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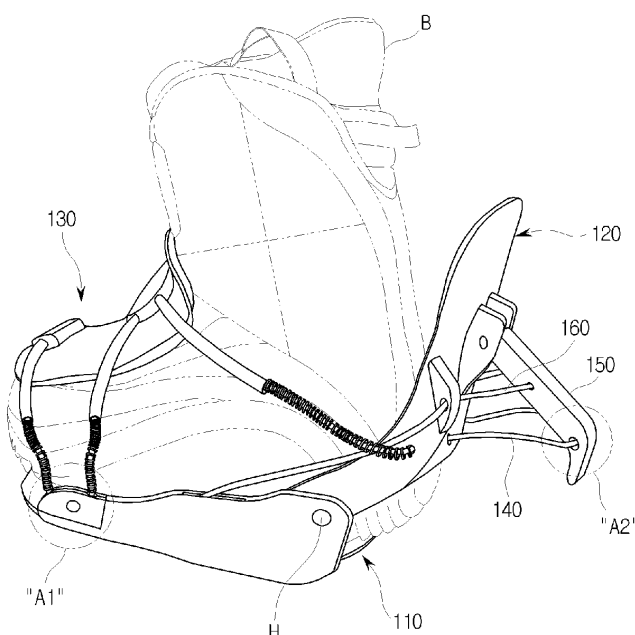
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(54) **SNOWBOARD BINDING**

(57) The present invention relates to a snowboard binding. The snowboard binding comprises: a base, a high back, a foot cover, a first wire, and a lever. The base comprises a plate attached to the snowboard, and side walls extending vertically from both sides of the plate. The high back is installed to pivot on the side wall in the rear of the base. The foot cover is installed at a distance from the upper front of the base. The first wire connects the high back to the base and foot cover. The lever is

installed to pivot on the back of the high back and moves the foot cover as the length of the first wire connecting the lever to the high back varies depending on the pivot direction, wherein the first wire connected to the high back is connected to the side facing the pivot axis. Therefore, the foot cover and high back simultaneously fix the front and rear of boots as a result of the pivoting of the lever in the locking direction, and release of the lever is prevented.

[Fig. 2]



Description

[Technical Field]

[0001] The present invention relates to a snowboard binding, and more particularly, to a snowboard binding in which a foot cover and high back simultaneously fix the front and rear of boots as a result of the pivoting of the lever in a locking direction of the lever, and release of the lever is prevented.

[Background Art]

[0002] Generally, a snowboard is drawing much attention as one of winter sports, together with ski. To enjoy snowboarding, a board, boots which ensure smooth movement of snowboarders' feet and a binding connecting the board and the boots are required. The binding is classified into a soft binding, a step-in binding, and a strap binding. The strap binding is most widely used.

[0003] As shown in FIG. 1, the strap binding includes a base plate 1 which is coupled to the snowboard to be adjusted, a heel supporter 2 which is coupled to the base plate 1 to be adjusted and supports heels of boots, and a high back 3 which is mounted in the heel supporter 2 and supports an ankle. First and second joints 4 and 5 are formed in a lateral side of the base plate 1 to tighten ankle and the top of the foot to a second side of the base plate 1 and include buckles, respectively. First and second straps 6 and 7 are mounted in the second side of the base plate 1 to be inserted into the buckles mounted in the first and second joints 4 and 5.

[0004] The strap binding well fixes boots without any gap, and does not affect the fixing of the boots even by a shock during riding. However, to fix the boots to the binding, the first and second joints 4 and 5 should be mounted in the first and second straps 6 and 7, and a user should not fix the boots to the binding quickly and should repeat the same motion to couple them and may feel inconvenient in using the strap binding.

[Disclosure]

[Technical Problem]

[0005] The present invention has been made to solve the problems and it is an object of the present invention to provide a snowboard binding in which a foot cover and high back simultaneously fix the front and rear of boots as a result of the pivoting of the lever in a locking direction located in the rear of the high back.

[0006] Also, it is another aspect of the present invention to provide a snowboard binding in which first and second wires provide tension to a locking direction of the lever and prevent a release of the lever when the lever is set as locked.

[0007] Further, it is another aspect of the present invention to provide a snowboard binding which covers the

front area of boots as toe and ankle areas of the foot cover are pulled by a first wire, and enables a high back provided in the rear of the boots to support the rear part of the boots by the first wire pulling the foot cover to thereby firmly fix the boots.

[0008] Further, it is another aspect of the present invention to provide a snowboard binding which adjusts a length of the first wire at both sides and adjusts such length according to a user's shape.

[Technical Solution]

[0009] In order to achieve the object of the present invention, a snowboard binding comprises a base which forms a plate attached to a snowboard and a side wall extending vertically from both sides of the plate; a high back which is rotatably installed in the side wall in the rear of the base; a foot cover which is installed at a distance from the upper front of the base; a first wire which connects the high back to the base and foot cover; and a lever which is installed to pivot on the back of the high back and moves the foot cover as the length of the first wire connecting the lever to the high back varies depending on the pivot direction, wherein the first wire connected to the high back is connected to the side facing the pivot axis.

[0010] The first wire has a spring inserted thereinto to provide an elastic force in a direction spacing the foot cover from the base in an area exposed between the base and the foot cover and high back.

[0011] The first wire has a tube inserted thereinto to shorten an elastic distance of the spring.

[0012] The first wire provides tension in a direction maintaining a pivot location of the lever while the lever pivots in a pulling direction.

[0013] The base forms a path in a front end of the side wall to be penetrated by the first wire.

[0014] The high back forms connection paths on both sides of a center thereof to be penetrated by the first wire.

[0015] The foot cover forms a first path penetrated by the first wire connecting the foot cover and paths on both side walls of the base, a second path penetrated by the first wire connecting the path in a lateral side of the base and the connection path of the foot cover and high back, and a third path penetrated by the first wire connecting the path in the side wall of the base and the connection path of the foot cover and high back.

[0016] The lever comprises a length adjusting means to adjust a length of the first wire.

[0017] The length adjusting means comprises a rotating member forming a female screw therein and rotatably installed in the lever, and a male screw formed in an end part of the first wire and coupled to the female screw of the rotating member, which are provided in both ends of the first wire.

[0018] The length adjusting means further comprises a moving body which has the rotating member rotatably installed in both sides, forming a first uneven part shaped

like a saw tooth in a side facing the lever and forming an opening vertically in a center thereof; a second uneven part engaged with the first uneven part of the moving part on a surface on which the moving body is installed; and a coupling member penetrating the opening of the moving body and coupled to the lever.

[0019] The length adjusting means further comprises a second wire which connects the base to the high back and lever and prevents the high back from moving backward while the lever pivots in a pulling direction.

[Advantageous Effect]

[0020] As described above, a snowboard binding according to the present invention enables a foot cover and high back to simultaneously fix the front and rear of boots as a result of the pivoting of the lever in a locking direction located in the rear of the high back.

[0021] Also, a snowboard binding according to the present invention enables first and second wires to provide tension to a locking direction of the lever and prevents a release of the lever when the lever is set as locked.

[0022] Further, a snowboard binding according to the present invention covers the front area of boots as toe and ankle areas of the foot cover are pulled by a first wire, and enables a high back provided in the rear of the boots to support the rear part of the boots by the first wire pulling the foot cover to thereby firmly fix the boots.

[0023] Further, a snowboard binding according to the present invention adjusts a length of the first wire at both sides and adjusts such length according to a user's shape.

[Brief Description of Drawings]

[0024] FIG. 1 is a perspective view of a conventional snowboard binding.

[0025] FIG. 2 is a perspective view of a snowboard binding according to the present invention.

[0026] FIG. 3 is an exploded perspective view of the snowboard binding according to the present invention.

[0027] FIG. 4 is an exploded perspective view of the snowboard binding, taken along line "A1" in FIG. 2.

[0028] FIG. 5 is an exploded perspective view of the snowboard binding, taken along line "A2" in FIG. 2.

[0029] FIG. 6 is a plan view of the snowboard binding according to the present invention.

[0030] FIG. 7 is a lateral view of a locking state of the snowboard binding according to the present invention.

[0031] FIG. 8 is a lateral view of a release state of a lever of the snowboard binding according to the present invention.

[0032] FIG. 9 is a lateral view of a pivot state of a high back of the snowboard binding according to the present invention.

[0033] FIG. 10 is a front view of a first wire length adjusting means of the snowboard binding according to the

present invention.

[0034] FIG. 11 is a lateral sectional view of the first wire length adjusting means in FIG. 10.

[0035] FIG. 12 is an operating sectional view of the first wire length adjusting means of the snowboard binding according to the present invention.

<Description of numerals for major parts of drawings>

10 **[0036]**

110: base, 112a, 112b: side walls 114a, 114b: paths, 120: high back

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122a, 122b: connection paths 130: foot cover 131: first path 132: second path

133: third path 140: first wire 150: lever 151: pivot axis 152: first insertion opening

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153: second insertion opening 160: second wire 170: length adjusting means 171: moving body 173: rotating body

[Best Mode]

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[0037] Prior to description, in several exemplary embodiments, like numerals refer to like elements with the same configuration which will be described in the first exemplary embodiment as a representative and other configurations which are different from those according to the first exemplary embodiment shall be described in other exemplary embodiments.

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[0038] Hereinafter, a snowboard binding according to the first exemplary embodiment of the present invention will be described in detail with reference to accompanying drawings.

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[0039] FIG. 2 is a perspective view of a snowboard binding according to the present invention. FIG. 3 is an exploded perspective view of the snowboard binding according to the present invention. FIG. 4 is an exploded perspective view of the snowboard binding, taken along line "A1" in FIG. 2. FIG. 5 is an exploded perspective view of the snowboard binding, taken along line "A2" in FIG. 2. FIG. 6 is a plan view of the snowboard binding according to the present invention.

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[0040] As shown therein, the snowboard binding according to the present invention includes a base 110 which is attached to a snowboard, a high back 120 which is installed in the rear of the base 110 and supports the rear of boots B, a foot cover 130 which is installed in an upper front of the base 110 and supports the top of the boots B, a first wire 140 which connects the base 110 to the foot cover 130 and high back 120, a lever 150 which is installed to pivot on the back of the high back 120 and adjusts a length of the first wire 140, a second wire 160 which connects the base 110 to the high back 120 and lever 150 and fixes a location of the high back 120 while the lever 150 pivots in a direction pulling the foot cover 130, and a length adjusting means 170 which is provided in the rear of the lever 150 and adjusts a length of the

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first wire 140 depending on the size of the boots B.

[0041] The base 110 forms a plate 111 attached to the snowboard, side walls 112a and 112b extending vertically from both sides of the plate 111, and paths 114a and 114b provided in a front end of the side walls 112a and 112b and penetrated by the first wire 140. The base 110 forms the paths 114a and 114b penetrating the side walls 112a and 112b by assembling a cover 115, wherein a part of the paths is formed in a plate surface of the side walls 112a and 112b, and the remaining part of the paths conforming to the path of the side walls 112a and 112b are formed in an internal surface of the side walls 112a and 112b. Otherwise, the paths 114a and 114b which penetrate the side walls 112a and 112b may be formed by forming the paths 114a and 114b on the plate surface of the side walls 112a and 112b and then assembling the cover 115 thereto (refer to FIG. 4).

[0042] The high back 120 is installed to pivot by a hinge shaft H penetrating the rear end of the side walls 112a and 112b of the base 110, and supports the rear of the boots B when pivoting substantially vertically. The high back 120 forms connection paths 122a and 122b on both sides of a lower part thereof to be penetrated by the first wire 140, connection hooks 124a and 124b on both sides in a center thereof to be penetrated by the second wire 160, and a bracket 126 on an upper side of the central part thereof to be assembled with the lever 150 to pivot.

[0043] The foot cover 130 is installed at a distance from the upper front of the base 110, and forms a first path 131 penetrated by the first wire 140 connecting both paths 114a and 114b of the base 110, a second path 132 penetrated by the first wire 140 connecting the path 114a of the side wall 112a of the base 110 to the connection path 122b of the high back 120, and a third path 133 penetrated by the first wire 140 connecting the path 114b of the side wall 112b of the base 110 to the connection path 122a of the high back 120. The first path 131 is formed in a location corresponding to the lower part of the top of the foot, i.e., toes in the foot cover 130, and the second and third paths 132 and 133 are formed to be perpendicular to each other in a location corresponding to the top of the foot.

[0044] The first wire 140 connects the high back 120 to the base 110, foot cover 130 and lever 150, and includes a covered metal wire according to the present exemplary embodiment. The first wire 140 includes a coil-type compressed spring 142 which is exposed between the base 110 and the foot cover 130 and high back 120, and a tube 144 which is used to shorten an elastic distance of the spring 142. The first wire 140 supports the foot cover 130 in a direction spaced from the base 110 and the high back 120.

[0045] The lever 150 is assembled to pivot on the rear of the high back 120, and forms a pivot axis 151 assembled to the bracket 126 of the high back 120, and first and second insertion openings 152 and 153 in a location spaced from the pivot axis 151 to insert the first and second wires 140 and 160 thereinto, respectively.

[0046] The second wire 160 includes a covered metal wire like the first wire 140. While a first end of the second wire 160 is fixed to the side wall 112a of the base 110, a second end thereof is fixed to the side wall 112b of the base 110 through the connection hook 124a of the high back 120, the second insertion opening 153 of the lever 150 and the connection hook 124b of the high back 120.

[0047] The length adjusting means 170 is formed in a location communicating with the first insertion opening 152 of the lever 150 to adjust the length of the first wire 140. The length adjusting means 170 includes the moving body 171 including a first uneven part 171a formed in a lateral surface facing the lever 150, an opening 171b formed vertically on a center of a plate surface, an installation groove 171c formed in both sides of the opening 171b and a guiding groove 171d formed in an upper direction of the installation groove 171c to communicate therewith; a second uneven part 172 formed in a plate surface of the lever 150 and engaged with the first uneven part 171a of the moving body 171; a rotating member 173 forming a female screw 173a on a center thereof and rotatably inserted into the installation groove 171c of the moving body 171; a male screw 174 formed in an end part of the first wire 140 and coupled to the female screw 173a of the rotating member 173 by screw; and a coupling member 175 coupled to the lever 150 through the opening 171b of the moving body 171 and fixing the moving body 171 to the lever 150.

[0048] Hereinafter, an operation of the snowboard binding according to the first exemplary embodiment will be described.

[0049] FIG. 7 is a lateral view of a locking state of the snowboard binding according to the present invention.

[0050] FIG. 8 is a lateral view of a release state of the lever 150 of the snowboard binding according to the present invention. FIG. 9 is a lateral view of a pivot state of the high back 120 of the snowboard binding according to the present invention.

[0051] As shown in FIG. 7, when the high back 120 rotatably installed in the rear of the side wall 112a of the base 110 through the hinge shaft H stands vertically and the lever 150 pivots in the locking direction, the foot cover 130 is pulled to the base 110 by the first wire 140 and the high back 120 is limited in pivoting to the unlocking direction, i.e., to the rear side by the second wire 160.

[0052] Referring to the installation state of the first wire 140, while the first end of the first wire 140 is fixed to the first side of the lever 150, a second end of the first wire 140 is fixed to the second side of the lever 150 through the connection path 122a of the high back 120, the third path 133 of the foot cover 130, the path 114b of the base 110, the first path 131 of the foot cover 130, the path 114a of the base 110, the second path 132 of the foot cover 130 and the connection path 122b of the high back 120 (refer to FIG. 6).

[0053] If the lever 150 pivots in a direction pulling the foot cover 130, i.e., in a locking direction as in FIG. 7 while the base 110 is connected to the foot cover 130,

high back 120 and lever 150 by the first wire 140, the first wire 140 connected to the first insertion opening 152 of the lever 150 through the connection path 122a of the high back 120 is pulled. The first wire 140 connecting the foot cover 130 and high back 120 is pulled in the direction of the lever 150 as a result of the pivoting of the lever 150, and pulls the rear end of the foot cover 130 to the high back 120. Then, the first wire 140 connecting the foot cover 130 and the base 110 pulls the front end of the foot cover 130 to the base 110.

[0054] As the foot cover 130 is pulled to the high back 120 and the base 110 as a result of the pivoting of the lever 150, tow and top areas of the boots located among the base 110, high back 120 and foot cover 130 are firmly tightened.

[0055] The connection path 122a of the high back 120 and the first insertion opening 152 of the lever 150 are formed in a side facing the direction in which the lever 150 pivots in a release direction based on the pivot axis 151 of the lever 150. Accordingly, while the lever 150 pivots in the locking direction, the first wire 150 connecting the high back 120 and the lever 150 pulls the lever 150 in the locking direction and the pivoting of the lever in the release direction is prevented.

[0056] The foot cover 130 maintains a predetermined distance from the base 110 by the tube 144 and spring 142 inserted into the external side of the first wire 140 exposed between the foot cover 130 and the high back 120 and base 110 while being connected to the base 110, high back 120 and lever 150 by the first wire 140, and the spring 142 maintains an elastically compressed state.

[0057] Referring to an installation state of the second wire 160, while a first end of the second wire 160 is fixed to the side wall 112a of the base 110, a second end thereof is fixed to the side wall 112b of the base 110 through the connection hook 124a of the high back 120, the second insertion opening 153 of the lever 150 and the connection hook 124b of the high back 120 (refer to FIG. 6).

[0058] Like the first wire 140, the connection hook 124a of the high back 120 and the second insertion opening 153 of the lever 150 are located in a side facing the direction in which the lever 150 pivots in a release direction based on the pivot axis 151 of the lever 150. Accordingly, while the lever 150 pivots in the locking direction, the second wire 160 connecting the connection hook 124a of the high back 120 and the second insertion opening 153 of the lever 150 maintains a tightly pulling state and provides tension in the locking direction of the lever 150, and thus the pivoting of the lever 150 in the release direction is prevented. As the second wire 160 between the base 110 and the high back 120 is pulled tightly, the high back 120 is prevented from pivoting backward.

[0059] The releasing operation of the snowboard binding according to the present invention will be described.

[0060] If the lever 150 rotatably assembled to the bracket 126 of the high back 120 by the pivot axis 151 pivots in the release direction (arrow direction) as in FIG.

8, a distance between the first insertion opening 152 of the lever 150 and the connection path 122a of the high back 120 indicated as "L1" in FIG. 7 becomes short as indicated as "L2" in FIG. 8, and the pulling force of the first wire 140 to the foot cover 130 is released.

[0061] If the first wire 140 becomes loose, the spring 142 which has been elastically compressed from the exposed part of the first wire 140 restores to its original state and spaces the foot cover 130 from the base 110 and the high back 120.

[0062] Also, as the distance between the connection hook 124a of the high back 120 and the second insertion opening 153 of the lever 150 becomes short, the second wire 160 connecting the base 110 to the high back 120 and lever 150 and fixing the locking location of the high back 120 becomes loose, and the high back 120 may freely pivot centering on the hinge shaft H.

[0063] When the high back 120 may pivot as in FIG. 9, the high back 120 fully pivots backward to increase the gap between the high back 120 and the foot cover 130. In such a state, the high back 120 does not interfere with the heel of the boots, and the boots may be easily put on or taken off.

[0064] The locking operation of the snowboard binding according to the present invention is performed in a reverse order of the release operation. As in FIG. 9, if the high back 120 pivots to support the heel of the boots as in FIG. 8 and the lever 150 in the rear of the high back 120 pivots in the locking direction as in FIG. 7 while the boots are inserted into the space between the foot cover 130 provided at a space from the front end of the base 110 and the high back 120 rotatably installed on the rear of the base 110 as in FIG. 9, the first wire 140 is tightly pulled, and the foot cover 130 simultaneously tightens the toe and angle areas of the boots, and the second wire 160 is tightly pulled and fixes the locking location of the high back 120.

[0065] Accordingly, the present invention enables a user to fix or release the foot cover 130 of the front part of the boots and the high back 160 in the rear part of the boots at a time by using the lever 150 and is promptly attached or detached and is easy to use.

[0066] FIG. 10 is a front view of the first wire length adjusting means of the snowboard binding according to the present invention. FIG. 11 is a lateral sectional view of the first wire length adjusting means in FIG. 10. FIG. 12 is an operating sectional view of the first wire length adjusting means of the snowboard binding according to the present invention.

[0067] As shown in FIG. 10, while the rotating member 173 is rotatably inserted into the installation groove 171c of the moving body 171 provided in the rear of the lever 150, an end part of the first wire 140 inserted into the inside of the lever 150 through the first insertion opening 152 of the lever 150 is inserted into the rotating member 173.

[0068] The male screw 174 formed in an end part of the first wire 140 is coupled to the female screw 173a of

the rotating member 173 by screw, and the length of the first wire 140 is adjusted along a rotation direction of the rotating member 173. The rotating member 173 is provided in both ends of the first wire 140, respectively, and both sides of the first wire 140 may be individually adjusted according to a user's shape.

[0069] As in FIG. 11, the moving body 171 is fixed to the lever 150 by the coupling member 175 penetrating the opening 171b. The first uneven part 171a formed in the internal side of the moving body 171 is engaged with the second uneven part 172 formed in the rear of the lever 150 and the vertical movement is limited.

[0070] If the coupling member 175 is rotated in a release direction and the moving body 171 is released as in FIG. 12, the first uneven part 171a of the moving body 171 is separated from the second uneven part 172 of the lever 150 and the moving body 171 moves vertically within the scope of the opening 171b of the moving body 171. The first wire 140 whose both ends are controlled by the moving body 171 is adjusted in length by the vertical movement of the moving body 171.

[0071] As described above, in the case of the first wire 140 whose both ends are controlled by the moving body 171, the length of both ends of the first wire 140 is adjusted at a time if the first wire 140 moves vertically with respect to the moving body 171. If the rotating member 173 installed in both sides of the moving body 171 is rotated, the first wire 140 in both sides may be adjusted individually and the length of the first wire 140 is adjusted in duplicate through the vertical movement of the moving body 171 and the rotation of the rotating member 173 to thereby increase the scope of adjusting the length of the first wire 140 within a narrow area.

[0072] Although a few exemplary embodiments have been shown and described, it will be appreciated by those skilled in the art that changes may be made in these exemplary embodiments without departing from the principles and spirit of the invention, the range of which is defined in the appended claims and their equivalents.

[Industrial Applicability]

[0073] The present invention enables a foot cover and a high back to simultaneously fix the front and rear of boots as a result of the pivoting of a lever provided in the rear of the high back in a locking direction.

[0074] Also, the present invention enables first and second wires to provide tension in the locking direction of the lever and a release of the lever may be prevented when the lever is set as locked.

[0075] Further, the present invention covers the front area of the boots as the toe and ankle areas of the foot cover are simultaneously pulled by the first wire, and enables the high back located in the rear part of the boots to support the rear part of the boots by the first wire pulling the foot cover to thereby firmly fix the boots.

[0076] Further, the present invention adjusts the length of the first wire from both sides and adjusts the length of

the first wire according to a user's shape.

Claims

1. A snowboard binding comprising:

a base which forms a plate attached to a snowboard and a side wall extending vertically from both sides of the plate;
a high back which is rotatably installed in the side wall in the rear of the base;
a foot cover which is installed at a distance from the upper front of the base;
a first wire which connects the high back to the base and
foot cover; and
a lever which is installed to pivot on the back of the high back and moves the foot cover as the length of the first wire connecting the lever to the high back varies depending on the pivot direction, wherein the first wire connected to the high back is connected to the side facing the pivot axis.

2. The snowboard binding according to claim 1, wherein the first wire has a spring inserted therein to provide an elastic force in a direction spacing the foot cover from the base in an area exposed between the base and the foot cover and high back.

3. The snowboard binding according to claim 2, wherein the first wire has a tube inserted therein to shorten an elastic distance of the spring.

4. The snowboard binding according to claim 3, wherein the first wire provides tension in a direction maintaining a pivot location of the lever while the lever pivots in a pulling direction.

5. The snowboard binding according to one of claims 1 to 4, wherein the base forms a path in a front end of the side wall to be penetrated by the first wire.

6. The snowboard binding according to claim 5, wherein the high back forms connection paths on both sides of a center thereof to be penetrated by the first wire.

7. The snowboard binding according to claim 6, wherein the foot cover forms a first path penetrated by the first wire connecting the foot cover and paths on both side walls of the base, a second path penetrated by the first wire connecting the path in a lateral side of the base and the connection path of the foot cover and high back, and a third path penetrated by the first wire connecting the path in the side wall of the base and the connection path of the foot cover and

high back.

8. The snowboard binding according to claim 7, wherein the lever comprises a length adjusting means to adjust a length of the first wire. 5
9. The snowboard binding according to claim 8, wherein the length adjusting means comprises a rotating member forming a female screw therein and rotatably installed in the lever, and a male screw formed in an end part of the first wire and coupled to the female screw of the rotating member, which are provided in both ends of the first wire. 10
10. The snowboard binding according to claim 9, wherein the length adjusting means further comprises a moving body which has the rotating member rotatably installed in both sides, forming a first uneven part shaped like a saw tooth in a side facing the lever and forming an opening vertically in a center thereof; a second uneven part engaged with the first uneven part of the moving part on a surface on which the moving body is installed; and a coupling member penetrating the opening of the moving body and coupled to the lever. 15 20 25
11. The snowboard binding according to claim 10, wherein the length adjusting means further comprises a second wire which connects the base to the high back and lever and prevents the high back from moving backward while the lever pivots in a pulling direction. 30

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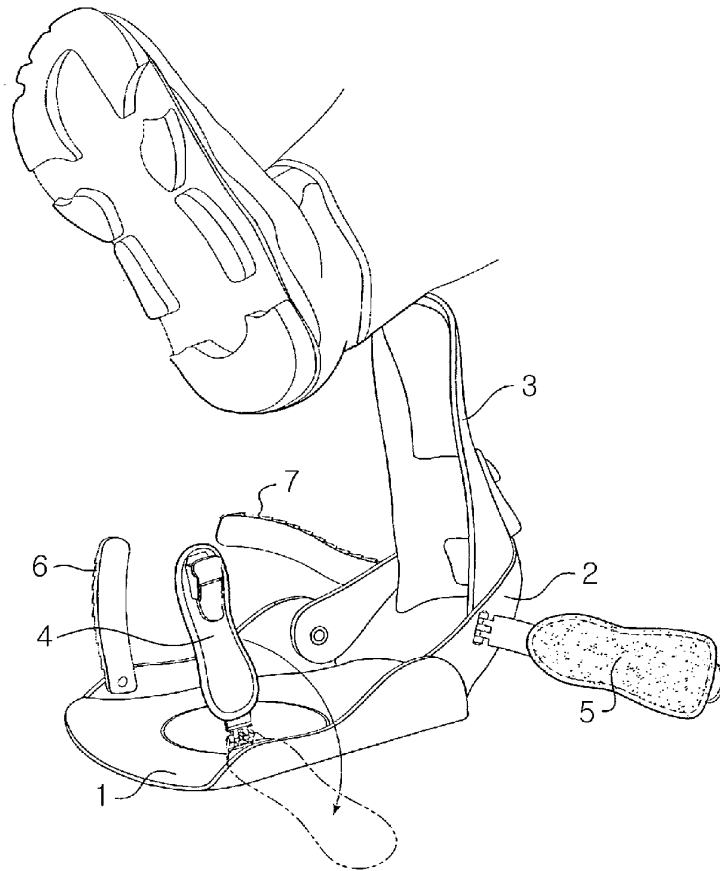
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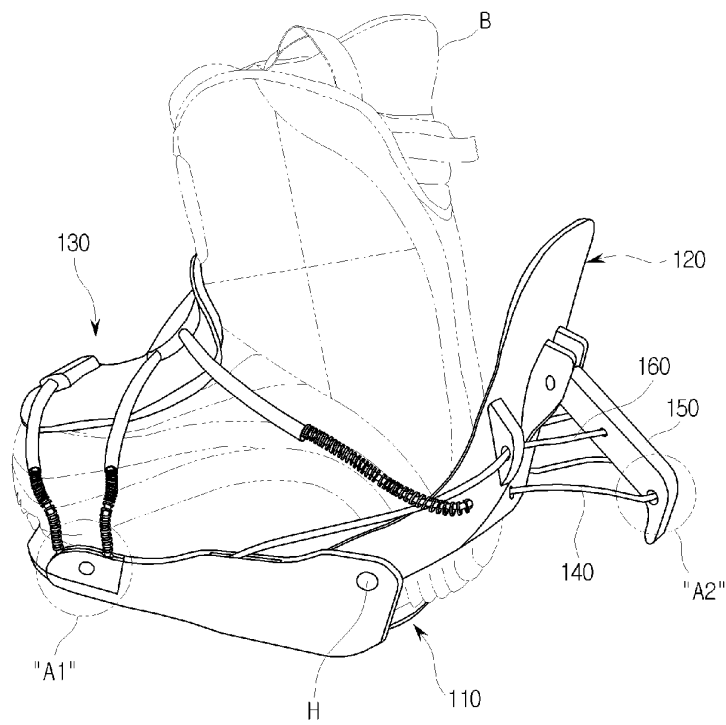
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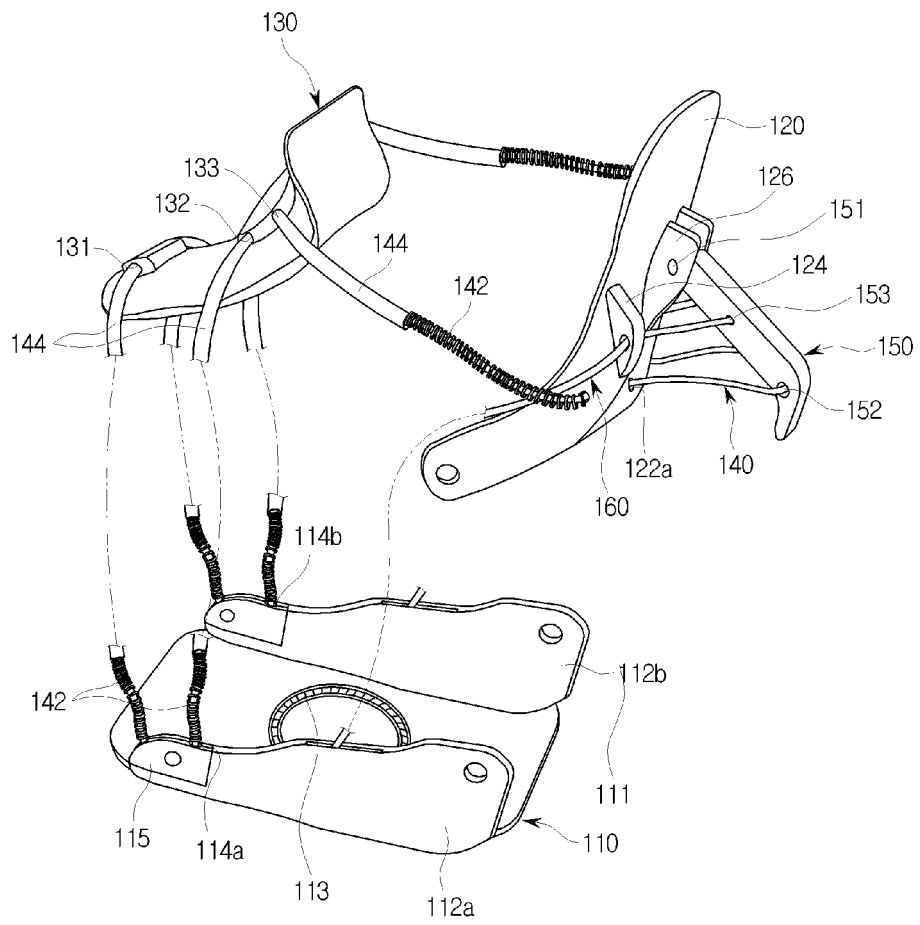
[Fig. 1]



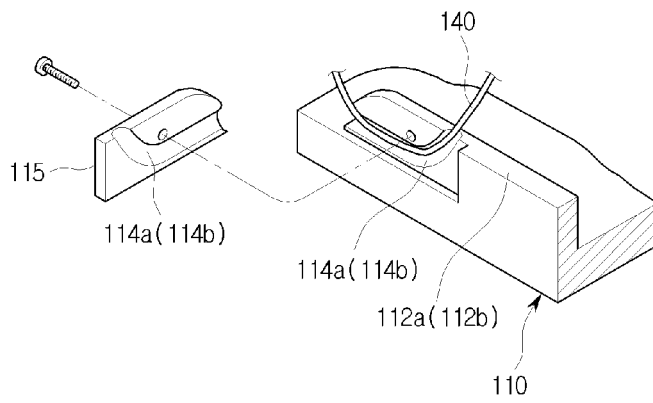
[Fig. 2]



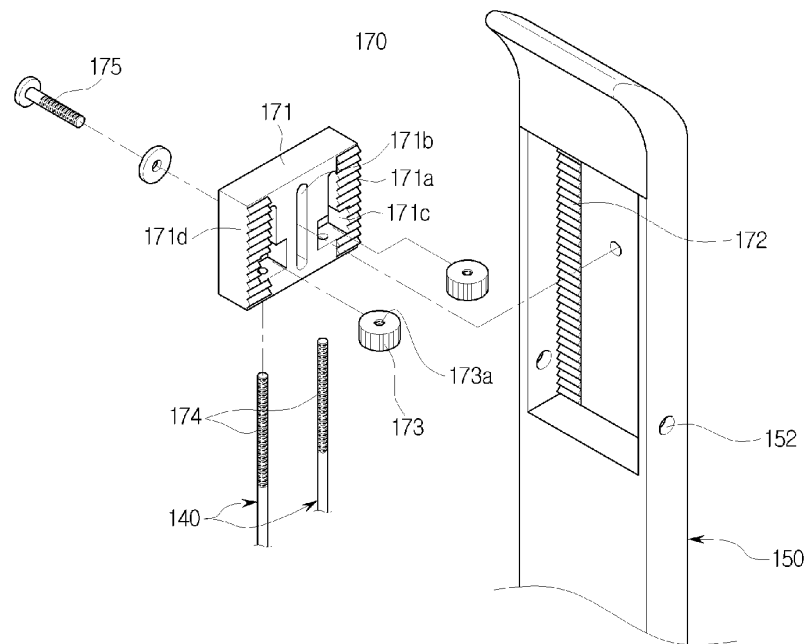
[Fig. 3]



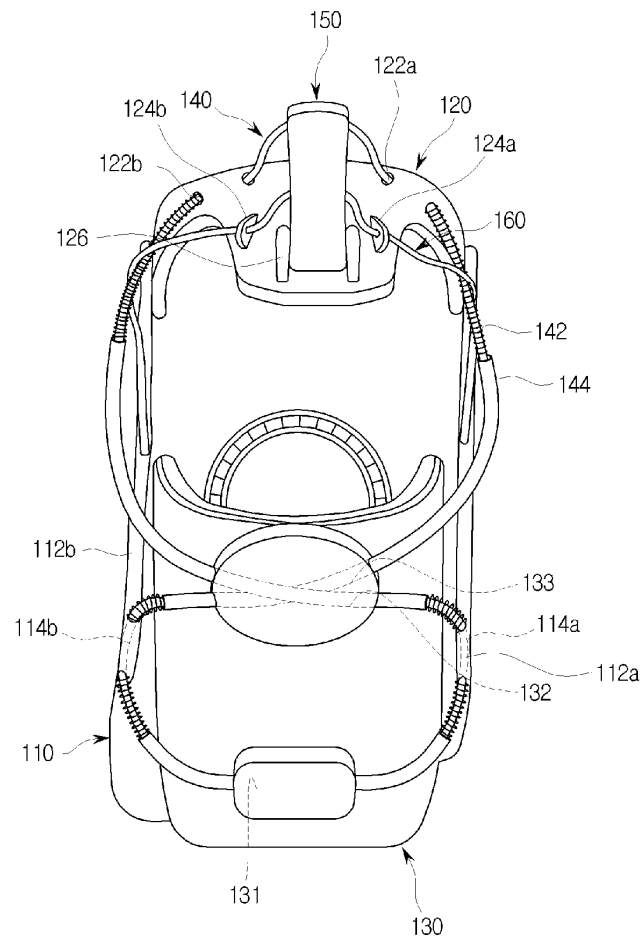
[Fig. 4]



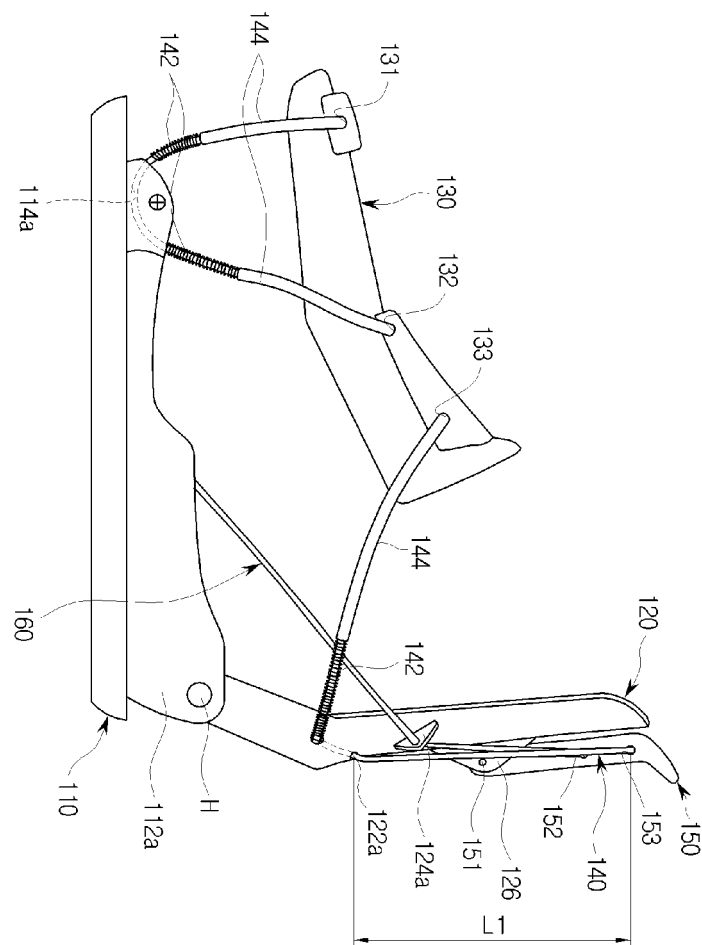
[Fig. 5]



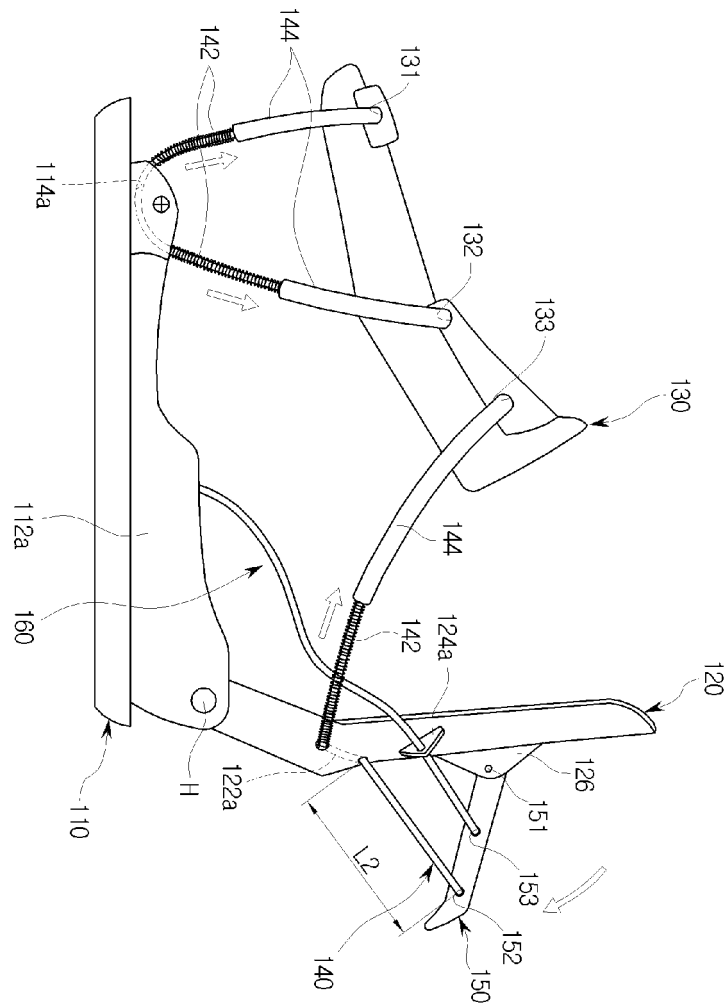
[Fig. 6]



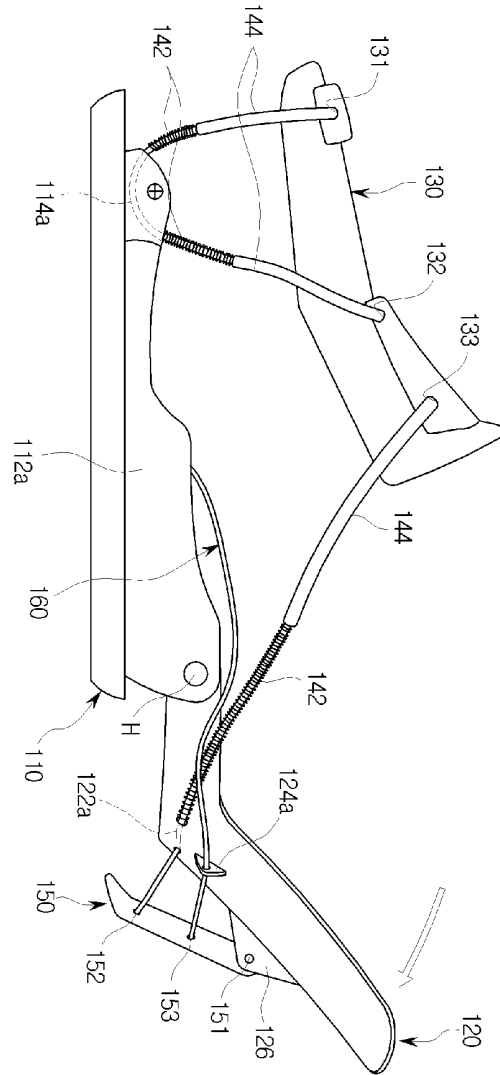
[Fig. 7]



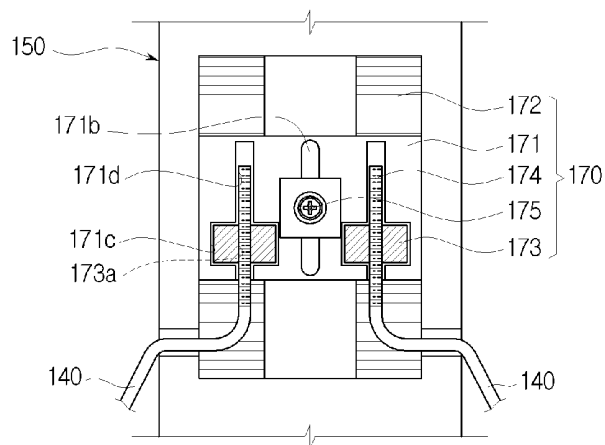
[Fig. 8]



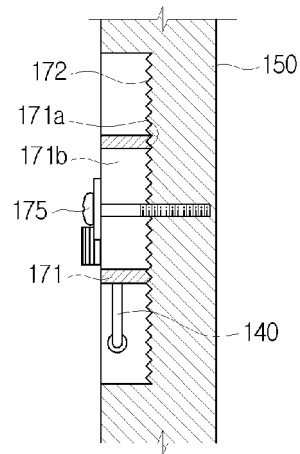
[Fig. 9]



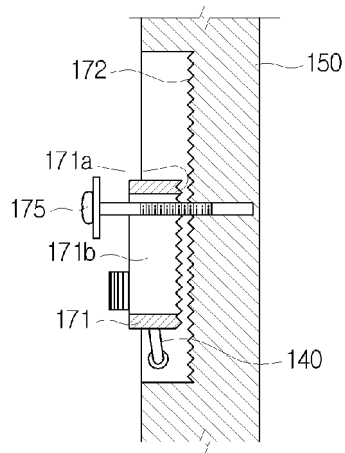
[Fig. 10]



[Fig. 11]



[Fig. 12]



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2009/000437

A. CLASSIFICATION OF SUBJECT MATTER

A63C 9/00(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: A63C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Utility models and applications for Utility models since 1975
Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

e-KOMPASS (KIPO internal); Keywords: "bind", "wire or cable", "hinge"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/0089129 A1 (K-2 Corporation) 11 July 2002 See abstract, figure 1 and claims 1, 11-16.	1-11
A	US 6,283,491 B1 (MacLean-Esna, L.P.) 04 September 2001 See abstract, figures 7-9.	1-11
A	KR 10-2006-0016927 A (ELLIM CORPORATION LIMITED) 23 February 2006 See abstract, figures 6-7.	1-11

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

* Special categories of cited documents:

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Date of the actual completion of the international search

25 JANUARY 2010 (25.01.2010)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2009/000437

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US 2002-0089129 A1	11.07.2002	CA 2466901 A1 DE 60106490 D1 DE 60106490 T2 EP 1349618 A2 EP 1349618 B1 US 06715773 B2 WO 0205-6980A3 WO 2002-056980 A2 WO 2002-056980 A3	25.07.2002 18.11.2004 24.02.2005 08.10.2003 13.10.2004 06.04.2004 13.02.2003 25.07.2002 25.07.2002
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Form PCT/ISA/210 (patent family annex) (July 2008)