions of the container such that the saddle is removably captured between one of the closed ends of the container and the portion of the container having a slightly smaller cross section than the saddle when the second portion is telescoped with the first portion and with the body including an inverted U-shaped removed portion having a width larger than twice the thickness of the snow ski and having a height larger than the height of the snow ski such that the removed portions can be placed around the first and second snow skis such that the saddle straddles the snow skis.

27. The apparatus of claim **11** wherein the fourth means comprises an inclined cam surface integral with one of the closed ends of the container on which the tip of the first snow ski rides when the second portion is telescoped with the first portion and wherein the fifth means comprises an inclined cam surface integral with one of the closed ends of the container on which the tip of the second snow ski rides when the second portion is telescoped with the first portion.

28. The apparatus of claim **1** wherein the sixth and seventh limiting means together comprise a saddle.

29. The apparatus of claim **28** wherein the saddle comprises a body having a cross section substantially similar to but slightly smaller than one of the portions of the container and having a cross section substantially similar to but at least equal to the other of the portions of the container such that the saddle is removably captured between one of the closed ends of the container and the portion of the container having a slightly smaller cross section than the saddle when the second portion is telescoped with the first portion and with the body including an inverted U-shaped removed portion having a width larger than twice the thickness of the snow ski and having a height larger than the height of the snow ski such that the removed portions can be placed around the first and second snow skis such that the saddle straddles the snow skis.

30. The apparatus of claim **29** wherein the saddle further comprises storage compartments located around the U-shaped removed portion and an end cap member for closing the storage compartments allowing storage of miscellaneous ski equipment within the saddle.

31. The apparatus of claim **28** wherein the first means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the first snow ski and wherein the second means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the second snow ski such that the ends of the skis are captured within and retained within the protrusions.

32. The apparatus of claim **28** wherein the first, second, fourth, and fifth means are formed on both the first and second closed ends.

33. The apparatus of claim **28** wherein the fourth and the fifth means are located on the same closed end.

34. The apparatus of claim **28** wherein the first means and the second means are located on the same closed end.

35. The apparatus of claim **28** wherein the second container portion further includes rails formed on the outside top and bottom surfaces and the first container portion further includes slides formed on the inside top and bottom surfaces and adapted to slide along and be captured along the rails when the first portion is telescoped on the second portion.

36. The apparatus of claim **35** wherein the saddle includes shoulders formed on the outside top and bottom surfaces and adapted to slide along and be captured along the slides when the first portion is telescoped on the second portion.

37. The apparatus of claim **13** wherein the apparatus further comprises: means for locking the first portion on the second portion at any desired step location; and means for locking the third portion on the second portion at any desired step location.

38. The apparatus of claim **37** wherein the locking means includes an elongated channel and a multitude of cross channels which abut and intersect the elongated channel; the channel lying in a direction parallel to the longitudinal axis of the container; the channel and cross channels being formed in one of the container portions; and a lock member carried by the other container portion including a cam portion slidable within the elongated channel and engageable with the cross channels.

39. The apparatus of claim **13** wherein the container further comprises ridged portions formed on an outside surface of the container and wherein the apparatus further includes means for attaching the container to a support unit comprising in combination: an attachment strap, an anchor member having a complementary bottom surface corresponding to the ridged portion of the container and means for attaching the strap to the anchor member.

40. The apparatus of claim **13** wherein the second container portion further includes rails formed on the outside top and bottom surfaces and the first and third container portions further include slides formed on the inside top and bottom surfaces and adapted to slide along and be captured along the rails when the first and third portions are telescoped on the second portion.

41. The apparatus of claim **13** wherein the first means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the first snow ski and wherein the second means comprises a protrusion formed on an integral with one of the closed ends for receiving the end fo the second snow ski such that the ends of the skis are captured within and retained within the protrusions.

42. The apparatus of claim **13** wherein the first means and the second means are located on the same closed end.

43. The apparatus of claim **13** wherein the fourth and the fifth means are located on the same closed end.

44. The apparatus of claim 13 wherein the first, second, fourth, and fifth means are formed on both the first and second closed ends.

45. The apparatus of claim 13 wherein the fourth means comprises an inclined cam surface integral with one of the closed ends of the container on which the tip of the first snow ski rides when the second portion is telescoped with the first portion and wherein the fifth means comprises an inclined cam surface integral with one of the closed ends of the container on which the tip of the second snow ski rides when the second portion is telescoped with the first portion.

46. The apparatus of claim 13 wherein the sixth and seventh limiting means together comprise a saddle.

47. The apparatus of claim 46 wherein the saddle comprises a body having a cross section substantially similar but slightly smaller than the first and third portions of the container and having a cross section substantially similar to but at least equal to the second portion of the container such that the saddle is removably captured between one of the closed ends of the container and the second portion of the container when the first and third portions are telescoped with the second portion and with the body including an inverted U-shaped removed portion having a width larger than twice the thickness of the snow ski and having a height larger than the height of the snow ski such that the removed portions can be placed around the first and second snow skis such that the saddle straddles the snow skis.

48. The apparatus of claim 46 wherein the saddle further comprises storage compartments located around the U-shaped removed portion and an end cap member for closing the storage compartments allowing storage of miscellaneous ski equipment within the saddle.

49. The apparatus of claim 15 wherein the container further comprises ridged portions formed on an outside surface of the container and wherein the apparatus further includes means for attaching the container to a support unit comprising in combination: an attachment strap, an anchor member having a complementary bottom surface corresponding to the ridged portion of the container and means for attaching the strap to the anchor member.

50. The apparatus of claim 15 wherein the first means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the first snow ski and wherein the second means comprises a protrusion formed on and integral with one of the closed ends for receiving the end of the second snow ski such that the ends of the skis are captured within and retained within the protrusions.

51. The apparatus of claim 15 wherein the fourth means comprises an inclined cam surface integral with one of the closed ends of the container on which the top of the first snow ski rides when the second portion is telescoped with the first portion and wherein the fifth means comprises an inclined cam surface integral with one of the closed ends of the container on which the tip of the second snow ski rides when the second portion is telescoped with the first portion.

52. The apparatus of claim 1 wherein the container can be used on skis varying in length from 160 centimeters to 200 centimeters (63 inches to 79 inches.

53. The apparatus of claim 52 wherein the container further includes a third container portion; and wherein the second container portion includes a first open end, a second open end, a right half, and a left half; the first container portion includes an open end and the first closed end; the third container portion includes an open end and the second closed end with the first and third container portions being in telescopic relation with the second container portion.

54. The apparatus of claim 53 wherein the total length of the first and second container portions is approximately 29.50 inches (75 centimeters) each and wherein the total length of the second container portion is approximately 32.38 inches (82 centimeters).

55. The apparatus of claim 54 wherein the total length that the first and third container portions can telescope on the second container portion is approximately equal to 13 inches (33 centimeters).

56. The apparatus of claim 55 wherein the sixth and seventh limiting means together comprise a saddle.

57. The apparatus of claim 56 wherein the saddle comprises a body having a cross section substantially similar to but slightly smaller than the first and third portions of the container and having a cross section substantially similar to but at least equal to the second portion of the container such that the saddle is removably captured between one of the closed ends fo the container and the second portion of the container when the first and third portions are telescoped with the secnd portion and with the body including an inverted U-shaped removed portion having a width larger than twice the thickness of the snow ski and having a height larger than the height of the snow ski such that the removed portions can be placed around the first and second snow skis such that the saddle straddles the snow skis.

58. The apparatus of claim 57 wherein the total length of the saddle is approximately equal to 11 inches (28 centimeters) which is less than the total length that the first and third container portions can telescope on the second container portion.

59. The apparatus of claim 28 wherein the total length of the saddle is approximately equal to 11 inches (28 centimeters).

60. The apparatus of claim 29 wherein the apparatus further stores, protects and carries a first ski pole and a second ski pole and wherein the height of the removed portion is larger than the height of the snow skis by an amount at least equal to the diameter of the ski poles.

61. The apparatus of claim 60 wherein the height of the removed portion is approximately equal to 4.24 inches (10.8 centimeters) and the width of the removed portion is approximately equal to 1.56 inches (3.96 centimeters).

62. The apparatus of claim 17 wherein the total width of the protrusions forming the first and second means is approximately equal to but slightly larger than twice the thickness of the skis.

63. The apparatus of claim 62 wherein the total width of the protrusions forming the first and second means is approximately equal to 1.32 inches (3.4 centimeters).

64. The apparatus of claim 1 wherein the apparatus further includes: a shoulder strap; and means for removably connecting the shoulder strap to the container for carrying the container.

65. The apparatus of claim 13 wherein the first and third container portions further include indicating members and wherein the second container portion further includes indicating lips for indicating the size of ski that the container can capture therein when the first and third container portions are telescoped to various positions on the second container portion.

* * * * *

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,921,871 Dated November 25, 1975

Inventor(s) Charles W. Heil

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, line 8, after "apparatus" insert -- for --.

Column 1, line 15, after "small" insert -- , --.

Column 1, line 31, after "portion" insert -- and a second container portion --.

Column 1, line 67, after "protecting" insert -- , --.

Column 2, line 47, after " "left end" " insert -- , --.

Column 2, line 61, after "20" insert -- , --.

Column 2, line 64, cancel "and" and substitute -- an --.

Column 3, line 9, cancel "haitus" and substitute therefor -- hiatus --.

Column 3, line 28, delete "the".

Column 3, line 39, cancel "continer" and substitute therefor -- container --.

Column 3, line 42, cancel "wil" and substitute therefor -- will --.

Column 3, line 44, cancel "containenr" and substitute therefor -- container --.

Column 3, line 46, cancel "sllides" and substitute therefor -- slides --.

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,921,871 Dated November 25, 1975

Inventor(s) Charles W. Heil

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 3, line 47, cancel "correspondingn" and substitute therefor -- corresponding --.

Column 3, line 48, cancel "containter" and substitute therefor -- container --.

Column 4, line 10, cancel "wall" and substitute therefor -- walls --.

Column 4, line 20, cancel "section" and substitute therefor -- sections --.

Column 4, line 32, after "slide 104" insert -- between --.

Column 4, line 35, cancel "158" and substitute therefor -- 58 --.

Column 5, line 19, cancel "purpose" and substitute therefor -- purposes --.

Column 5, cancel lines 21-23 beginning with "First" and ending with "hereinafter.".

Column 5, line 44, after "container" insert -- portion --.

Column 5, line 46, after "598," insert -- and --.

Column 5, line 58, after "are" insert -- shown as --.

Column 6, line 4, cancel "of" and substitute therefor -- or --.

Column 6, line 62, cancel "the".

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,921,871 Dated November 25, 1975

Inventor(s) Charles W. Heil

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 7, line 7, after "167" insert -- , --.

Column 7, line 30, cancel "wall" and substitute therefor -- walls --.

Column 8, line 4, after "152" insert -- from --.

Column 8, line 19, cancel "with" and substitute therefor -- within --.

Column 8, line 27, cancel "portions" and substitute therefor -- portion --.

Column 8, line 36, after "other" insert -- ,---.

Column 8, line 38, cancel "parrallel" and substitute therefor -- parallel --.

Column 9, line 26, cancel "strp" and substitute therefor -- -- step --.

Column 10, line 38, cancel "unitl" and substitute therefor -- until --.

Column 10, line 39, cancel "63" and substitute therefor -- 64 --.

Column 10, line 43, after "lip 112" insert -- aligns --.

Column 11, line 16, after "tip 30 of" insert -- second --.

Column 11, line 36, cancel "130" and substitute therefor -- 150 --.

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,921,871 Dated November 25, 1975

Inventor(s) Charles W. Heil

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 11, line 44, cancel "in to" and substitute therefor -- into --.

Column 11, line 46, cancel "53" and substitute therefor -- 52 --.

Column 14, line 26, claim 1, cancel "snow", third occurrence.

Column 14, line 53, claim 1, after "first" insert -- portion --.

Column 15, line 5, claim 2, cancel "skis" and substitute therefor -- ski --.

Column 18, line 60, claim 41, cancel "an" and substitute therefor -- and --.

Column 18, line 61, claim 41, cancel "fo" and substitute therefor -- of --.

Column 19, line 55, cancel "top" and substitute therefor -- tip --.

Column 19, line 63, claim 52, cancel "inches." and substitute therefor -- inches). --.

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,921,871 Dated November 25, 1975

Inventor(s) Charles W. Heil Page 5 of 5

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 20, line 6, claim 54, cancel "second" and substitute therefor -- third --.

Column 20, line 22, claim 57, cancel "fo" and substitute therefor -- of --.

Column 20, line 25, claim 57, cancel "secnd" and substitute therefor -- second --.

Signed and Sealed this

Thirtieth Day of November 1976

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks