



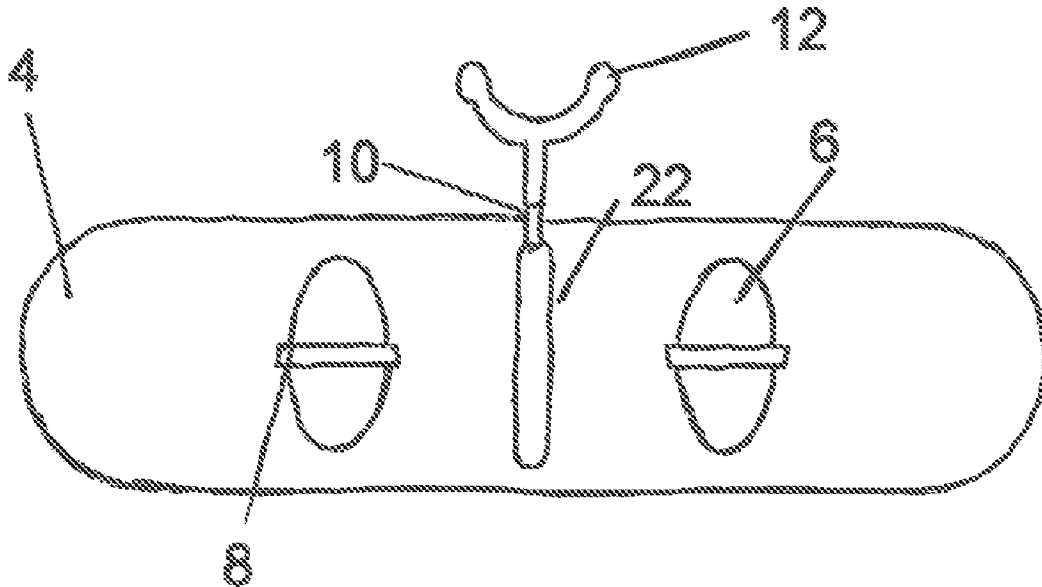
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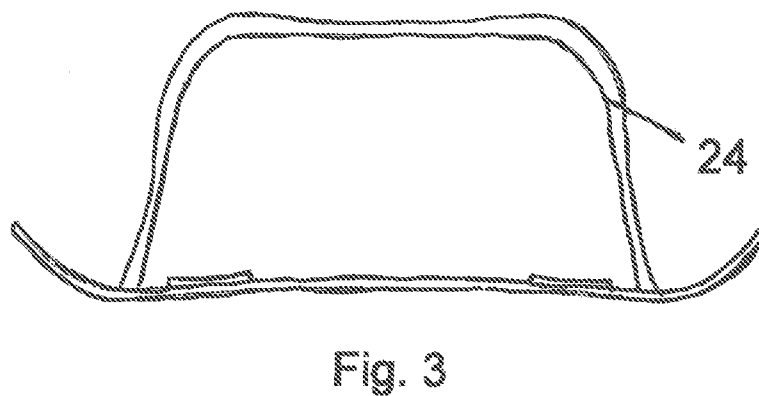
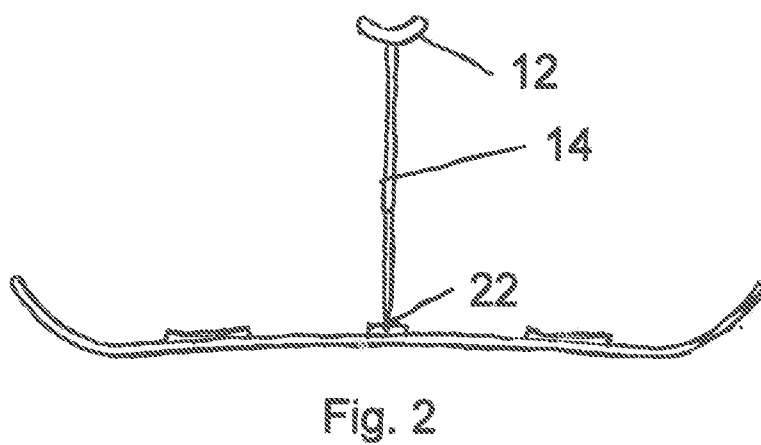
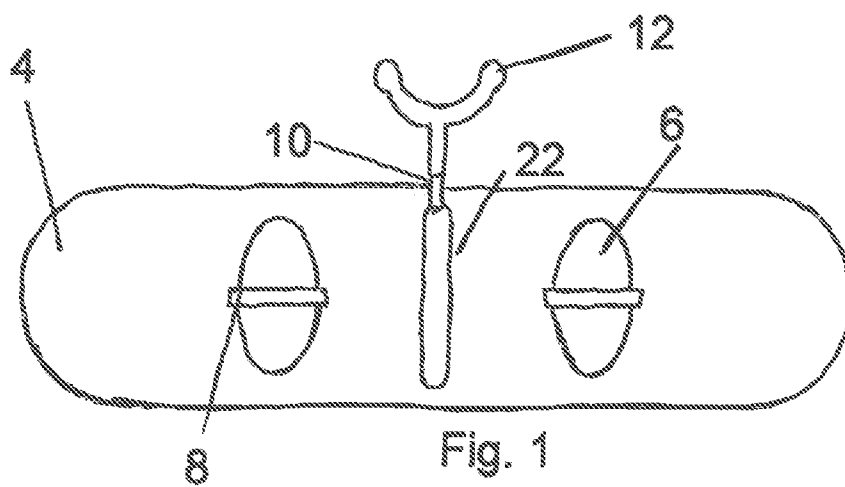
(19) **United States**(12) **Patent Application Publication**
Gyr(10) **Pub. No.: US 2013/0292922 A1**(43) **Pub. Date: Nov. 7, 2013**(54) **LEVER ACTION SNOWBOARD**(71) Applicant: **Kaj Gyr, Nelson (CA)**(72) Inventor: **Kaj Gyr, Nelson (CA)**(21) Appl. No.: **13/861,252**(22) Filed: **Apr. 11, 2013****Related U.S. Application Data**

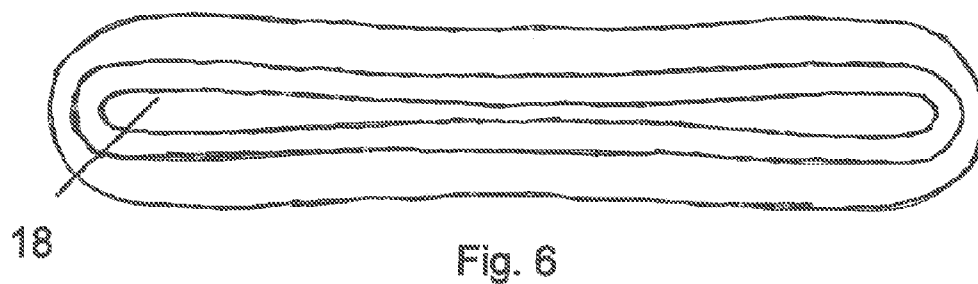
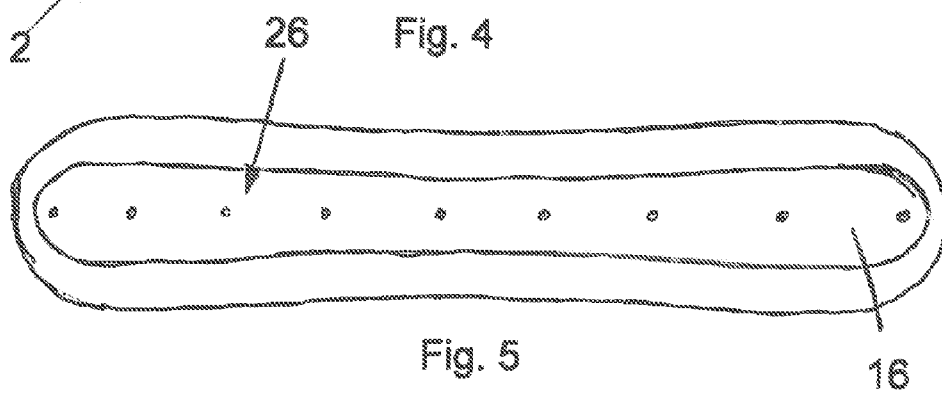
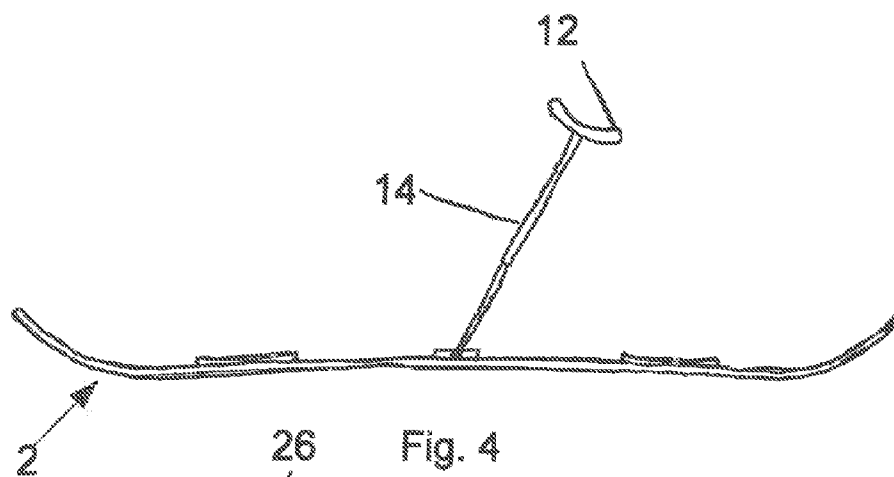
(60) Provisional application No. 61/622,694, filed on Apr. 11, 2012.

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A63C 5/06 (2006.01)(52) **U.S. Cl.**CPC **A63C 5/06** (2013.01)USPC **280/606**(57) **ABSTRACT**

A lever action snowboard includes a snowboard body, and lever substructure coupled to a central region of the body. The lever substructure is constructed with a lever that can be actuated by a rider of the snowboard while riding the snowboard, and it may include a handle that can be grasped by the user. The snowboard also includes dual foot pads, each coupled to opposing ends of the snowboard body and constructed to locate the feet of the rider while riding the snowboard.







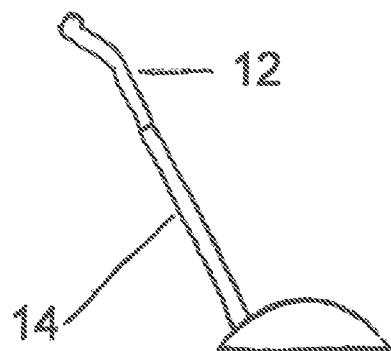


Fig. 7

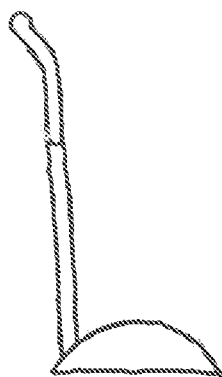


Fig. 8

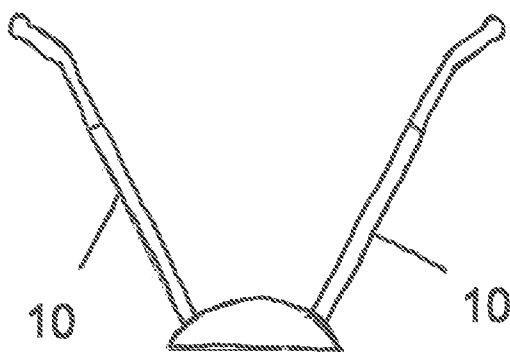


Fig. 9

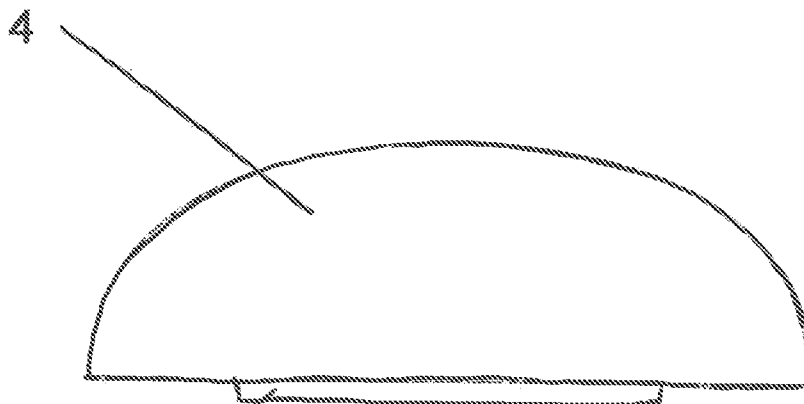


Fig. 10

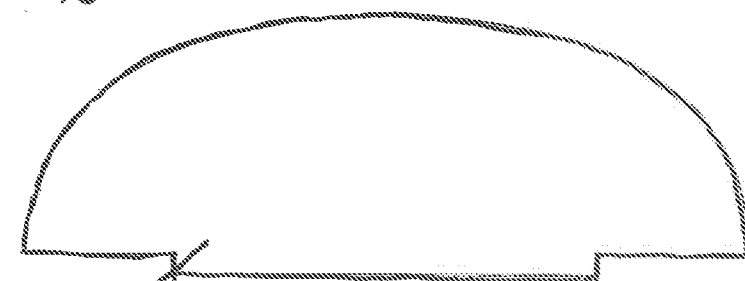


Fig. 11

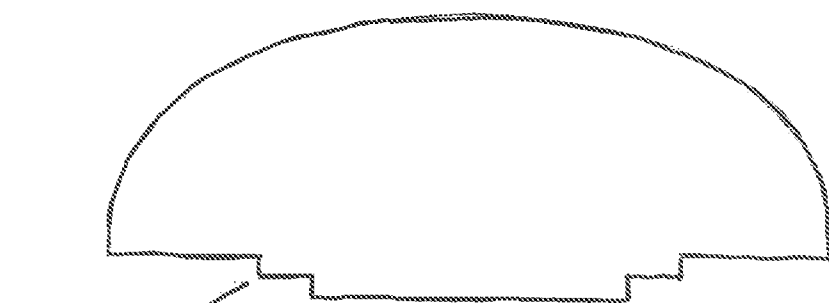


Fig. 12

LEVER ACTION SNOWBOARD

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 61/622,694 filed Apr. 11, 2012, which application is incorporated herein by reference for all purposes.

BACKGROUND

[0002] Many snowboarders yearn for the free and elemental feel of skateboarding or surfing. Due to the constraints of stiff boots and bindings, snowboards feel much more restrictive than either surfing or skateboarding, despite the fact that they emulate the feel of surfing. A new element of snowboarding, called “NoBoarding” is addressing the need for more freedom of movement by abandoning bindings altogether. Such an approach has its own limitations however, as the boards are only good in powder due to their lack of ability to hold an edge.

[0003] The prior art is lacking in ways of addressing edge control on a snowboard with no bindings. One offering is a children’s snowboard with forward-mounted handlebars. Unfortunately it is actually much more difficult to control than a regular snowboard. To apply forces to either edge, the lever cannot be positioned in front of the rider and must be lateral of the rider. Any lever mounted in front or behind the rider is purely for holding onto, as, due to the vectors of force and angles, it does not allow adequate control to put the board on one of its edges.

Advantages of the Present Invention

- [0004]** Uncompromised performance, despite not having bindings.
- [0005]** Optimal performance in all snow conditions.
- [0006]** Lightweight and portable.
- [0007]** Highly adjustable for height and stance.
- [0008]** Easy to manufacture.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0009]** FIG. 1 shows a plan view of the lever action snowboard with handle and footpads.
- [0010]** FIG. 2 shows an elevational view of the lever action snowboard
- [0011]** FIG. 3 shows an elevational view of the lever action snowboard with arced lever
- [0012]** FIG. 4 shows an elevational view of the lever action snowboard with hinged lever at an backward angle.
- [0013]** FIG. 5 shows a bottom view of the lever action snowboard with a second base
- [0014]** FIG. 6 shows a bottom view of the lever action snowboard with a third base.
- [0015]** FIG. 7 shows a front view of the lever action snowboard with lever angled outwardly.
- [0016]** FIG. 8 shows a front view of the lever action snowboard with a more upright lever.
- [0017]** FIG. 9 shows a front view of the lever action snowboard with two levers.
- [0018]** FIG. 10 shows a front view of the lever action snowboard with a second detachable base.
- [0019]** FIG. 11 shows a front view of the lever action snowboard with a second integrated stepped base.

[0020] FIG. 12 shows a front view of the lever action snowboard with integrated second and third stepped bases.

REFERENCE NUMERALS IN DRAWINGS

- [0021]** 2—Snowboard body
- [0022]** 4—Tip/Tail
- [0023]** 6—Footpad
- [0024]** 8—Footstraps
- [0025]** 10—Lever
- [0026]** 12—Handle
- [0027]** 14—Telescoping lever
- [0028]** 16—Second detachable stepped base
- [0029]** 18—Second integral stepped base
- [0030]** 20—Third integral stepped base
- [0031]** 22—Lever base with pivot
- [0032]** 24—Arcing lever
- [0033]** 26—Screws for attaching stepped base

DESCRIPTION

[0034] The primary feature of the lever action snowboard is lever 10, or telescoping lever 14, as the addition of the lever precludes the need for bindings. However, the present invention could be incorporated into a conventional snowboard with bindings. If that were the case, then the following description would be the same for that type of snowboard, only that the snowboard would have bindings rather than foot pads.

[0035] Longitudinal stability is a given on a snowboard, as the feet are placed such that the legs form a stable triangle fore and aft. Standard snowboards rely on bindings to apply edging forces. The lever effectively supplants the bindings by allowing the rider to apply force laterally. By virtue of how long it is, the lever magnifies forces, thus there is very little effort required to engage either edge.

[0036] The snowboard has a body 2 which may be constructed with any suitable shape, such as that of conventional snowboards. For example, the width and length may be substantially the same for the snowboard of the present invention as the corresponding widths and lengths of conventional snowboards.

[0037] The lever, such as lever 10 or telescoping lever 14, may be coupled to or otherwise attached to the snowboard via a lever base, which is fastened to the snowboard by any suitable method. The lever base is located in a central region of the snowboard body 2 so that lever 10 (or lever 14) is positioned between the feet of a rider of the snowboard.

[0038] A pivoting lever base is shown in FIGS. 1-2, and 4. It allows the lever to pivot fore and aft, and may have an adjuster 14 which is constructed to allow for telescoping adjustment of its length. The wider portion of the telescoping adjustment may be either above (FIGS. 1-2, 4) or below the narrower portion (FIGS. 7-9). It may also be adjusted for angle towards or away (laterally) from the snowboard (FIGS. 7-8). The lever may also have a tandem lever on the opposite side of the snowboard (FIG. 9). In general, a single lever is suitable, as it allows for more freedom of movement. Various shapes of handholds are possible, with a more elongated portion being preferable to allow for a variety of hand positions. The lever may be made of aluminum, plastic, composite, or any lightweight and strong material. It is mounted substantially towards or on the center of the board, but may have means for adjustment fore and aft. The pivot at the bottom may be simple, with the end of the lever pivoting

within a hole in the lever base, or more involved, using bolts and a bearing surface. A variety of pivoting means germane to the art are possible.

[0039] Alternatively, a lever which takes more of an arc-shaped form (FIG. 3) and is attached at two or more points on the board is possible. Adjustment of its lateral angle through various methods germane to the art would be desirable.

[0040] If the lever-action snowboard is going to be used in a resort, a braking mechanism would be required. An easy way of doing this is to give the lever mild spring tension, such that when it is released it pivots towards the ground, digging into the snow. This design is beyond the scope of this application however, and will be covered in another application.

[0041] Footpads and/or footstraps replace standard bindings. A non-skid outer surface of the footpad is effective to place feet in desired positions. Each footpad 6 may be coupled to the body 2 using suitable fastening methods known in the snowboard industry, such as the methods for coupling bindings to snowboard bodies. In The suitable footstrap may be as simple as an adjustable Velcro™ strap or elastic band. Its primary purpose is to keep the board attached to the rider's feet in rough terrain, not to provide edging forces. There are a variety of designs germane to the art that could be employed.

[0042] By incorporating second or third stepped bases (FIGS. 5-6, 10-12), the force necessary at the upper end of the lever is diminished even more, making for very smooth edging and less likelihood of "catching an edge". The stepped bases may be detachable (FIGS. 5 and 10) or integrated (FIGS. 6, 11-12). They are substantially the shape of the outer edge, mimicking the side-cut. Such a shape enhances edge hold, making it easier to get on edge, while making "catching and edge" less likely. Detachable stepped bases may be secured to the snowboard via screws (FIG. 5) and T-nuts/screws, or other means germane to the art. Making the stepped base easily removable or detachable allows the rider to customize the feel of the board to varying conditions. In general, additional stepped bases are most advantageous when the snow is denser or more packed. The stepped bases may be of variable thickness (generally around 1/4"), and of a similar material and side-cut as the primary base.

Operation

[0043] Technique for the lever action snowboard is similar to that of standard snowboards, with the exception that one hand (either the front or back) grasps the handle while riding. The handle may be moved laterally in relation to the body, or simply held onto, with the angle of the legs/body essentially parallel with the angle of the lever. Rotational movement of the legs may be used in concert with angling of the lever. Overall the feel is very similar to that of a standard snowboard. Adjustment of one's stance is easy, as the simple

footstrap and footpad allow for rotation of the feet, and minor width adjustment. The preferred embodiment has a lever which pivots fore and aft (FIGS. 1-2, 4), allowing the rider to move freely on the snowboard without inhibiting edging.

Additional Embodiments May Include Any Combination of the Following

[0044] A lever which adjusts for angle laterally and fore-aft in various ways germane to the art.

[0045] A fixed lever.

[0046] Various handle configurations.

[0047] Various combinations of materials and manufacturing processes.

[0048] An arced lever.

[0049] Simple cleat-style bindings akin to Clipless Bike Pedals, which the boot snaps into.

[0050] Any combination of the above.

[0051] A lever which attaches to one or both legs as an alternative to being handheld.

CONCLUSIONS, RAMIFICATIONS, AND SCOPE

[0052] Clearly there are a variety of forms the lever action snowboard may take. Versions made specifically for Children, Freestyle, Carving, Hardpack, Powder, and Racing could all incorporate various forms of flexing, thickness, weight, sidecut, adjustability, bottom profiles, lever configurations, and stepped bases. Materials and methods germane to the art may be liberally employed in various combinations. The lever may take various forms—anything that allows for actuation by the rider's hands while providing a means for the control of edging forces. Thus the scope of the invention should not be limited to the specific embodiments described in this specification, but rather to the range of options the lever allows.

I claim:

1. A lever action snowboard, comprising:
a snowboard body; and
lever substructure coupled to a central region of the body, and constructed with a lever that can be actuated by a rider of the snowboard while riding the snowboard.
2. The snowboard of claim 1, wherein the lever substructure includes a handle that can be grasped by the user.
3. The snowboard of claim 1, further including dual foot pads, each being coupled to opposing ends of the snowboard body and being constructed to locate the feet of the rider while riding the snowboard.
4. The snowboard of claim 2, further including dual foot pads, each being coupled to opposing ends of the snowboard body and being constructed to locate the feet of the rider while riding the snowboard.

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