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(19) **United States**(12) **Patent Application Publication****Olsen**(10) **Pub. No.: US 2017/0095696 A1**(43) **Pub. Date: Apr. 6, 2017**(54) **BALANCE AND SPIN PRACTICE BOARD**(52) **U.S. Cl.**(71) Applicant: **Erik Martin Olsen**, Lake Mills, WI (US)CPC ..... **A63B 26/003** (2013.01); **A63B 69/0093** (2013.01)(72) Inventor: **Erik Martin Olsen**, Lake Mills, WI (US)

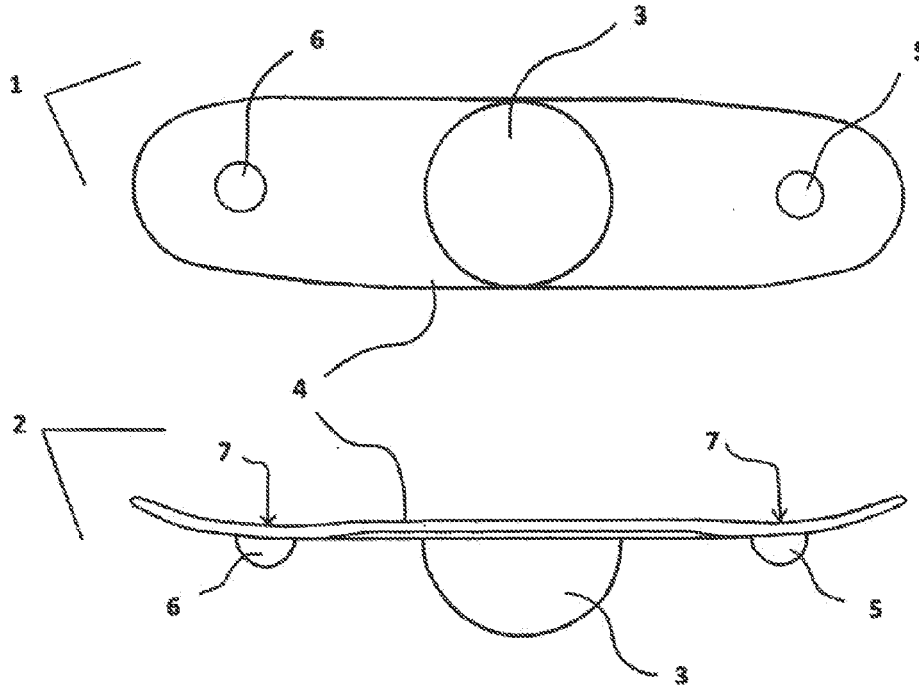
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**ABSTRACT**(73) Assignee: **Eric M. Olsen**, Lake Mills, WI (US)(21) Appl. No.: **14/295,321**(22) Filed: **Jun. 3, 2014****Related U.S. Application Data**

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This device is a balance board used for core exercise, balance training, and training for rotational motion applicable to various board sports. The invention consists of a board or deck upon which the user stands having the shape and contours of a traditional skateboard deck. On the underside of the board are three half spherical fulcrum points fixed at specific locations. The primary fulcrum point is the largest and is located in the center of the board. The additional two fulcrum points are smaller and are located one each at the nose and tail of the board. This orientation allows the user to spin freely on the board on a horizontal axis. Rotational motion is possible on any of the three fulcrum points depending on the user's ability.



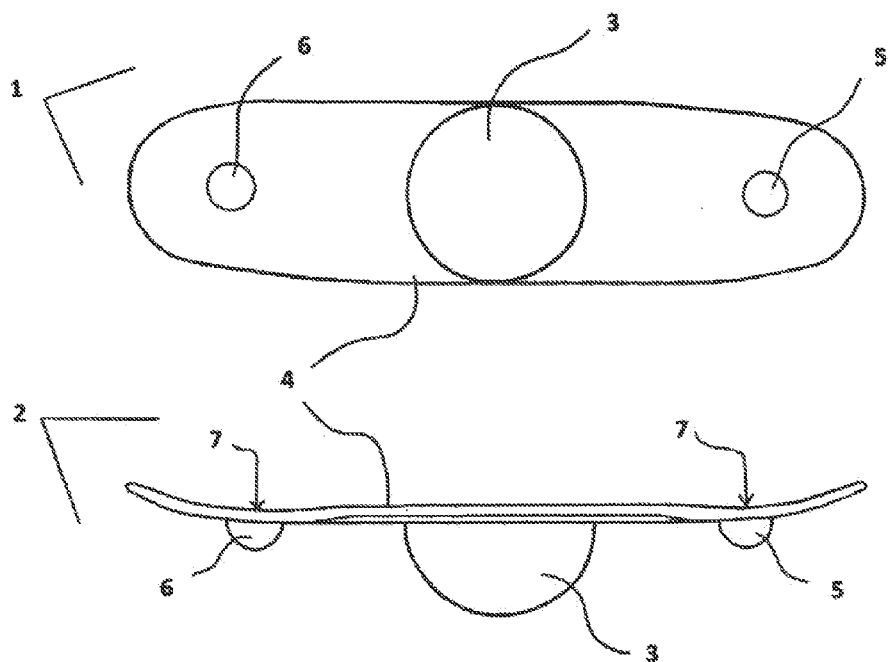


Figure 1

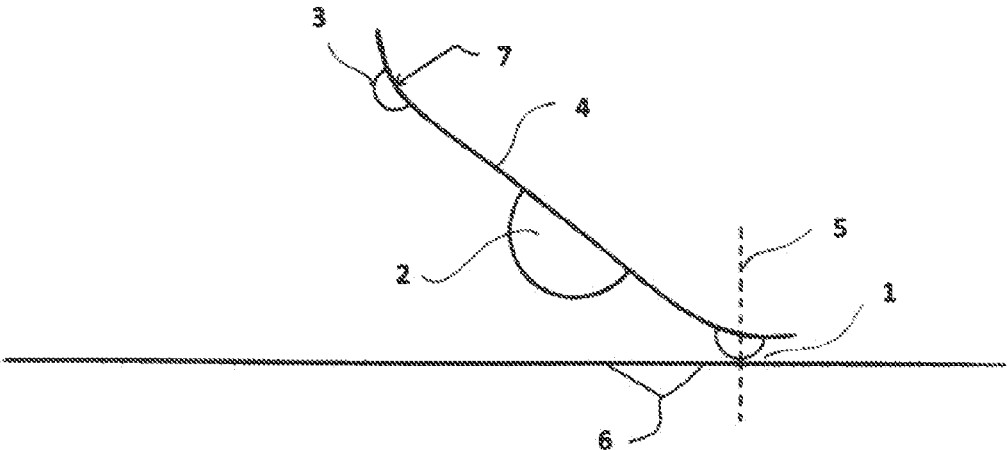


Figure 2

## BALANCE AND SPIN PRACTICE BOARD

[0001] This invention relates to balance training specifically applicable to various board sports such as snowboarding, wakeboarding, and skateboarding. The board is a single unit composed of 4 key features. The first is a board or platform that the user stands on during use. The platform is composed of a wooden maple standard bidirectional skateboard deck which is symmetrical across all three axis. The skateboard deck used for the invention includes is curved nose and tail as well as a concave formed surface allowing for better grip of the users feet. A high traction surface such as standard skateboard grip tape or a durable EVA foam surface provides a surface to prevent the user's feet from slipping during use.

[0002] The second component of the invention is the primary fulcrum point. The primary fulcrum consists of a half spherical shape that is 8 inches in diameter and is fixed to the center of the bottom of the board. The primary fulcrum is made from rigid plastic and is not flexible. The fulcrum does not flex, bend, or deform in any way during use. The fixation point of the half spherical primary fulcrum is such that the device displays perfect balance while sitting still on a level surface and not acted on any exterior forces. The top portion of the half sphere is designed specifically, and curved slightly, to create a tight fit with the rounded underside of the skateboard. A rubber gasket is also placed between the two surfaces to add strength and eliminate any slight variance in the manufactured components. The fulcrum will be fixed to the board using 4 bolts from the top of board attaching to threaded inserts that are built into the fulcrum component. The orientation of the primary fulcrum allows the board to spin freely in either direction about the Y axis with low friction depending on the nature of the ground surface it is being used on.

[0003] The third and fourth components of the invention are one in the same. Each is an additional half spherical shape with a smaller approximately 2.25" diameter. Alike the center primary fulcrum these fulcrum points are also composed of a rigid plastic material and do not bend or flex during use. These secondary fulcrum points are fixed to the underside of the board beneath the nose and tail of the board. They are fixed in the center of the board under the curved area where the skateboard deck forms the nose and tail. They are fixed using a single bolt from the top of the board attaching to a threaded insert that is built into the fulcrum. The angle of orientation and position of each secondary fulcrum is designed so that when the secondary fulcrums make contact with the ground the primary fulcrum may be lifted off the ground allowing for free rotational motion about the secondary fulcrums. Rubber gaskets will also be used between the board and the secondary fulcrums for strength purposes and to again eliminate any minor manufacture variance.

## BACKGROUND OF THE INVENTION

[0004] Balance boards have existed for many years and are available in many forms. They are typically used for exercise, balance training, or rehabilitation through strengthening of core muscles, knees, feet and ankles. Balance boards are also used for entertainment purposes. They allow people who enjoy board sports the ability to practice their sport when conditions outside do not allow for the real thing. The most common design of traditional balance boards

consists of a platform balanced on top of as cylindrical roller underneath. The user can rock back and forth and perform weight transfer maneuvers. Other balance boards incorporate a spherical fulcrum under the board that rolls freely providing a more challenging aspect. Various other forms of fulcrum beneath the balance board exist but none that provide the user the ability to rotate smoothly about the Y axis. Rotational motion is a skill that applied in almost all board sports but is not typically a consideration of traditional balance boards.

## APPLICATION AND USE OF THE INVENTION

[0005] This balance board allows for training for board sports such as snowboarding, skateboarding, or wakeboarding in two aspects. The first is simple balance training. The half spherical nature of the fulcrum points allows for a complete range of motion on the board. The board can be tilted in any direction and subsequently provides a more advanced level of balance training than a cylindrical fulcrum. The simple act of standing still while balancing on the primary fulcrum presents a challenge for most beginner level users.

[0006] Secondly, the spherical fulcrum allows smooth rotational motion of the balance board about the Y axis. By pushing off the ground with one of the two secondary fulcrums, the user can rotate as many rotations as their skill level allows. Rotation about the smaller secondary fulcrums is also possible by tilting the board toward the nose or tail and lifting the primary fulcrum off the ground in the process. This ability allows the user to train for the various motions associated with spinning/rotational tricks involved in board sports like snowboarding, wakeboarding, and skateboarding. Practicing this rotational motion helps the user become more familiar, and comfortable with such motion improving spatial awareness during rotational maneuvers. This ability directly translates to similar movements in various board sports. In addition to providing training for these aspects of the sports, this balance board is a fun and challenging alternative to the aforementioned board sports when conditions do not allow the real thing. This board also provides an alternative to many of the cylindrical fulcrum balance boards that are available today.

[0007] FIG. 1: represents two views of the invention, including a bottom view 1 and a side profile 2, both views show the primary balance fulcrum 3 fixed to the center of the skateboard deck 4 and oriented such that the curved side of its half spherical shape is facing away from the skateboard deck 4, the curved portion of the half sphere would consequently contact the ground as the primary balance point 3, the primary balance point 3 is of a larger diameter than the two secondary balance points 5 and 6, the two secondary balance points 5 and 6 also half spherical in nature, secondary balance points 5 and 6 are fixed in place and located near the nose and tail of the skateboard deck 4, the side profile view 2 shows that the two smaller diameter half spheres are located and fixed in the center of the curved radius 7 near the nose and tail of the skateboard deck 4.

[0008] FIG. 2: This drawing demonstrates the capability of the invention to be tilted onto the secondary balance points 1 and 3 which are half spherical in nature and fixed to the skateboard deck in the center of the curved radius 7 of the nose and tail of the skateboard deck 4, the secondary balance points 1 and 3 are of a smaller radius than the primary center balance point 2 as previously indicated, upon

contacting the ground or floor surface **6** the secondary balance balls **1** or **3** become the main contact balance point and consequently can lift the center primary balance ball **2** off the surface of the floor or ground **6**, this allows the unit to rotate freely about the vertical axis **5** on either of the smaller balance points **1** or **3** by tilting the unit toward the nose or tail onto the secondary balance points **1** and **3**, the invention may also rotate freely around the vertical axis on the center primary balance point **2** when the board is in its resting horizontal orientation.

1. A balancing apparatus consisting of a skateboard deck on which the user stands having on the underside of the board a fixed half spherical fulcrum point located in the center of the board with respect to both the x and y axis.

2. A balancing apparatus according to claim 1 that has two additional and smaller half spherical fulcrum points fixed directly under the curved portion of the nose and tail of the board.

3. The secondary fulcrum points referenced in claim 2 are aligned at a specific angle to allow lifting of the primary fulcrum off the ground and allowing free rotation when balanced upon.

4. A balancing apparatus according to claim 1 and claim 2 that is symmetrical across both the X and Y axis.

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