A winter recreation device, used for sliding downhill on a snow covered surface, on which the rider is suspended above the snowy surface, either in a generally horizontal position - face up or face down - or in a reclined position, thereby providing the rider with a unique experience or sensation. The winter recreation device comprises a slide member having a top and a low friction bottom adapted for sliding on the snow covered surface, a support connected to the top of the slide member and extending upward away from the slide member, and a harness suspended from the support, wherein the support and harness are adapted to suspend a user of the apparatus above the snowy surface.
ABSTRACT

A winter recreation device, used for sliding downhill on a snow covered surface, on which the rider is suspended above the snowy surface, either in a generally horizontal position – face up or face down – or in a reclined position, thereby providing the rider with a unique experience or sensation. The winter recreation device comprises a slide member having a top and a low friction bottom adapted for sliding on the snow covered surface, a support connected to the top of the slide member and extending upward away from the slide member, and a harness suspended from the support, wherein the support and harness are adapted to suspend a user of the apparatus above the snowy surface.
WINTER RECREATION DEVICE

BACKGROUND OF THE INVENTION

1. Field of the Invention

    The present invention relates to the field of devices that a user can ride downhill on snowy surfaces. More particularly, the invention relates to devices on which a user reclines while riding downhill, such as sleds, luges and toboggans.

2. Description of the Prior Art

    In the prior art, there have been numerous devices that a user can ride downhill on snowy or icy surfaces. The most popular of these include skis, snowboards, sleds, toboggans and luges. With skis and snowboards, the user rides downhill while standing; whereas, with sleds, luges and toboggans, the user is either seated or reclined directly on the device. Heretofore, there has not been a device that provides the user with the unique experience of feeling like he or she is 'flying' over the snow.

SUMMARY OF THE INVENTION

    Accordingly, the present invention provides a novel winter recreation device on which the rider is suspended above the snowy surface, either in a generally horizontal position – face
up or face down – or in a reclined position, thereby providing the rider with a unique experience or sensation.

According to one aspect of the present invention there is provided a winter recreation apparatus for sliding downhill on a snow covered surface, comprising a slide member having a top and a low friction bottom adapted for sliding on the snow covered surface, a support connected to the top of the slide member and extending upward away therefrom, and a harness suspended from the support, wherein the support and harness are adapted to suspend a user of the apparatus above the snowy surface. The support and the harness may be adapted to suspend the user in a horizontal position, either face up or face down.

In some embodiments, the slide member may be a conventional snowboard having mount points on the top, and the support may be adapted for connecting to the mount points. A steering mechanism may be included connected to the support or the slide member, and adapted for being actuated by the user to steer the apparatus while it is in motion. Some embodiments may include a handhold connected to the support or the slide member, and adapted for being grasped by the user. In some embodiments, the support comprises a keel portion that is connected to the slide member, a mast portion connected to the keel portion and extending upwards from the slide member, and a boom portion connected to the mast portion for suspending the harness over the slide member. Alternatively, the support may comprise a keel connected to the top of the slide member, a mast connected to the keel and extending upwards from the slide member, and a cantilevered boom connected to the mast and extending over the slide member for suspending the harness over the slide member. The mast may be connected for hinged movement in relation to the keel such that the mast may be swung from
an upright position to a folded position in which it is generally parallel with the keel. The boom may be connected for hinged movement in relation to the mast such that the boom may be swung from an operable position in which the boom is generally perpendicular to the mast, to a folded position in which the boom is generally parallel with the mast.

In some embodiments, the steering mechanism comprises two parallel arms, each hingedly connected to the support on either side of the median plane of the apparatus, and each having a remote end that extends rearward beyond the periphery of the slide member, each arm being independently moveable by the user between a first position in which the remote end scrapes the surface of the snow and a second position in which the remote end is removed from the snow. The steering mechanism may further include a planar rudder connected to each remote end for contacting and scraping the snow when the arm is in the first position, as well as a foot harness connected to each remote end for receiving a user's foot thereby enabling the user to move each arm with his feet. An adjustable strap may be provided that is connected between the boom and each rudder arm for supporting the weight of the user's legs.

The present invention further provides an apparatus for attaching to a conventional snowboard to provide a winter recreation device for sliding downhill on a snow covered surface, comprising a support adapted to being connected to the snowboard and extending upward away therefrom, and a harness suspended from the support, wherein the support and harness are adapted to suspend a user of the device above the snowy surface.
BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the present invention and to show more clearly how it may be carried into effect, reference will now be made by way of example to the accompanying drawings:

Fig. 1 A side view of an embodiment of a winter recreation device of the present invention in which the rider is suspended in a generally horizontal, face down (i.e. prone) body position;

Fig. 2 A side view of the device of Fig. 1;

Fig. 3 A side view of the device of Fig. 1 in a collapsed configuration;

Fig. 4 A side view of a front portion of the device in Fig. 1 with a portion of the keel cut away, exposing the front mounting assembly;

Fig. 5 A front exploded view of the front mounting assembly;

Fig. 6 A top plan view of the portion of the device in Fig. 4 with the interior and underlying structure being shown with dashed lines;

Fig. 7 A cross section A-A of the front portion of the device in Fig. 4;

Fig. 8 A side view of a rear portion of the device in Fig. 1 showing the rear mounting assembly and mast socket assembly;

Fig. 9 A side view of the rear portion in Fig. 8 with a part of the side plate cut away;

Fig. 10 A cross section B-B of the portion of the device in Fig. 8;

Fig. 11 A side view of a portion of the device in Fig. 1 showing the rear part of the boom, the top of the mast and the connector bracket;

Fig. 12 A bottom view of the portion of the device in Fig. 11;
Fig. 13 A mid-line section of a rudder fitting;
Fig. 14 A side view of the rudder fitting in Fig. 13;
Fig. 15 A top view of the rudder fitting in Fig. 13;
Fig. 16 A side view of the rudder fitting from the side opposite of that in Fig. 14;
Fig. 17 A top view of a rear portion of the device in Fig. 1, excluding the mast and boom, showing the steering/braking assembly;
Fig. 18 A side view of another embodiment of a winter recreation device of the present invention that suspends a user in a generally horizontal, face down (i.e. prone) body position;
Fig. 19 A top view of the device of Fig. 18;
Fig. 20 A side view of another embodiment of a winter recreation device of the present invention that has a loop frame support;
Fig. 21 A side view of a loop frame of the device of Fig. 20; and
Fig. 22 A side view of another embodiment of a winter recreation device of the present invention that suspends a user in a generally face up (i.e. supine) body position.

DETAILED DESCRIPTION

In the accompanying drawings, like numerals indicate the same elements. It will be understood that the present disclosure is an exemplification of the principles of the invention and does not limit the invention to the illustrated embodiments. Therefore, specific details disclosed herein are not to be interpreted as limiting, but rather as a basis for the claims and as a representative basis for teaching one skilled in the art to employ the present invention. Directional references such a up, down, fore, aft, left, right, rearward and the like refer to the
device in the orientation in which it would be normally used for sliding downhill and from the point of view of the user.

Referring to Figs. 1 - 17, an embodiment of the winter recreation device is generally indicated at 10. Device 10 includes a harness 12 suspended from a support comprising an elongate tubular boom 14, a tubular mast 18 and a tubular keel 22. The boom 14 is connected to the top portion 16 of mast 18. The bottom portion 20 of the mast is connected to a keel 22, which is connected to a slide member having a low friction bottom adapted for sliding on snow covered surfaces, such as a conventional snowboard 24. Device 10 also includes a steering/braking assembly 26. Boom 14 is hinged to mast 18, and mast 18 and steering/braking assembly 26 are each independently hinged to keel 22, thereby enabling device 10 to be collapsed into a folded configuration as shown in Fig. 3.

Referring to Figs. 2-7, keel 22 comprises an elongate tubular member, generally rectangular in cross-section, and having front and rear end portions 28 and 30. A riser tube 32 is connected at the front end portion 28 and extends forward and upward away from the keel. At terminal end 33 of riser tube 32 is provided a handhold, such as handle bar 34 for bracing the front of the rider’s body in absorbing shocks and in shifting the rider’s weight fore, aft or sideways to control the board in conjunction with the rudders or the brakes. The handlebar may be adjustable for height as well as fore and aft, and it may be attached to a sprung stem (similar to those used on mountain bicycles) for absorbing shocks. The handlebars may also be foldable to reduce overall width for transport or storage. Other configurations of a handlebar are possible, and it may be attached to the slide member instead of the keel.
The keel 22 includes front and rear mounting assemblies 36 and 38 for mounting the keel to the snowboard 24. The spacing between the mounting assemblies 36 and 38 corresponds to the spacing between the mount points on the snowboard. Each of the mounting assemblies comprises a mount bracket 40 for bolting to the corresponding mount point of the snowboard. Mount brackets 40 include a rectangular plate portion 42 having a planar contact surface 44 and a raised side flange portion 46 on each side with a transverse threaded hole 47. The plate portion 42 includes a plurality of slotted holes 48 to accommodate the diversity in the spacing and pattern of the threaded holes 25 found in the mount points of conventional snowboards.

Referring to Figs. 4-7, in the front mounting assembly 36, the mount bracket is connected to a resiliently flexible polymer link member 50 via bolts 52 that pass through the threaded holes 47 on the flange portions and through transverse bore 54 in the bottom portion of the link member. The bottom of the keel is provided with an opening 56 through which the top portion of the link member is inserted into the keel. Holes 58 are provided through the sides of the keel that aligns with bore 60 through the top portion of the link member. Bolts 62 fasten the link member to the keel. Accordingly, the link member at the front is recessed into the keel to allow more height for this flexible link, while maintaining the keel as low as possible relative to the snowboard thereby minimizing the folded height of the device. If more direct control is required, the polymer link in the front mounting assembly 36 may be replaced with a more rigid link member.

Referring to Figs. 8 and 9, in the rear mounting assembly 38, the mount bracket is connected to the keel 22 by two triangular plates 66 (one on each side), each of which includes
holes 67, 68 and 69 at the apexes. The plates 66 are bolted to the mount bracket by means of the holes 67 in the flanges 47, and to the sides of the keel by means of holes (not shown) that align with holes 68 and 69 in the triangular plates. Accordingly, the rear mounting assembly allows the board to rotate longitudinally around the rear of the keel to accommodate bending of the board during use, but transmits all sideways "lean" forces from the mast to the board. Alternatively, if a softer suspension (and link between the keel and the board) is desired, the rigid links in the rear mounting assembly may be substituted with a polymer mount as in the front mounting assembly. A foot strap 70 is included on the top of keel 22 adjacent the rear mounting assembly for use by the rider in 'scootering' the device to and from a chairlift or on generally horizontal surfaces.

Referring to Figs. 8-10, to the rear end 30 of the keel 22 is bolted a mast socket assembly 74 for hingedly connecting the mast 18 and the steering/braking assembly 26 to the keel. The mast socket assembly 74 comprises two side plates 76 and 78 (each a mirror image of the other) that are each fastened near their bottom portion to a side of the keel 22 by fasteners 80. The side plates 76 and 78 extend upwards and taper inward to accommodate for the mast that is narrower than the keel. A bolt 82 extends between the plates and through the mast at a location above the keel. The bolt 82 includes a hard plastic spacer 83 that fits between the side plates 76 and 78, and rests on the keel. The cross section of the spacer is trapezoidal in shape. The bottom edge 86 of the mast includes a complimentary tapered slot 88 on each side that corresponds to the spacer 83 so that the bottom of the mast fits snugly over the spacer when the mast is fully inserted in the mast socket assembly. The spacer provides a fixed width for the pivot bolt to be tightened against to prevent distortion of side plates 76 and 78, and it provides a wider load bearing surface for the slots 88 in the mast to contact (as
opposed to just bearing on bolt 82) to prevent distortion in the walls of the slots since this area is highly loaded due to the moment placed on the mast by the rider’s weight.

In the tapered portion of each side plate 76 and 78, and in vertical alignment with the bolt 82 is provided a vertical slot 84. The lower portion of the mast further includes a hole 90 through the mast that aligns with the slots 84 on the side plates 76 and 78. The mast is connected to the side plates by a quick release clamp 92, which has a shaft 94 that passes through the slots 84 and hole 90 while the mast is received within the mast socket assembly. A rigid tubular spacer 96 having a length equal to the inside dimension of the mast is fitted on the shaft 94 within the mast, and allows the clamp 92 to be tightened without crushing the mast. Rigid plastic spacers 96 and 97 are provided to fill the gap due to the difference in width of the keel and the narrower mast and to provide extra support.

With the clamp 92 being released, the mast can be raised or lowered within the confines provided by the shaft 94 of the clamp traveling within slots 84. The bolt 82, the slots 84 and the hole 90 are relatively positioned so as to enable the bottom edge 86 of the mast to clear the spacer 83 when the mast is at its upper end of travel, and to enable the slots 88 to fully engage the spacer 83 when the mast is at its lower end of travel. With the clamp 92 tightened, the top portions of the side plates 76 and 78 grip the mast to prevent movement of the mast in relation to the plates. Accordingly, the mast may be locked into an upright alignment by fitting the slots 88 over the spacer 83 and tightening the clamp 92, and it may be folded parallel to the keel by releasing the clamp, sliding the mast upward such that the slots 88 clear the spacer 83. The mast is held snugly in the socket when the quick release clamp 92 is tightened, and any weight
shifting inputs from the rider are transmitted directly to the keel and to the snowboard to allow precise control of the device.

Referring to Figs. 11 and 12, boom 14 is connected to mast 18 for hinged movement in relation thereto by connector bracket 98 such that the boom may be swung from a position in which it is cantilevered by the mast – being generally perpendicular to the mast, to a folded position in which the boom is generally parallel with the mast. Connector bracket 98 comprises side plates 100 and 101 (one on each side), each of which is generally pentagonal in shape and includes a hole near each of its apexes. Plates 100 and 101 are connected to each other at the lower fore and aft apexes by bolts 106 and 107, and internal tubular spacers 109 and 110, and by quick release clamps 112 and 113 at the upper apexes, thereby providing a bracket for slidably receiving boom 14 in a manner that the boom is supported by bolts 106 and 107. A rigid reinforcement plate 108 is provided on the lower side of the boom to prevent excess loading on the boom that could otherwise lead to buckling at the points where the boom rests on internal spacers 109 and 110 on the bolts 106 and 107. The boom 14 may be clamped tightly within the connector bracket 98 by tightening the quick release clamps 112 and 113, which force the plates 100 and 101 to grip the boom. The quick release clamps are analogous to the kinds of quick release clamps typically used on bicycles. The quick release clamps allow the boom to be disassembled easily from the mast, or to be adjusted fore and aft as required to accommodate riders of different sizes or preferences.

The connector bracket 98 is hingedly attached to top end of mast 18 by pivot bolts 114 and 115, each of which passes through a corresponding hole that is provided through the top portion 16 of the mast at a position that is offset towards the rear of the center of the mast. The
rearward offset enables the boom to be folded parallel to the mast when collapsing the device 10.

A spring clip boom lock 118 is provided on the bottom of the boom that releasably engages a pin 120 on the front of the mast when the boom reaches a position in which it is approximately perpendicular to the mast. When engaged, the boom lock maintains the boom at about a 90 degree angle to the mast and prevents it from rotating. In this orientation the boom may be used to control the device when scootering towards a chair lift and when dismounting the chair lift. Having the boom thus locked also allows the rider to distribute the weight of the device over the top of his legs when on a chairlift, with the boom sitting upon the legs. The boom lock has a large release lever portion allowing use while wearing gloves. Prior to use of the device for sliding downhill, the boom lock is disengaged from the pin to allow rotation of the boom relative to the mast. An alternative lock arrangement may include a release mechanism and cable inside the mast that is triggered when the steering/braking mechanism is folded backwards for use, such that the cable retracts a pin and releases the boom catch automatically.

The tubular boom 14 includes removable but securely inserted end caps 122 that allow the inside of the tube to be used for storage.

Referring to Figs. 1 and 2, harness 12 comprises a form fitting fabric member 124 that is adapted to support the torso of a user in a generally horizontal position. Fabric member 124 is attached by adjustable straps 126 to quick release hooks 128 and 129 that connect to suspension shackles 130 and 131 on the boom for suspending the harness below the boom.
The harness can be a strap-on type (as shown) or it can be integral with a jacket (not shown). In either case, a pull cord 132 attached to the quick release hooks 128 and 129 and positioned near one shoulder of the rider allows the rider to release the quick release hooks by pulling on the cord. This makes dismounting easier and allows easy disengagement from the device if the rider falls over. The rear shackle 131 is attached to the boom through one of a number of longitudinally arranged holes 134, thereby enabling a fore-aft adjustment of the shackle 131 to accommodate riders of different torso length or preferences. Additional fore and aft adjustment of the harness as a unit is accomplished by sliding the boom in the connector bracket 98 by using the quick release clamps 112 and 113. In some embodiments, the harness can incorporate attachments that allow it to be used as a back pack, with the device attached to it, for hiking into the back-country. As well, the harness may include built in storage compartments or pockets.

Steering/braking assembly 26 comprises left and right rudder arm pivot members 136 and 138 that are attached to the mast socket assembly by means of the bolt 82 such that each is able to rotate independently in relation to the mast socket assembly. The rudder arm pivot members each include a tubular portion 140 in which is securely connected left or right tubular rudder arm 141 and 142, and a planar portion 144 which is adapted to rest flush against the respective side plate 76 or 78 of the mast socket assembly. In between each planar portion and side plate of the mast socket assembly is a thin plastic bearing sheet 146 to reduce friction. The pivot members are designed for minimum sideways deflection when the lateral steering loads are applied to them. As well, the location of the pivot point (the point of attachment to the mast
socket assembly by bolt 82) of each pivot member is offset rearwards to provide more forward support to resist the lateral twisting force applied to the pivot as a result of steering inputs.

At the remote end of each rudder arm 141 and 142 is a rudder fitting 148 by which a rudder 150 and foot harness 152 is attached to the rudder arm. The foot harness can be as simple as a pad and strap that fits the rider’s toe, or it can be a swiveling pedal with step-in or strapped-in bindings, or a “clipless” pedal as used on bicycles. Both rudder arms have the same fitting installed, with the larger hole 154 for receiving the foot harness 152 facing outwards. Each rudder 150 is bolted to downward facing tab 156 of its respective rudder fitting. Each rudder fitting is secured to its rudder arm by bolts through clamp tab 158, and both rudder fittings are adjustable fore and aft along the rudder arms to accommodate varying rider leg lengths. Each rudder is set at an acute angle - preferably a 45 degree angle - outward to the longitudinal axis of the rudder arm on which it is mounted. This configuration enables the rudders to be used for both steering (when applied individually) and braking (when applied in unison). In addition, each rudder is shaped and angled to provide an upward force on its rudder arm when in use, thereby preventing them from self-applying and digging deeper into the snow than intended by the rider, and such that a small area at the leading edge contacts the snow first allowing the rudder to more effectively dig into hard packed snow or ice.

An adjustable rudder suspension strap 162 is connected to the rear portion of boom 14 and includes a block 164 through which a line 166 is run and connected to each rudder arm. The rudder suspension strap 162 maintains each rudder arm above the snow when the rider’s body is suspended in the harness 12, and the block 164 and line 166 provide a pulley mechanism to transmit a downward movement of one rudder arm into an upward movement of
the other rudder arm. A boom travel limiting strap 168 comprising of an internal elastic bungee cord 170 within a fixed length webbing element 171 is connected to the back of the keel and to the rudder suspension strap 162. The bungee cord pulls the rear of the boom down when the rider removes his weight from the harness, thereby applying a braking force to the device by allowing both rudder arms to fall causing the rudders to dig into the snow. The fixed length-webbing element of the travel limiting strap 168 prevents the strap from lengthening beyond a particular limit, thus it counterbalances the rider's weight in the harness.

Referring to Fig. 3, in order to fold the device into its collapsed configuration (as illustrated), the boom 14 is pivoted backward on pivot bolts 114 and 115 so that the boom is substantially parallel to the mast 18. Clamp 92 is loosened and the mast (together with the boom) is pivoted forward so that it is substantially parallel with the keel 22, and the front of the boom rests on the handlebars 34. The rudder arms 141 and 142 are also folded forward and lie on either side of the keel 22. To deploy the device from collapsed configuration, the rudder arms are folded over backwards so that the rudders contact the snow. If needed, the rudders can be pressed down into the snow using foot pressure to act as "parking brakes". The rider then lifts the boom from the front. As it is lifted up and rearwards it starts to lift the mast. As the mast lifts, the boom can be pivoted simultaneously forward. When the boom becomes perpendicular to the mast, the boom lock 118 engages pin 120 and stops further rotation of the boom relative to the mast. The bottom of the mast is seated into the mast socket 74 such that slots 88 are firmly seated over spacer 83, and the quick release clamp 92 is tightened. The limit strap 168 is connected onto the rear of the keel. Alternatively this strap can be left attached and loosened for folding then re-tightened to use the device (the straps between the rudder arms and the back of
the boom remain in place and have enough slack to allow folding the rudder arms over). The bungee in the strap pulls the rear of the boom downwards.

Further adjustment of the device is accomplished by adjusting the straps 126 of the harness; by adjusting the fore and aft position of the boom relative to the mast using quick release clamps 112 and 113; the angle of the boom by adjusting the strap 162; the leverage applied to the rudder arms by the fore-aft placement of the line 166 along the rudder arms; and the position of the rudders and foot harnesses along the rudder arms by the positioning of the rudder fittings 148.

To mount the device, the rider dons the harness 12, releases boom lock 118 and attaches quick release catches 128 and 129 to the shackles 130 and 131 on the boom. Once the strap 162 has been adjusted, the rider transfers his or her weight to the harness. This causes the boom to rotate forward and tightens the rudder straps, which lifts the rudder arms. When the boom limit strap 168 becomes tight, the boom and harness support the rider's weight. Alternatively the rider can support his weight with his hands and knees while pushing off or placing his feet into the rudder foot harnesses. The rider can then start coasting or push off with his hands or feet. Once sliding, the rider then places his feet into the rudder straps. With the rider being suspended from the harness, the strap 162 and line 166 that attach from the front of the rudder arms to the rear of the boom maintain the rudders above the surface of the snow, even with the weight of the rider's legs resting in the foot straps. The weight of the rider suspended from the front of the boom is partially balanced by the force down on the rudders transmitted through the strap 162 and line 166 which can attach at different leverage lengths on
the boom and rudder arms. The leverage lengths are adjustable to achieve a balance when riding.

The bungee cord 170 of the boom limit strap 168 pulls the rear of the boom down when the rider removes his weight, thereby applying the brakes by lowering the rudder arms — a safety feature. It also automatically raises the front of the boom making it more convenient for the rider to attach himself to the device. When a rider is suspended from the front of the boom, the webbing portion 171 of this strap becomes tight, limiting the amount that the boom can drop at the front and thereby more fully supporting the rider's weight.

When a given rudder is pressed down into the snow by the rider's leg, it causes the device to turn in the opposite direction due to it being angled outward as previously described: right leg down turns the device to the left, and vice versa. The more the rudder is pressed down into the snow, the more turning action results. When both legs are pressing down, and the rider's body is supported somewhat by his hands and feet to un-weight the front of the boom to allow downward travel of the rudder arms, then both rudders penetrate the snow and act as brakes. When the rider's weight is removed from the device, the brakes automatically press down into the snow due to the action of the bungee, thereby preventing a runaway device. In addition, the device is inherently unstable when not in use on account of its high center of gravity; the device without rider will fall over onto its side after moving only a short distance. Dismounting and folding is the reverse of the above.

When transporting the device on flat terrain, such as when loading onto or unloading from a chairlift, the boom can be locked in perpendicular alignment with the mast by the boom
lock 118 engaging pin 120. In this orientation, the boom may be used to control the device when scootering the device on flat terrain (i.e. with one foot in the foot strap 70 and the other pushing off the snow to propel the device forward). On the chairlift, the rider supports the weight of the device by placing the boom across the top of his legs (or on the chair structure) thus evenly distributing the weight of the device over the legs to minimize problems of restricted circulation and numbness. A tether strap between the device and the rider may be provided to prevent the device being accidentally dropped from the chairlift.

Referring to Figs. 18 and 19, there is shown another embodiment of a winter recreation device of the present invention at 300 that does not fold and offers basic adjustments as a lower cost alternative to device 10. Device 300 comprises a composite or reinforced polymer frame 310 that incorporates the functionality of the keel, mast and boom of the previously described embodiment into a unitary support member having an analogous keel portion 322, mast portion 316 and a cantilevered boom portion 314. The keel portion 322 is similarly attached to the snowboard 324 as in the device 10. The harness 312 is attached to boom portion as in the previous embodiment. The steering/braking assembly 326 is similar to that of device 10, except that the rudder foot harnesses 350 are just straps that the rider's toes fit into. A foot pocket 370 for scootering is incorporated into the support on each side of the keel portion. The support for the rudders comprises of strong bungees 362, or alternatively, a spring enclosed in a "boot" (to prevent snow fouling).

Referring to Figs. 20 and 21, there is shown another embodiment of a winter recreation device of the present invention at 400. Device 400 includes a support comprising a loop frame 414 with suspension points 416 from which harness 412 is suspended within the loop. The loop
frame 414 is connected to a keel 422 that is analogous to the keel 22 of device 10. The keel 422 is connected to a slide member such as a conventional snowboard 424. A steering assembly 426 is also provided comprising a rudder assembly 430 connected to an elongate tubular rudder arm 428, which is attached to keel 422. The rudder assembly 430 is capable of side-to-side rotation via swivel connection 429, and up-down rotation via swivel connection 431. The rudder assembly includes a rudder 432 and platform 434 by which the user transmits steering inputs to the rudder. Device 400 also includes a handlebar 436 connected to a stem 438 that is adjustable by means of a pivot connection and a quick release clamp mechanism 440 connecting the stem to the keel. The handlebar includes bicycle style brake levers 442 that actuate snow brakes 444 on either side of the snowboard via cables 446.

Alternatively, the steering and braking functions on device 400 can be combined by using a steering/braking assembly that is similar to steering/braking assembly 26 of device 10. It has been found that the steering/braking assembly 26 is considerable more effective at stopping the device than the snow brakes 444, and at steering the device than the single rudder assembly 430.

Referring to Fig. 22, there is shown another embodiment of a winter recreation device of the present invention at 500 on which a user is suspended in a generally supine position as illustrated. Device 500 comprises a harness 512 suspended from a loop frame 514 that is similar to loop frame 414 in Fig. 21. The loop frame 514 is connected to a keel 522 that is analogous to the keel 422 of device 400, but includes a front neck 523 on which is a swivel mounted braking/steering platform 534 for supporting the user's feet and transmitting steering and braking inputs to the device. The keel 522 is connected to a slide member such as a
conventional snowboard 524. A steering assembly 526 is also provided, which is similar to steering assembly 426 on device 400, except that actuation of the rudder 532 is accomplished via cables 534 that link the rudder with the braking/steering platform 534. Braking inputs from the user are transmitted from the braking/steering platform 534 via cables 546 to snow brakes 544 on either side of the snowboard.

While the above description and illustrations constitute preferred or alternate embodiments of the present invention, it will be appreciated that numerous variations may be made without departing from the scope of the invention, which is defined in the appended claims.
THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A winter recreation apparatus for sliding downhill on a snow covered surface, the apparatus comprising:
   a slide member having a top and a low friction bottom adapted for sliding on the snow covered surface;
   a support connected to the top of the slide member and extending upward away therefrom; and
   a harness suspended from the support, wherein the support and harness are adapted to suspend a user of the apparatus above the snowy surface.

2. The apparatus as claimed in claim 1, wherein the support and the harness are adapted to suspend the user in a generally horizontal position.

3. The apparatus as claimed in any one of claims 1 and 2, wherein the support and the harness are adapted to suspend the body of the user in a generally face down position.

4. The apparatus as claimed in any one of claims 1 and 3, wherein the slide member comprises a conventional snowboard having mount points on the top, and the support is adapted for connecting to said mount points.
5. The apparatus as claimed in any one of claims 3 and 4, further comprising a steering mechanism connected to the support or the slide member, and adapted for being actuated by the user to steer the apparatus while it is in motion.

6. The apparatus as claimed in claim 5, further comprising a handhold connected to the support or the slide member, and adapted for being grasped by the user.

7. The apparatus as claimed in any one of claims 5 and 6, wherein the support comprises:
   a keel portion that is connected to the slide member;
   a mast portion extending upwards from the keel portion in a direction away from the slide member; and
   a boom portion extending away from the mast portion in a forward direction, and being adapted for suspending the harness over the slide member.

8. The apparatus as claimed in any one of claims 5 and 6, wherein the support comprises:
   a keel connected to the top of the slide member;
   a mast connected to the keel and extending upwards from the slide member;
   a cantilevered boom connected to the mast and extending over the slide member for suspending the harness over the slide member.

9. The apparatus as claimed in claim 8, wherein the mast is connected for hinged movement in relation to the keel such that the mast may be swung from an upright position to a folded position in which it is generally parallel with the keel.
10. The apparatus as claimed in claim 9, wherein the boom is connected for hinged movement in relation to the mast such that the boom may be swung from an operable position in which the boom is generally perpendicular to the mast, to a folded position in which the boom is generally parallel with the mast.

11. The apparatus as claimed in any one of claims 7 and 10, wherein the steering mechanism comprises two parallel arms, each hingedly connected to the support on either side of the median plane of the apparatus, and each having a remote end that extends rearwards beyond the periphery of the slide member, each arm being independently moveable by the user between a first position in which the remote end scrapes the surface of the snow and a second position in which the remote end is removed from the snow.

12. The apparatus as claimed in claim 11, further comprising a planar rudder connected to each remote end for contacting and scraping the snow when the arm is in the first position.

13. The apparatus as claimed in claim 12, further comprising a foot harness connected to each remote end for receiving a user's foot, thereby enabling the user to move each arm with his feet.

14. The apparatus as claimed in claim 13 further including an adjustable strap connected between the support member and each arm for supporting the weight of the user's legs while each foot of the user is in a foot harness.
15. An apparatus for attaching to a snowboard to provide a winter recreation device for sliding downhill on a snow covered surface, the apparatus comprising:
   a support adapted to being connected to the snowboard and extending upward away therefrom; and
   a harness suspended from the support, wherein the support and harness are adapted to suspend a user of the device above the snowy surface.

16. The apparatus as claimed in claim 15, wherein the support and the harness are adapted to suspend the user in a generally horizontal position.

17. The apparatus as claimed in any one of claims 15 and 16, wherein the support and the harness are adapted to suspend the body of the user in a generally face down position.

18. The apparatus as claimed in claim 17, further comprising a steering mechanism connected to the support and adapted for being actuated by the user to steer the apparatus while it is in motion.

19. The apparatus as claimed in any one of claims 17 and 18, further comprising a handheld connected to the support and adapted for being grasped by the user.

20. The apparatus as claimed in any one of claims 18 and 19, wherein the support comprises:
   a keel portion that is adapted for connecting to the snowboard;
a mast portion extending upwards, away from the keel portion; and
a boom portion extending away from the mast portion in a forward direction, and
being adapted for suspending the harness over the snowboard.

21. The apparatus as claimed in any one of claims 18 and 19, wherein the support comprises:
   a keel adapted for connecting to the snowboard;
   a mast connected to the keel and extending upwards from the keel;
   a cantilevered boom connected to the mast and extending over the keel for
   suspending the harness over the snowboard.

22. The apparatus as claimed in claim 21, wherein the mast is connected for hinged
    movement in relation to the keel such that the mast may be swung from an upright
    position to a folded position in which it is generally parallel with the keel.

23. The apparatus as claimed in claim 22, wherein the boom is connected for hinged
    movement in relation to the mast such that the boom may be swung from an operable
    position in which the boom is generally perpendicular to the mast, to a folded position in
    which the boom is generally parallel with the mast.

24. The apparatus as claimed in any one of claims 20 and 23, wherein the steering
    mechanism comprises two parallel arms, each hingedly connected to the support on
    either side of the median plane of the apparatus, and each having a remote end that
    extends rearward beyond the periphery of the snowboard, each arm being
independently moveable by the user between a first position in which the remote end scrapes the surface of the snow and a second position in which the remote end is removed from the snow.

25. The apparatus as claimed in claim 24, further comprising a planar rudder connected to each remote end for contacting and scraping the snow when the arm is in the first position.

26. The apparatus as claimed in claim 25, further comprising a foot harness connected to each remote end for receiving a user's foot thereby enabling the user to move each arm with his feet.

27. The apparatus as claimed in claim 26 further including an adjustable strap connected between the support member and each arm for supporting the weight of the user's legs while each foot of the user is in a foot harness.