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(54) **ROTATING TRAINING DEVICE FOR KICKING A SOCCER BALL OR FOOTBALL**

(52) **U.S. Cl.**
CPC **A63B 69/002** (2013.01); **A63B 2208/0204** (2013.01)

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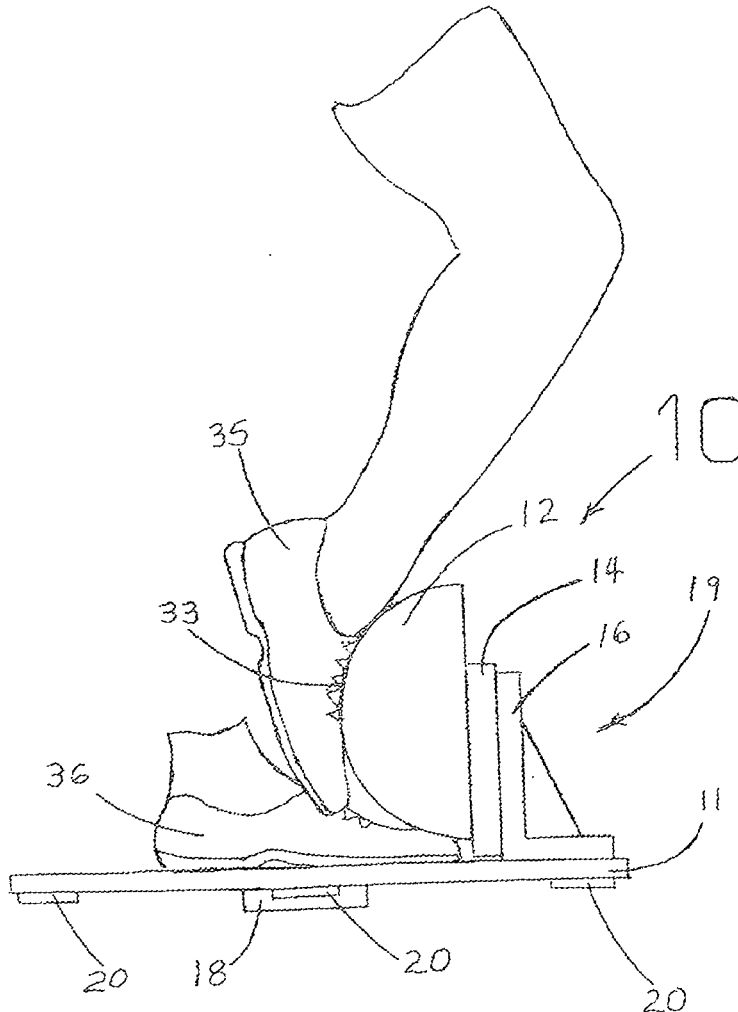
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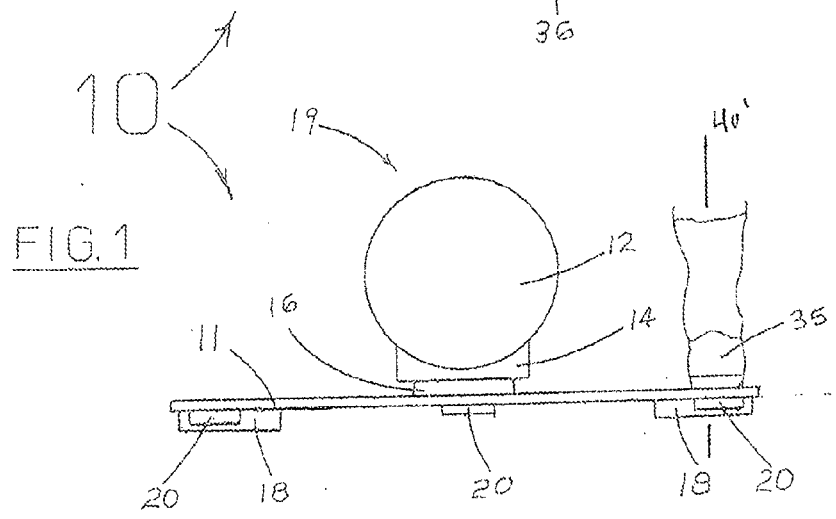
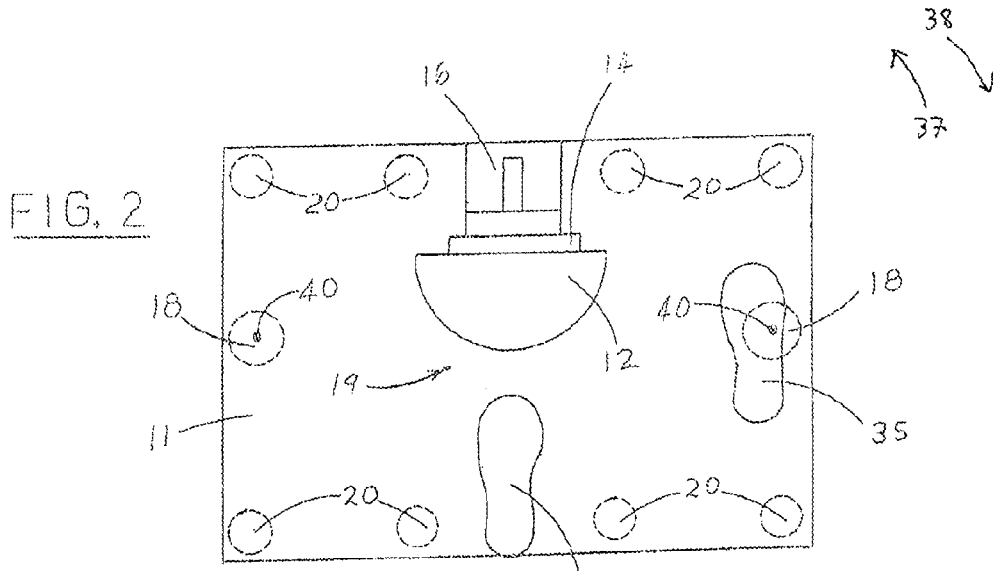
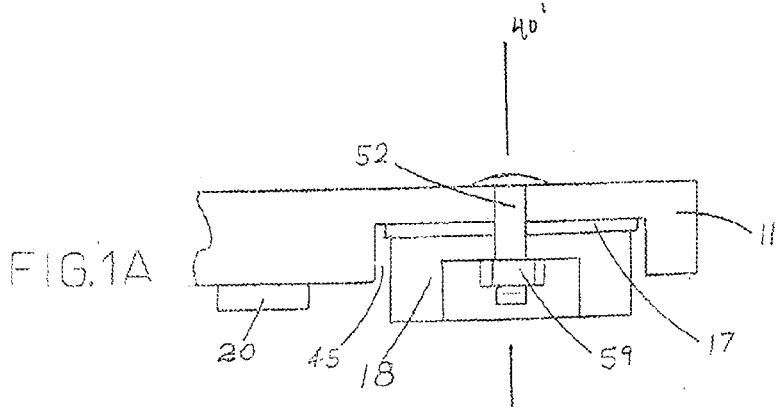
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A63B 69/00 (2006.01)

(57) **ABSTRACT**

A portable training device to practice kicking a soccer ball, football or kicking target. The device includes a stationary base on a supporting surface and a platform coupled to the base. The platform is configured to hold one or two balls or kicking targets used for performing simulated kicks. The platform is capable of supporting a person or trainee with a plant foot placed on top of the platform's vertical axis of rotation. When the ball is kicked, the platform and ball rotate, with the kicker on top of the platform and the kicker's foot maintaining contact with the ball during the rotation around the vertical axis of rotation, whereby the platform uses a braking means to come to a gradual stop. A stabilizing means is coupled to the platform for the trainee to hold while kicking the ball or target.





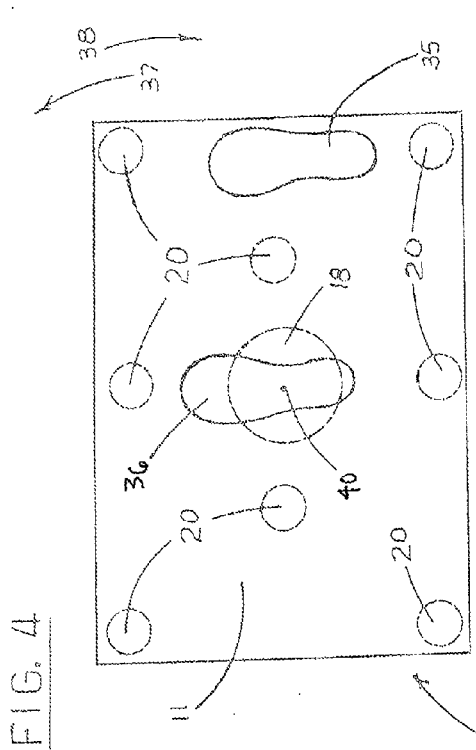


FIG. 4

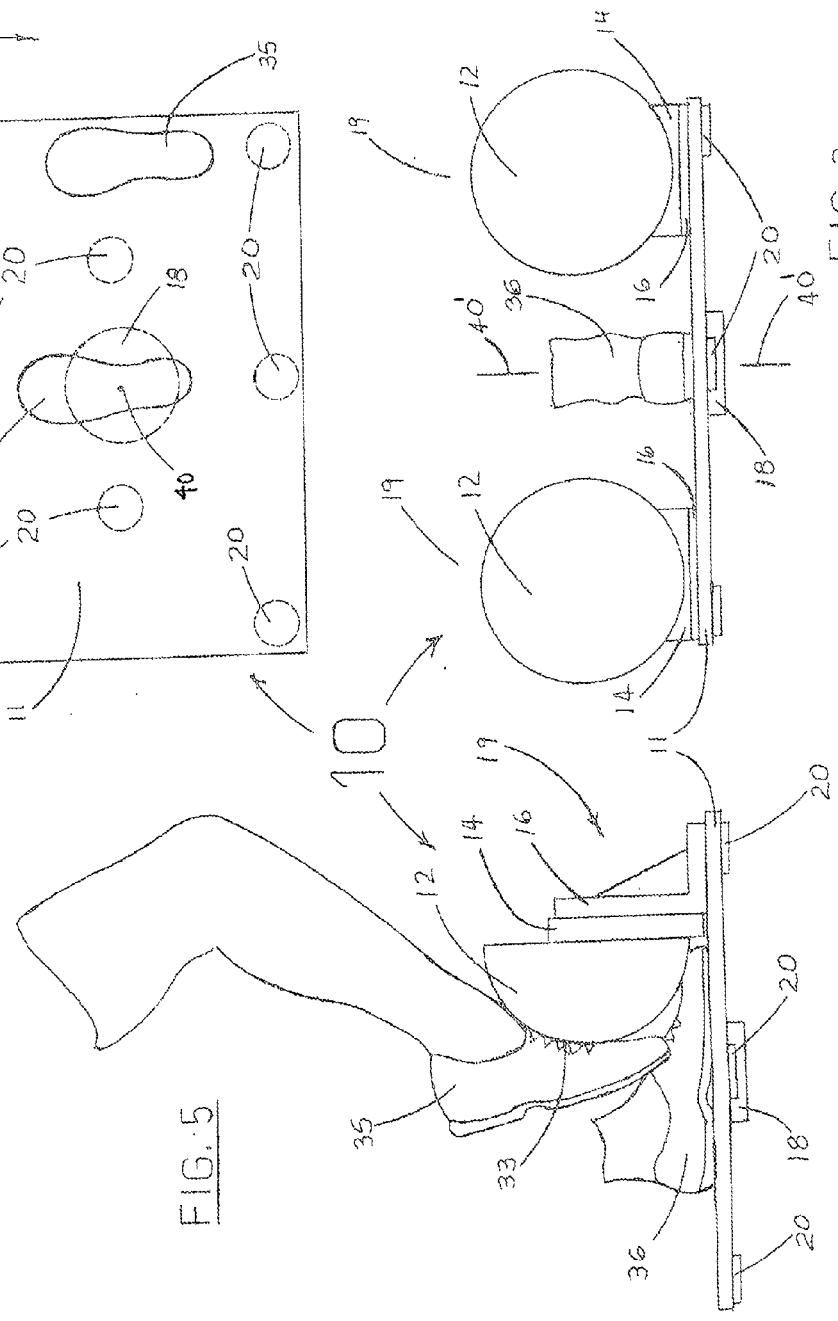


FIG. 5

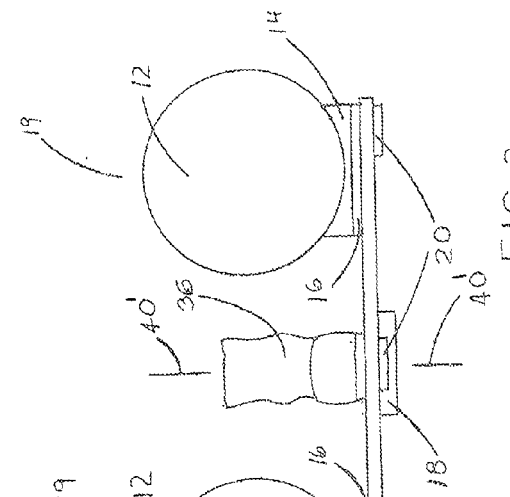


FIG. 3

FIG. 7

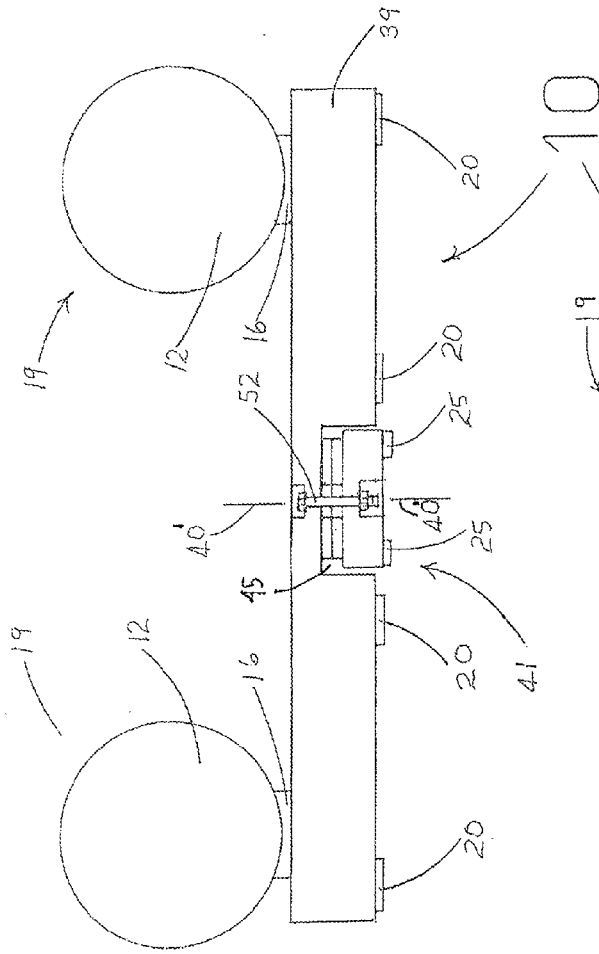
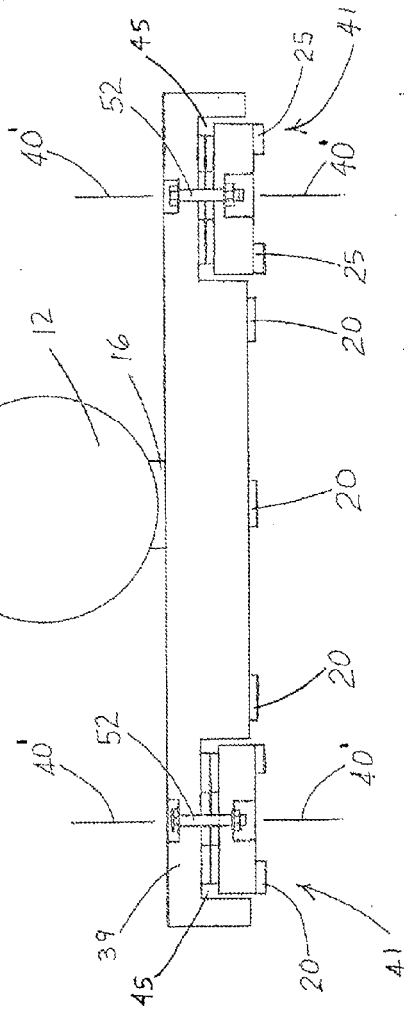


FIG. 6



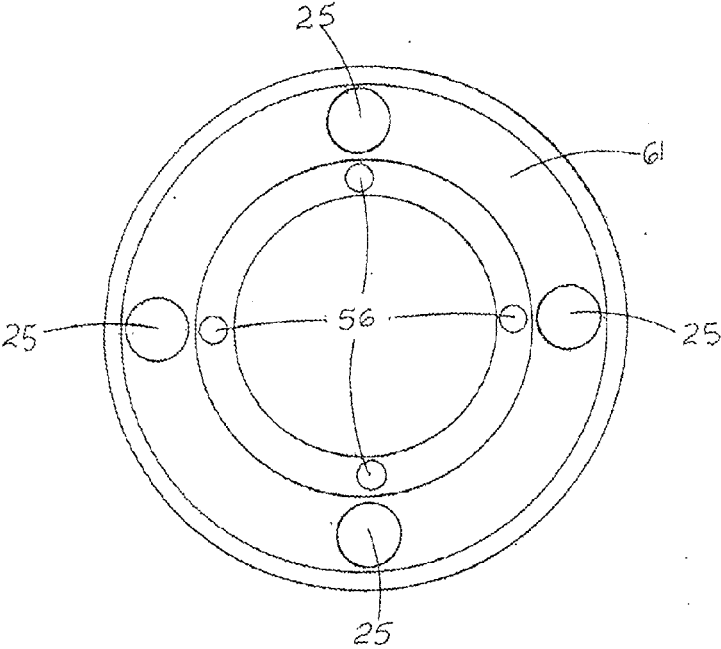


FIG. 9

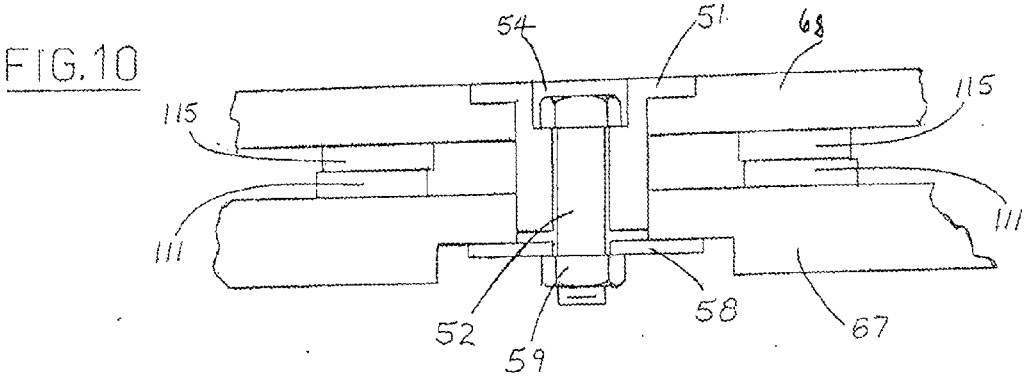


FIG. 10

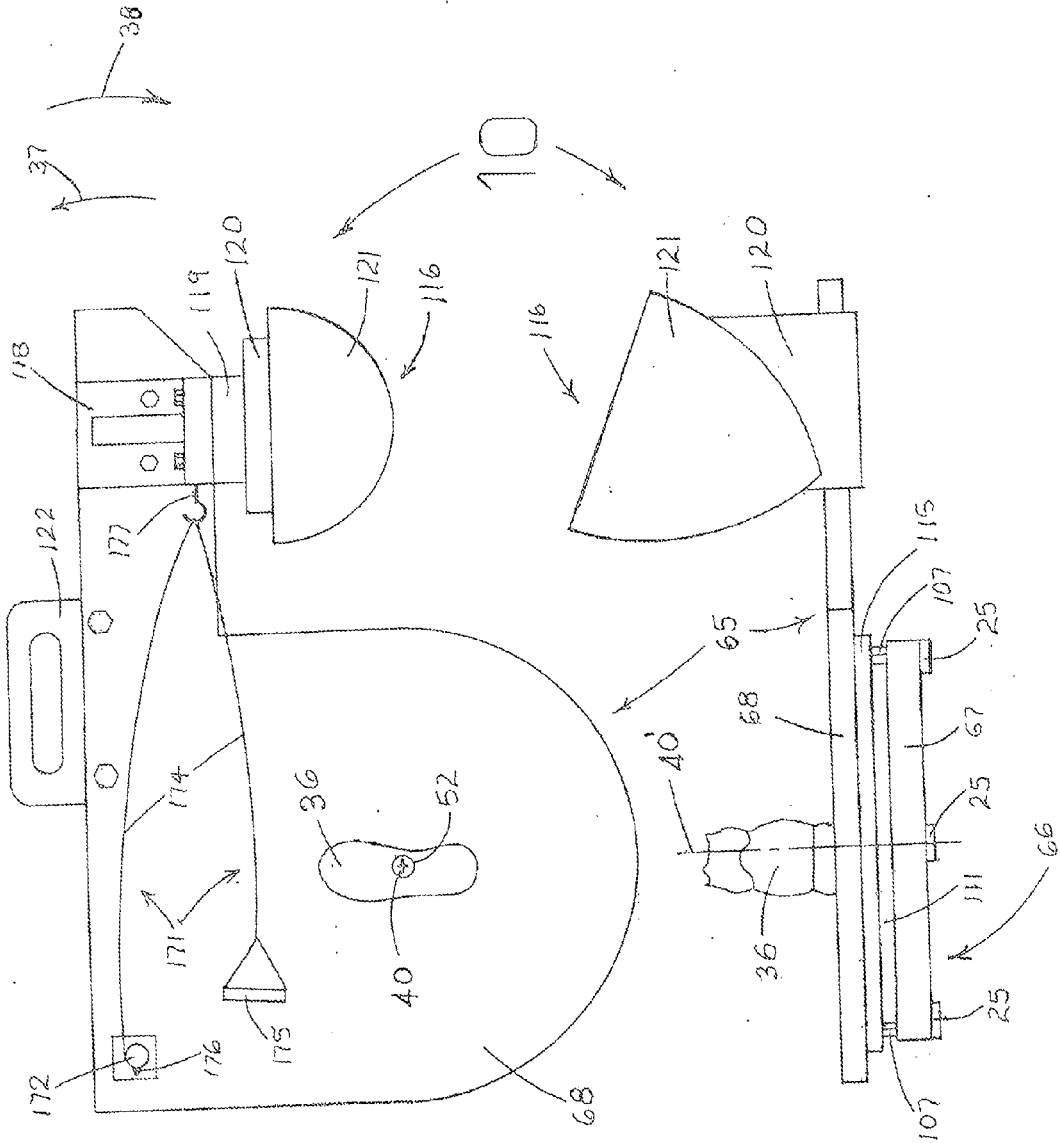


FIG. 12

FIG. 11

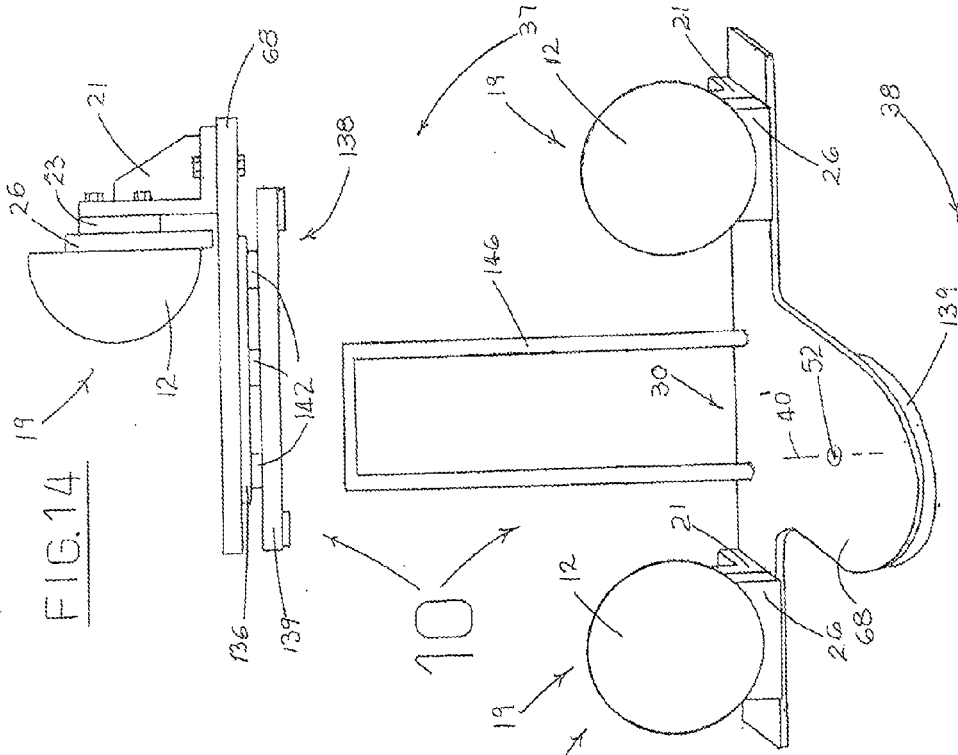


FIG. 13

FIG. 14

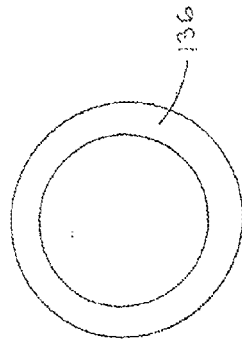


FIG. 14C

10

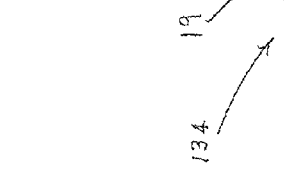


FIG. 14B

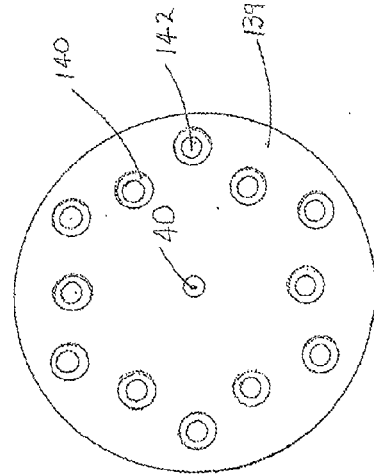


FIG. 14A

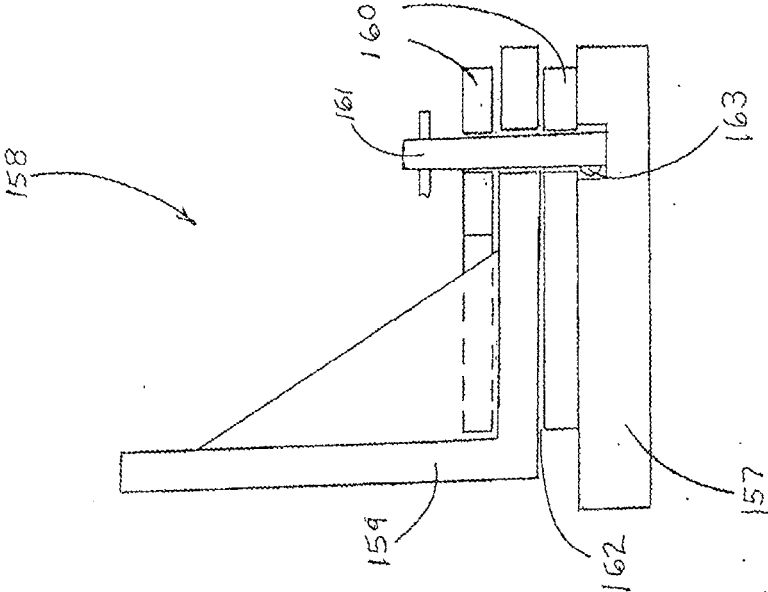


FIG.18

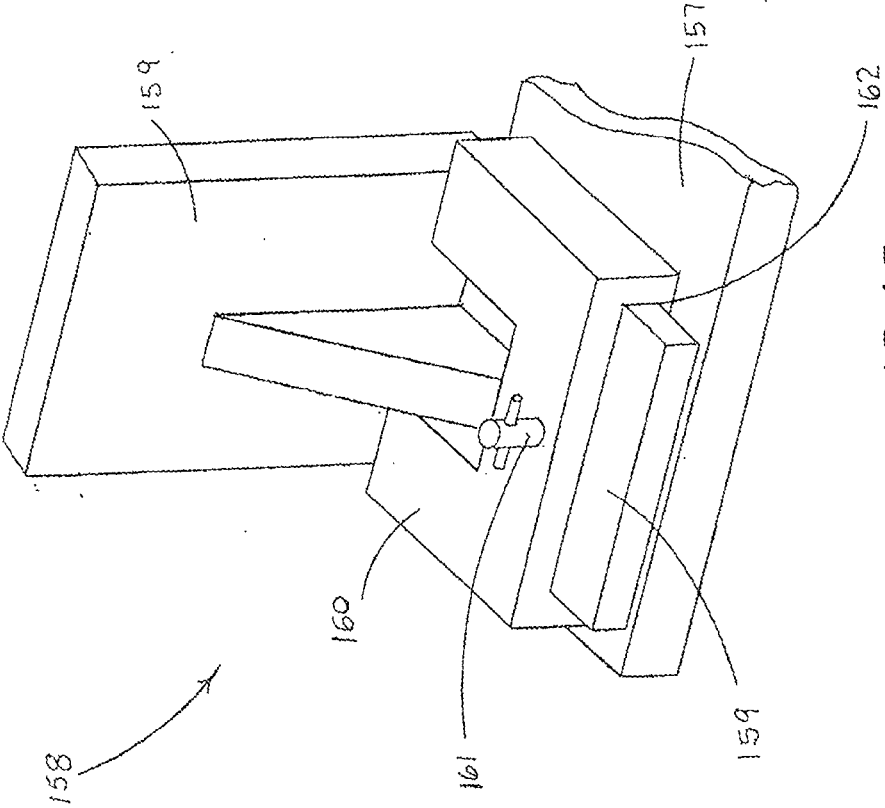


FIG.17

FIG. 19

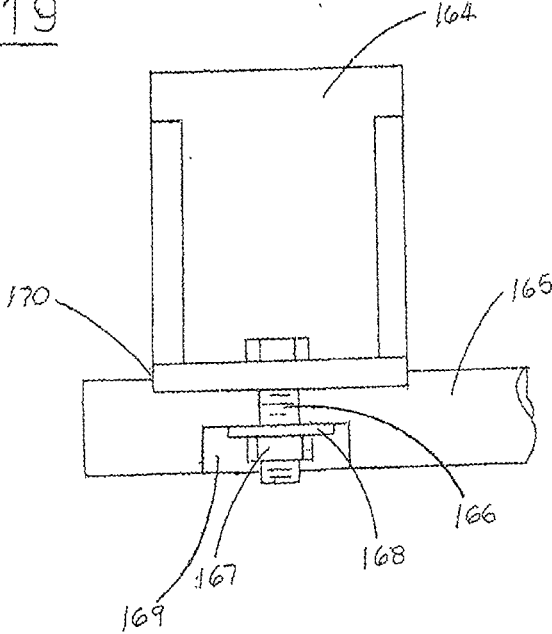


FIG. 22

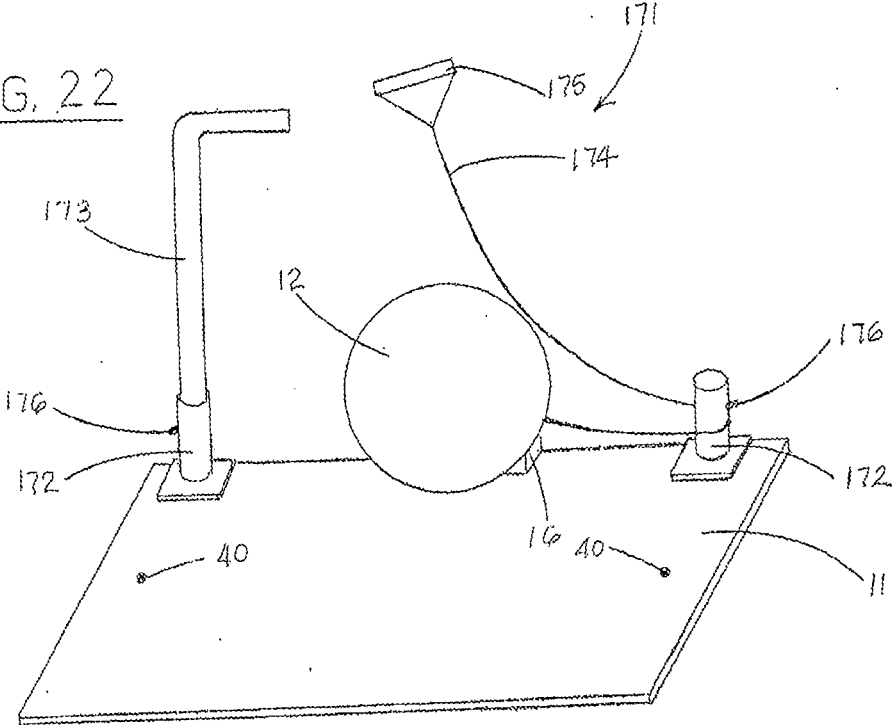


FIG. 20

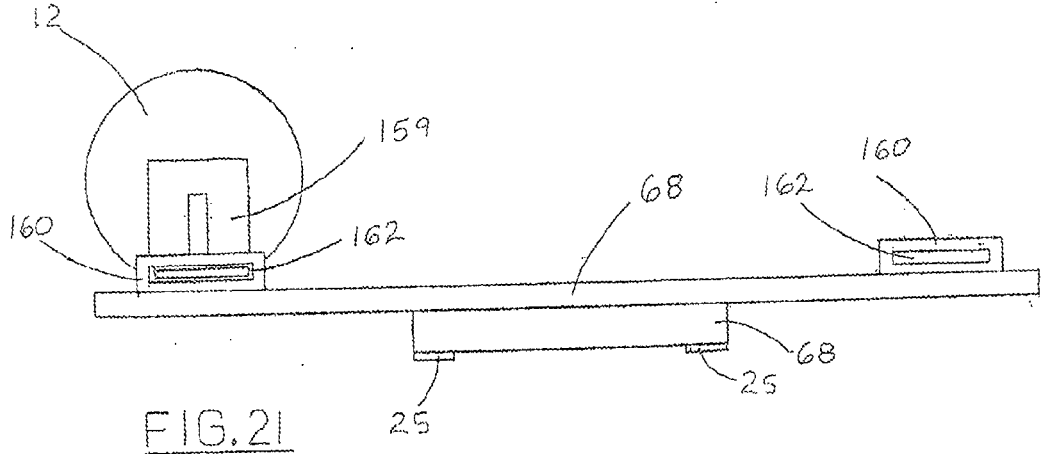
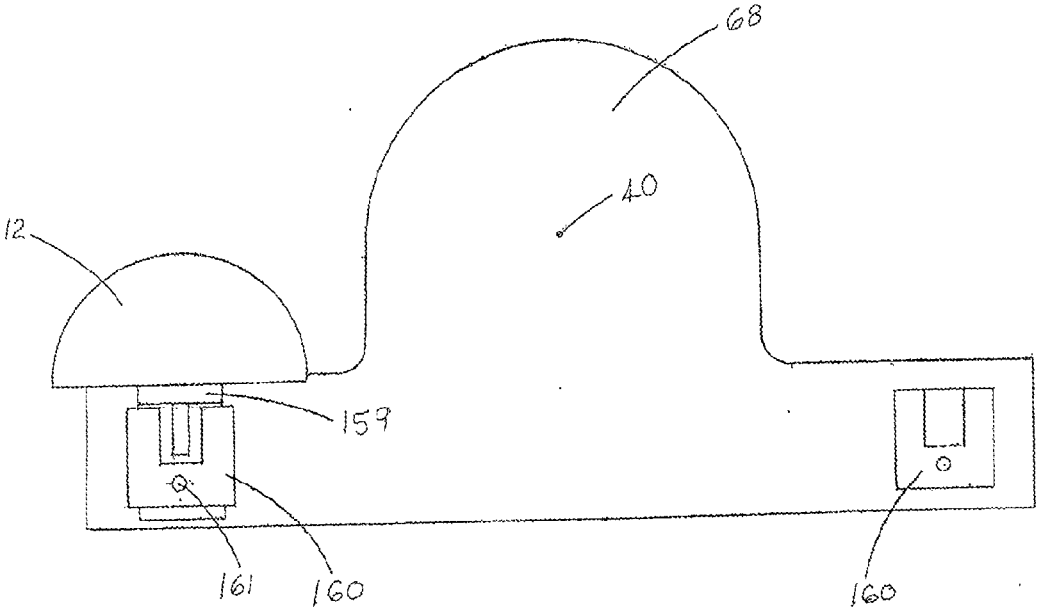
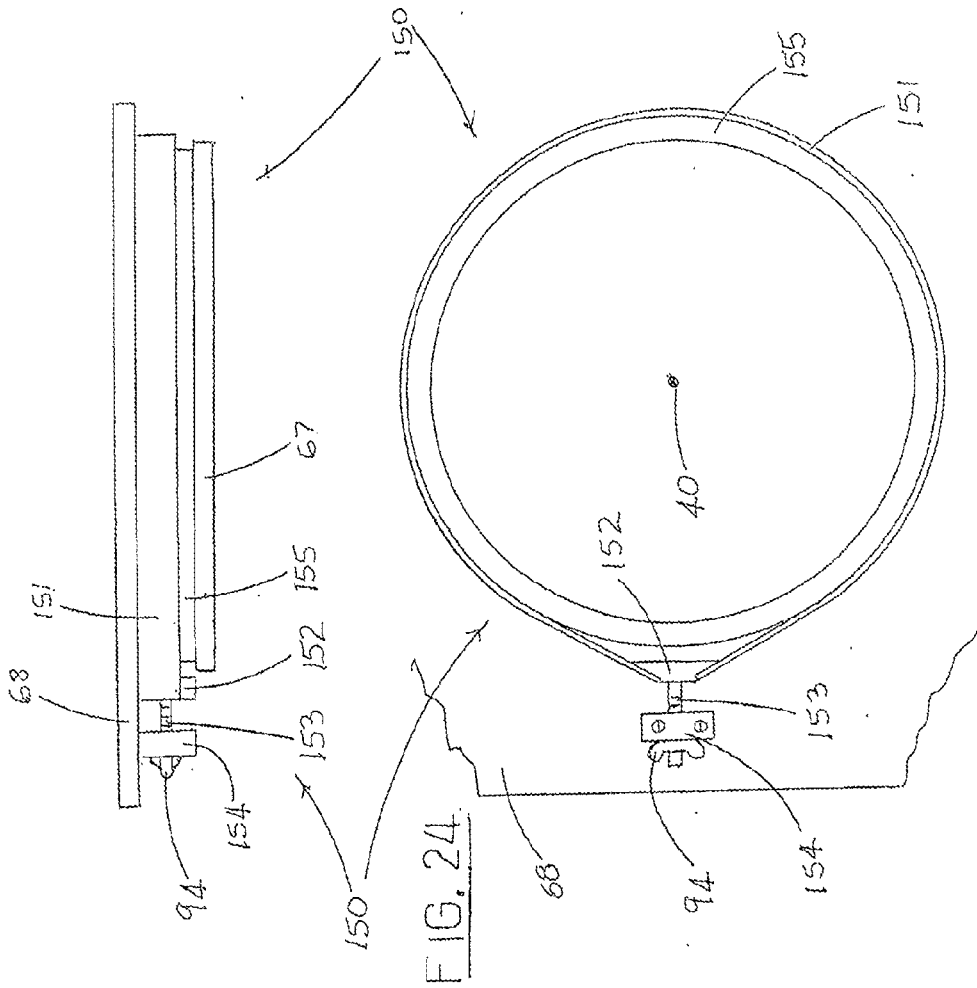


FIG. 21

FIG. 23



ROTATING TRAINING DEVICE FOR KICKING A SOCCER BALL OR FOOTBALL

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 62/183,536, filed on Jun. 23, 2015, the entire contents of which are incorporated by reference herein.

BACKGROUND

[0002] The present invention relates to a training device for kicking a soccer ball or football that encourages proper leg positions when the kicking leg swings back away from the ball and swings toward the ball and the proper position of the kicking foot on the ball when the foot contacts the ball.

[0003] Preschoolers or young players may start kicking a soccer ball when parents purchase a soccer ball to kick in the house or backyard. Most parents are unfamiliar with proper kicking form so many elect to send their children to soccer camps or organized leagues. Traditional training can start with drills which entail kicking soccer balls into a net or to other players with the laces of the shoe and the inside of the foot. Preschoolers have a very short attention span and thus have a difficult time following instructions to kick a ball properly. As a result the younger player gravitates back to the natural way of kicking a ball, which is with the toe or front of the dominant foot.

[0004] A toe kick usually contacts the soccer ball below the center point and lifts the ball into the air, reducing the accuracy of the kick, and increasing the chance the ball will be intercepted by an opposing player. A soccer coach's goal is to have soccer players eliminate the toe kick and kick the ball on the ground. A player approaches the ball in a straight line and places his or her stationary foot or plant foot next to the side of the soccer ball, bends the body slightly forward and keeps his or her eyes on the ball during the kick. The leg is bent up at the knee and the hip so the toe of the kicking foot does not hit the ground. The leg is swung back, locking the ankle and toe in a downward position and swinging the leg forward to contact the ball with the laces of the foot. Contact between the laces of the foot and the ball is at a midpoint between the top and bottom of the ball, forcing the kick to stay on or near the ground. This technique can train beginners how to kick with both their dominant foot and their non-dominant foot.

[0005] Another way to train a player to eliminate the toe kick is to approach the soccer ball at an angle from the left side of the soccer ball, when kicking with the right foot. The left foot is placed next to the soccer ball and pointed in the direction of the kick with the body bent slightly forward, and the right leg swings back with the knee bent back while keeping eyes on the ball. The leg swings forward and the player locks the ankle so the foot is pointed down and away from the body. The foot contacts the ball above the big toe joint with the knee slightly bent and with the inside of the foot.

[0006] Soccer players may use any part of either foot to move or kick a ball forward, backward, to either side, on the ground, in the air and straight or curved while standing still, running or positioned upside down. Unlike soccer players, football kickers have only two ways to kick a football. A

football kicker approaches the ball in a straight line and kicks with the toe or approaches the ball at an angle and kicks the football soccer style with the instep of the foot. Straight-line kicking a football is predominant in middle schools where there are fewer soccer style kicking coaches, or less time to coach soccer style kickers and it is easier to select a kicker who can kick the ball the farthest with a straight-line approach. Kicking a football in a soccer-style is not generally practiced until high school, and is the method used by most colleges and professional kickers.

[0007] For right-foot soccer-style kickers the tip of the football is slanted away from the kicker. The kicker approaches the ball at an angle and places the left foot or plant foot to the left side of the ball in preparation to kick the ball. The kicker brings the right leg back at the hip joint and bends the lower leg back at the knee. The front of the right foot is angled away from the kicker's body with the toe pointed slightly down. The right leg swings forward and the kicker locks the ankle in the kicking position so the foot will not move when impacting the ball. The kicker leans to the left side away from the ball and straightens out the lower leg at the knee and locks the knee straight as the foot contacts the ball. The kicker's leg is positioned so that the instep of the right foot contacts the ball across the stitching of the ball, which is slanted away from the kicker. Locking the ankle and knee and kicking the ball with the instep of the foot increases the kicker's accuracy and maximizes the distance of the kicks.

SUMMARY

[0008] A light weight training device allows preschoolers and young grade-schooler trainees to repetitively kick a simulated soccer ball, football, or kicking target attached to a platform. The training device encourages the trainees to use proper kicking techniques and eliminates the young trainee's natural inclination to kick with the toe. The training device helps engrain a proper kicking motion into the trainee's muscle memory, thus eliminating the toe kick and encouraging stronger and more accurate kicks with both legs.

[0009] Soccer games are usually low scoring contests. One missed opportunity can result in a loss. Thus, it is important that a trainee learn to kick, pass, and shoot the ball on the ground using both feet. The training device is designed to teach proper kicking form with both feet by offering repetitive kick training with one leg and then the other leg. This repetitive kicking motion encourages proper foot and knee positioning, which promotes proper kicking motions when playing in an actual game.

[0010] The simulated soccer ball, football, or kicking target is mounted to the top of a platform. Thus, after kicking, there is no need to chase or retrieve the ball. While standing on the platform of the device, the person or trainee kicks the ball or target and as a result of the force from the kick, the platform rotates a controlled distance while the striking foot remains in contact with the ball until the ball and platform stop rotating. The trainee may hold onto a stabilizing bracket, cord, or rope while practicing the kicking motion.

[0011] The light weight training device may be used indoors on a supporting surface made of smooth wood or floor tile. The device can be used in confined areas, such as a garage or playroom, and because the ball or target is mounted to the platform, there is no need for a net and no

risk of property damage from flying balls. The device's small size and light weight allow for easy storage and portability. The device is not fixedly mounted to the supporting surface, making it easy to lift and carry. While the light weight training device is designed for children under seven years old, there are larger sizes for older players.

[0012] An instructional DVD may be watched in conjunction with using the training device. The DVD may show fundamental kicking techniques and body mechanics for kicking a soccer ball or football. Parents or coaches can learn with the trainees about proper kicking form and practice right in front of the TV. This encourages younger trainees to focus their attention on proper kicking technique. Older children may need less guidance from a coach, mentor, or parent. Because of the repetitive nature of the device, proficiency is gained quicker than traditional methods, such as kicking a ball down the field, then having to retrieve it.

[0013] The light weight training device for trainees in preschool and early grade school may use a rectangular platform supported by a pivot pad base. Felt pads, soft pads, or other non-stick pads disposed on the bottom side of the platform around the edges of the platform act as stabilizers to limit or prevent tilting when the ball or kicking target is kicked. The pads also assist in the device's smooth rotation on the supporting surface. While the pivot pad base is in direct contact with the floor, the felt pads may be slightly above floor level. A brake and base assembly of the mini training device may replace the pivot pad base on the light weight device. A rectangular platform can have one target ball mounted to the center of the platform. This allows the trainee to kick the ball with one foot, and then move to the other side of the platform to kick with the other foot. A rectangular platform can also have a soccer ball on each side of the platform.

[0014] A more durable device for older, heavier, and more experienced players may be used indoors or outdoors on a firm level surface. The device has a contoured upper platform which reduces the weight of the platform and a base. For outdoor use, a larger, higher platform is required to hold a larger brake mechanism to accommodate stronger kicks. The contoured platform must also be elevated enough that it won't contact a concrete supporting surface or the rough supporting surface of a synthetic or regular grass field.

[0015] The heavier device, used by older trainees who are soccer or football players, is portable with a handle for carrying and can be used indoors or outdoors on a level firm supporting surface. Both the light and heavy training devices can be used in a confined area, about four feet by four feet square. Experienced players can use the device to warm up their legs before a game. Players may also use the device in the off season and away from the team to maintain muscle and kicking skills.

[0016] A contoured platform has two soccer balls connected to the sides of an upper platform, with one soccer ball mounted on the right side and one on the left side, with a stationary base in the center supporting the upper platform. This enables a trainee to practice kicking with both feet. A trainee may alternatively train with both right and left feet by switching which foot is planted on the center of the platform, and kicking the opposite target. One soccer ball can be used to kick with both feet by using a quick release ball holder and switching the ball holder from the right side to the left side, or vice versa.

[0017] Contouring the platform and connecting two soccer balls, one on each side of the platform, has advantages. A contoured platform removes the sides and reduces the weight of the platform that the trainee stands on. The diameter of the base is sized to fit the platform, which prevents the platform from tilting, reduces the size, weight, and cost of the base and improves portability.

[0018] The two materials which rotate against each other, thus providing a rotation means, a braking means, or a combined rotation and braking means can be made up of the following materials: Acetal plastic against UHMW plastics, nylon plastics and smooth floor tiles and urethane against UHMW, acetal, metal and smoothed wood. A turntable with ball bearings placed between a rotating platform and a stationary base provides a free-rotating means rather than a sliding action. Thus, the turntable assembly requires a separate braking action to bring the rotating platform to a controlled stop. The materials used on the slides and brake pads can be made of other materials which extend the life and interaction between the materials used herein.

[0019] Soccer players who are proficient in kicking with one leg and have limitations kicking with the other leg can use the training device to improve the kicking techniques of the limited leg. Each kick takes only seconds, with no interruptions to chase or retrieve a ball, leading to shorter, more efficient practice periods. Along with the ability of the kicker to view the placement of the kicking foot on the ball after each kick, the device is an ideal training tool to improve the strength, muscle memory and kicking skills of both feet in the shortest time possible.

[0020] Other aspects of the invention will become apparent by consideration of the detailed description and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. 1 is a front view of one construction of a training device with a kicking target mounted to a single platform.

[0022] FIG. 1A is an enlarged sectional view of a pivot pad base inside a cavity of the single platform.

[0023] FIG. 2 is a top view of the training device shown in FIG. 1.

[0024] FIG. 3 is a front view of another embodiment of a training device with two kicking targets mounted on a single platform.

[0025] FIG. 4 is a top view of the device shown in FIG. 3.

[0026] FIG. 5 is a right side view of a player's leg kicking a ball with the laces of the right foot contacting the kicking target of the training device shown in FIG. 3.

[0027] FIG. 6 is a front view of another construction of a training device with one kicking target attached to a mini platform with two cavities.

[0028] FIG. 7 is a front view of another embodiment of a training device with two kicking targets attached to a mini platform with one cavity.

[0029] FIG. 8 is an enlarged view of a combined base and brake assembly inside a cavity as shown in FIGS. 6 and 7.

[0030] FIG. 9 is a bottom view of a mini base assembly inside a cavity as shown in FIG. 10.

[0031] FIG. 10 is an enlarged view of flanged aligning bushing connecting a platform and base.

[0032] FIG. 11 is a front view of another embodiment of a training device supporting a kicking target.

[0033] FIG. 12 is a top view of the device as shown in FIG. 11.

[0034] FIG. 13 is a perspective view of another construction of a training device supporting two kicking targets.

[0035] FIG. 14 is a side view of the device shown in FIG. 13.

[0036] FIG. 14A is a top view of mini brake pads on top of a stationary base as shown in FIG. 14, with the upper platform and upper slide removed for clarity.

[0037] FIG. 14B is an enlarged sectional side view of a mini brake pad between an upper platform and stationary base as shown in FIG. 14.

[0038] FIG. 14C is a top view of a circular slide as shown in FIG. 14.

[0039] FIG. 15 is a cross section of a turntable between an upper platform and stationary base.

[0040] FIG. 16 is a bottom view of a turntable assembly and brake assembly of FIG. 15 with the stationary base removed.

[0041] FIG. 17 is a perspective view of a quick release bracket and moveable kicking target holder.

[0042] FIG. 18 is a side view of the quick release bracket and moveable kicking target holder in FIG. 17.

[0043] FIG. 19 is a view from the back side of another embodiment of moveable kicking target holder attached to a kicking platform.

[0044] FIG. 20 is a top view of another embodiment of the training device with quick release bracket and moveable kicking target holder.

[0045] FIG. 21 is a view from the rear side of FIG. 20.

[0046] FIG. 22 is another embodiment of a training device with supports to aid stability for beginning kickers.

[0047] FIG. 23 is a side view of a band brake assembly between a stationary base and upper platform.

[0048] FIG. 24 is a bottom view of the band brake assembly of FIG. 23 with the stationary base removed for clarity.

DETAILED DESCRIPTION

[0049] Before any embodiments of the invention are explained in detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangement of components set forth in the following description or illustrated in the following drawings. The invention is capable of other embodiments and of being practiced or of being carried out in various ways. Furthermore, it is to be understood that features from one embodiment of the invention can be substituted and used in other embodiments of the invention, when suitable. When a structure or mechanism of the invention is described in the context of only one or two specific embodiments, one of skill will appreciate that this structure or mechanism can be used in any other embodiments where suitable, even if that structure or mechanism is not explicitly described in conjunction with those other embodiments herein.

[0050] FIG. 1A illustrates a cross section of a training device 10 that can be used to practice a kicking motion. The training device 10 has a pivot pad base 18 rotatably coupled to a single platform 11 inside a cavity 45 in the bottom side of single platform 11. The cavity 45 and the pivot pad base 18 can be of any shape, preferably circular. The pivot pad base 18 can be made of any mar and slip resistant material, such as mar resistant urethane or rubber. The pivot pad base 18 can also be made of plastic such as acetal with slide

resistant pads 25 attached to the bottom. A spacer 17 can optionally be attached to the top side of cavity 45 and separates the single platform 11 and pivot pad base 18 if the single platform 11 is made of wood or fiber. The spacer 17 can be made of metal, plastic, or any other suitable material and its shape can be made to match pivot pad base 18 to promote a sliding action between the single platform 11 and pivot pad base 18. A connecting bolt 52 extends through a longitudinal recess shared by single platform 11, spacer 17 and pivot pad base 18, thereby rotatably coupling the single platform 11 and pivot pad base 18. The rotational distance of single platform 11 can be adjusted via a holding nut 59 on the bottom end of connecting bolt 52 under pivot pad base 18. Loosening the nut 59 by rotating it in a downward direction away from pivot pad base 18 increases the rotational distance. Tightening the nut 59 by rotating it in an upward direction to create additional pressure against pivot pad base 18 decreases the speed and rotational distance when a soccer ball 12 is kicked.

[0051] The pivot pad bases 18 are the single platform's 11 points of contact on a supporting surface (not shown) disposed below the single platform 11. Felt pads 20 could be any type of soft low-friction pad made of any friction resistant material. In this embodiment, the supporting surface could be an indoor surface, such as a smooth wood or tile floor. However, in different embodiments, described later herein, the supporting surface can be an eccentric or outdoor surface that is uneven or rough, such as grass or concrete.

[0052] Felt pads 20 are positioned around the perimeter of the single platform 11 to prevent the single platform from tilting when trainees get on and off the platform 11. The felt pads 20 also prevent the platform 11 from contacting and marring supporting surfaces made of smooth wood or tile. The pivot pad bases 18 can be vertically sized a nominal distance longer than felt pads 20, such that the bottom sides of pivot pad bases 18 are engaged against the supporting surface and the bottom sides of felt pads 20 are a nominal vertical distance, about $\frac{1}{32}$ of an inch, above the supporting surface. This arrangement reduces the felt pads 20 engagement with the supporting surface 20, reducing friction and drag while the platform is rotated and pads 20 slide along the supporting surface. Alternatively, the bottom sides of felt pads 20 could be the same vertical distance below platform 11 as the bottom sides of pivot pad bases 18, such that both the felt pads 20 and the pivot pad bases 18 are simultaneously flush in their engagement with the supporting surface.

[0053] The preferable brake adjustment for all embodiments of the training device 10 described herein is achieved when the platform does not rotate when a person steps on or off. Preferably, when the ball or target is kicked the platform rotates a short distance to a controlled stop. If younger trainees have a problem balancing on the rotating single platform 11 while kicking, the holding nut 59 can be tightened to stop or reduce the rotational distance of single platform 11. As the trainee gains confidence and balance while using the device, the holding nut can be gradually loosened to increase the rotational distance of the device. To further assist the trainee in balancing on single platform 11, the platform can include support bars, brackets and cords, which are described later herein.

[0054] FIG. 1. illustrates a view from the front side view and FIG. 2 shows a top view of the training device 10. The training device 10 has a soccer ball assembly 19 mounted on

the top side of single platform 11. In this embodiment the soccer ball assembly 19 is mounted in a central position on the platform 11, but in other embodiments the soccer ball assembly 19 may be mounted on one or more sides of the platform. The soccer ball assembly 19 has a protective pad 14, a ball holder 16 and a soccer ball 12. The soccer ball 12 may be an actual soccer ball, a portion of a soccer ball, or any suitable kicking target capable of receiving a kicking force. At least two pivot pad bases 18 are mounted inside cavities 45 underneath and on opposite sides of single platform 11, as described above.

[0055] In order to kick the soccer ball 12 with a left foot 36, a person or trainee begins by standing on the single platform 11 with a right foot 35 planted on a contact point 40. Contact point 40 is the point on the top side of platform 11 vertically above the pivot pad base 18. In this first example, contact point 40 is disposed on the right side of platform 11 above the right-side pivot pad base 18. When the trainee kicks the soccer ball 12 with a left foot 36, the weight of the trainee's right foot 35 holds the right-side pivot pad base 18 stationary against the supporting surface. Meanwhile, the kicking force of left foot 36 into the ball 12 causes the single platform 11 to rotate in a clockwise direction 38 around a vertical axis of rotation 40'. Vertical axis of rotation 40' extends in a vertical direction perpendicular to the top side of single platform 11, defined by the longitudinal axis of connecting bolt 52 and passing up through contact point 40.

[0056] A static base of rotation is established between the stationary pivot pad base 18 and the supporting surface because the weight of the trainee on contact point 40 presses the pivot pad base 18 firmly against the supporting surface. Thus, the pivot pad 18 remains stationary and acts as a rotating means for platform 11, because single platform 11 is forced to rotate above pivot pad 18 via connecting bolt 52. Pivot pad base 18 acts as braking means for single platform 11, because tightening nut 59 against pivot pad base 18 reduces the relative rotational distance of single platform 11. Similarly, loosening the engagement of nut 59 against pivot pad base 18 can increase the rotational distance of platform 11.

[0057] The trainee standing on the single platform 11 rotates with the single platform 11 with the left foot 36 in engagement with the ball 12 until the platform 11 comes to a controlled stop. Before removing the left foot 36 from the ball 12, a mentor or coach may observe the motion of the body and kicking leg during the kicking motion, as well as the position of the left foot 36 on the soccer ball 12. The mentor or coach may then compare this observation to favorable kicking motions as taught by a training video or manual. The mentor may communicate observations of unfavorable kicking techniques to the trainee, so the trainee can adjust his or her kicking motion accordingly. The trainee may then repeat the kicking exercise with the left foot 36 until the trainee, mentor, or coach decides it is time to begin kicking with the right foot 35. When kicking with the right foot 35, the trainee plants the left foot 36 on left-side contact point 40, which is over the pivot pad 18 on the left side of single platform 11. When the trainee kicks the ball 12 with the right foot 35, the platform 11 rotates in a counter clockwise 37 direction in the same manner as described above.

[0058] FIG. 3 shows a front view and FIG. 4 shows a top view of another embodiment of a kick training device 10. In

this embodiment, the training device 10 has a centrally located pivot pad base 18 and has one soccer ball assembly 19 disposed on the top right side and a second ball assembly 19 disposed on top left side of single platform 11. To kick with the right foot, the trainee plants the left foot 36 on the centrally located contact point 40, which is disposed above the centrally located pivot pad base 18. The trainee then kicks the right-side ball 12 with the right foot 35, causing the platform 11 to rotate in a counter clockwise 37. As in the previous embodiment, a static base of rotation is established between the stationary pivot pad base 18 and the supporting surface because the weight of the trainee on contact point 40 presses the pivot pad base 18 firmly against the supporting surface. Meanwhile, the right foot's 35 kicking force applied to the ball 12 causes the single platform 11 to rotate in a counter-clockwise direction 37 around the vertical axis of rotation 40'. When a trainee wants to practice kicking with the left foot 36, the right foot 35 is planted on contact point 40 and the left-side ball 12 is kicked with left foot 36, causing the platform 11 to rotate in a clockwise 38 direction. In FIG. 4 the balls 12 are not shown, so the locations of felt pads 20 underneath the platform 11 are more easily observed.

[0059] FIG. 5 shows a side view of the trainee standing on the platform 11 of training device 10 and kicking the soccer ball 12. The trainee's leg is bent at the knee and the toe is pointed downwards so the laces 33 of the right foot 35 engage the soccer ball 12 at a midpoint between the top and bottom of the ball 12.

[0060] FIG. 6 is a front sectional view of yet another embodiment of training device 10. In this embodiment, the single platform 11 is replaced with a mini platform 39 and the pivot pad bases 18 of the first embodiment are replaced with one or more base and brake assemblies 41. A detailed sectional view of a base and brake assembly 41 can be seen in FIG. 8. A soccer ball assembly 19 is centrally mounted on the top side of mini platform 39, with two mini base and brake assemblies 41 moveably coupled inside two cavities 45 on the bottom right and left sides of mini platform 39. FIG. 7 shows a front sectional view of an alternative two-ball arrangement of the second embodiment of training device 10, this arrangement having two soccer ball assemblies 19 mounted to the right and left sides, respectively, of the top side of mini platform 39. In this two-ball arrangement, a centrally located base and brake assembly 41 is rotatably coupled to the mini platform 39 inside a centrally-positioned cavity 45 on the bottom side of mini platform 39.

[0061] Felt pads 20 are attached to the underside of mini platform 39, to prevent the mini platform 39 from marring the supporting surface when the platform 39 rotates after the ball 12 receives a kicking force. In this embodiment, the base and brake assemblies 41 replace the pivot pad bases 18 of the first embodiment in order to accommodate heavier people, such as trainees in grade school or middle school. The base and brake assemblies 41 act as an adjustable braking means to reduce the speed and rotational distance of mini-platform 39 after a kicking force is applied to the ball 12 by an older, stronger trainee.

[0062] FIG. 8 illustrates an enlarged and detailed cross section of the base and brake assembly 41, which is made up of a mini base assembly 60 and a mini brake assembly 46. The mini base assembly 60 is made up of a mini base 61, a stationary base slide 62 coupled to the top of mini base 61, and slide resistant pads 25 attached to the bottom of mini

base 61. The mini base assembly 60 and mini brake assembly 46 are preferably of a circular shape to facilitate rotation in a preferably circular cavity 45, but can take any shape to allow rotation within the cavity 45.

[0063] The slide resistant pads 25 engage the supporting surface, which supports the training device 10. The slide resistant pads 25 can be made of urethane or other suitable slide-resistant material. The stationary base slide 62 can be made of UHMW or any other suitable wear-resistant plastic. A plurality of holes 56 or recesses respectively accept a plurality of dowel pins 55 to connect a brake support 49 to mini base 61. The holes 56 are larger than the dowel pins 55 and are disposed on the underside of an upper radially-inward extending flange of mini base 61. A stationary brake pad 48 made of a wear-resistant urethane is attached to the upper side of brake support 49. A rotating brake pad 47 made of a wear-resistant acetal plastic is coupled to the bottom side of mini platform 39 directly above the stationary brake pad 48. The material used on stationary brake pad 48 and moving brake pad 49 could be made of other material which could extend the life of and interaction between the materials described above. Both the brake support 49 and stationary brake pad 48 are concentrically disposed on the interior of mini base 61 and stationary base slide 62, respectively.

[0064] The dowel pins 55 are fixedly set in and extend upwardly from the top side of a radially-outward extending lower flange of brake support 49. Alternatively, the dowel pins 55 could be replaced by projections integral with and extending upwardly from the radially-outward extending lower flange brake support 49. The position of dowel pins 55 and holes 56 could also be reversed, with the holes 56 in the radially-outward extending flange of brake support 49 and dowel pins 55 protruding from the bottom of the radially-inward extending flange of mini base 61. FIG. 9 shows a bottom view of a mini base 61 inside a cavity 45, illustrating the relative lateral relationship between pivot pads 25, mini base 61, and the holes 56 on the radially-inward extending flange of mini base 61.

[0065] When the mini base assembly 60 is inserted into cavity 45, the stationary base slide 62 contacts a rotating slide 63. The rotating slide 63 is made up of acetal or other suitable wear-resistant plastic or floor tile and is coupled to the bottom side of mini platform 39 at the top part of cavity 45. The rotating slide 63 is preferably of a circular shape like stationary base slide 62 and mini base 61, so the rotating slide 63, stationary slide 62, and base 61 form a concentric vertical stacking relationship in recess 45. When the ball 12 receives a kicking force, the mini platform 39 and rotating slide 63 rotate freely above the stationary slide 62 about vertical rotation axis 40', thus defining a rotational means for mini platform 39.

[0066] A flanged aligning bushing 51 is set within the mini platform 39 and extends downwards through holes in the moving brake pad 47, stationary brake pad 48, and brake support 49, all of which are aligned concentrically about rotation axis 40'. In this manner, the flanged aligning bushing 51 rotatably couples the mini brake assembly 46 to the mini platform 39. The head of the bolt 52 fits into a depression 54 in the flanged aligning bushing 51. The depression 54 prevents the bolt 52 from rotating within flanged aligning bushing 51. The bolt 52 extends downwardly through the center of flanged aligning bushing 51, passing through mini platform 39, mini brake assembly 46,

a thrust washer 58, and is secured with holding nut 59, thus vertically securing the mini base and brake assembly 41 (made up of mini base assembly 60 and mini brake assembly 46) to mini platform 39.

[0067] The inner perimeter of mini base assembly 60 is radially spaced from the outer perimeter of mini brake assembly 46 by a space 50, but dowel pins 55 extend into holes 56 to keep the brake support 49 engaged with mini base 61. Brake support 49 may be adjusted vertically up or down by tightening or loosening holding nut 49 to reduce or increase the rotational distance of mini platform 39, respectively, thus functioning as an adjustable braking means for mini platform 39. The holding nut 59, when tightened, forces brake support 49 in an upward direction to apply pressure between the stationary brake pad 48 and the rotating brake pad 47, which reduces the rotational distance of mini platform 39. Alternatively, the holding nut 59 may be loosened, allowing brake support 49 to move vertically downward, reducing the pressure between stationary brake pad 48 and rotating brake pad 47, thus increasing the rotational distance of mini platform 39.

[0068] The bottom sides of slide resistant pads 25 are vertically positioned slightly lower than the bottom sides of felt pads 20, so the weight of the trainee is carried by the slide resistant pads 25 instead of the felt pads 20. Alternatively, the bottom sides of felt pads 20 could be the same vertical distance below platform 39 as the bottom sides of pivot slide resistant pads 25, such that both the felt pads 20 and the slide resistant pads 25 are simultaneous flush in their engagement with the supporting surface. When a person or trainee plants a foot on a contact point 40 above the mini base assembly 60, the person's weight causes the slide resistant pads 25 to press down against the supporting surface, thus keeping the mini base assembly 60 fixedly engaged with the supporting surface when the mini-platform 39 is rotated. Referring back to FIG. 7, when the left foot 36 is planted on the contact point 40 on the left side of mini platform 39 and the ball 12 is kicked with the right foot 35, the mini platform 39 and trainee both rotate around the rotation axis 40' in a counter clockwise 37 direction until coming to a controlled stop. Moving brake pad 49 and moving cavity slide 63 both rotate with mini platform 39 above stationary brake pad 48 and stationary base slide 62, respectively. The rotational distance of mini platform 39, moving cavity slide 63, and moving brake pad 47 are determined by the tightness of holding nut 59, as described in the preceding paragraph. When the right foot 35 is planted on the contact point 40 on the right side of mini platform 39, the ball 12 is kicked with the left foot 36, causing the mini platform 39 to rotate in a clockwise 38 direction until coming to a controlled stop.

[0069] FIGS. 10-12 show another embodiment of the invention capable of being used on an eccentric, rough supporting surface, such as grass or concrete. FIG. 10 shows an enlarged cross section view of a flanged aligning bushing 51. FIGS. 11-12 show flanged aligning bushing 51 set in a rotating upper platform 68 and extending downwardly to and through a stationary base 67. Flanged aligning bushing 51 rotatably couples the upper platform 68 to stationary base 67. A connecting bolt 52 extends downwardly through the upper platform 68 and stationary base 67. The holding nut 59 is threaded on to the bottom of connecting bolt 52 against thrust washer 58, which is disposed between holding nut 59 and stationary base 67.

[0070] FIGS. 11-12 illustrate the portable training device 10 with a football 121 mounted on upper platform 68, which has a contoured shape. A preferably circular rotatable upper slide 115 made from mar resistant plastic such as acetal or nylon is coupled to the bottom side of upper platform 68. A stationary base assembly 66 is made up of stationary base 67 and a stationary (and preferably circular) lower slide 111. The lower slide 111 can be made from a wear-resistant plastic, such as UHMW or a smooth floor tile, and is attached to the top side of stationary base 67. Slide resistant pads 25 are attached to the bottom side of stationary base 67 to prevent the stationary base assembly 66 from moving and marring the supporting surface.

[0071] The stationary base assembly 66 supports an upper platform assembly 65. The upper platform assembly 65 is made up of upper platform 68, upper slide 115, a handle 122 for carrying the training device 10, and a football holder assembly 116. A football holder 118 is made up of a spacer 119, a protective pad 120 and a football 121. The spacer 119 may optionally be removed, so that the protective pad 118 is directed mounted to the football holder 118. As with the soccer ball 12, the football 121 may be any type of football, a portion of a football, or a kicking target capable of receiving a kicking force. In FIGS. 11 and 12, the football holder 118 is positioned on the right side of the platform so a person or trainee may plant the left foot on contact point 40 and practice kicking with the right foot 35. However, structure of the training device 10 in FIG. 12 could just as easily be symmetrically flipped, with the football holder 118 on the left side and the contact point 40 on the right side, to allow a trainee to practice kicking with the left foot 36.

[0072] As shown in FIG. 10, the rotatable upper slide 115 vertically engages stationary lower slide 111. When the football 121 is kicked with the trainee standing on top of the upper platform 68, the lower slide 111 (and stationary base 67) remains stationary while the upper slide 115 (and upper platform 68) rotates about rotation axis 40'. The sliding action of upper slide 115 on lower slide 111 constitutes a rotation means. Referring to FIG. 10, the holding nut 59 assist as a braking means, along with the friction created between slides 111, 115. Specifically, holding nut 59 may be loosened on connecting bolt 52 to decrease pressure between the two slides 111, 115 and thereby increase the speed and rotational distance of upper platform 68. Alternatively, holding nut 59 may be tightened on connecting bolt 52 to increase the pressure between the two slides 111, 115 and thereby decrease the speed and rotational distance of upper platform 68.

[0073] A dirt shield 107 is mounted to and extends upwardly from the perimeter of stationary base 67. The dirt shield 107 extends around the entire perimeter of stationary base 67 and extends upwardly to engage the bottom side of the perimeter of upper slide 115. The dirt shield 107 prevents foreign materials, such as dirt, dust, and other debris from entering into the nominal vertical space between upper slide 115 and lower slide 111. As one skilled in the art will appreciate, the dirt shield 107 can be modified to be used on any of the embodiments described herein.

[0074] A support cord assembly 171, as shown in FIG. 12, is used by trainees to stabilize their stance on training device 10 while kicking a football 121. The support cord assembly 171 has a handle 175 connected to a flexible support cord or rope 174, which engages a hook 177 connected to the football holder 118. The cord 174 is also tied to a support

tube 172, in this example disposed on the top front left side of upper platform 68. Lateral projections 176 on vertical support tube 172 extend in a direction away from the football 121. The cord 174 is wrapped around the support tube 172 and disposed beneath projections 174, so the projections 176 can prevent the cord 174 from slipping up and over the top of support tube 172 when the person is holding the handle 175. When kicking with the right foot 35, the trainee holds the handle 175 with a left hand to stabilize the trainee while kicking the football 121 or soccer ball 12. The position of the handle 175 in relation to the trainee's hand may be adjusted by wrapping the cord 174 around support tube 172. Wrapping the cord 174 around support tube 172 more times creates a relatively shorter support cord 174, while wrapping the cord 174 around the support tube 172 fewer times creates a relatively longer support cord 174.

[0075] FIGS. 13, 14, 14A, 14B, and 14C illustrate another embodiment of the kicking device 10, which can be used on an indoor or outdoor supporting surface. In this embodiment, two soccer ball assemblies 19 are mounted to a contoured upper platform 68, which is supported by a stationary base assembly 138. Stationary base assembly 138 is made up of stationary base 139, counter bores 140, and mini brake pads 142. Each soccer ball assembly 19 is made up of a ball holder 21, a spacer 23, a protective pad 26, and a soccer ball 12. The spacer 23 may optionally be removed so that protective pad 26 can be mounted directly to ball holder 21. As in the previous embodiments, soccer ball 12 may be a soccer ball, a portion of a soccer ball or a target capable of receiving a kicking force.

[0076] A plurality of counter bores or recesses 140 on the top side of the stationary base 139 hold a plurality of brake pads or mini brake pads 142 in place on top of the stationary base 139. A plurality of slide resistant pads 25 on the bottom side of stationary base 139 are engaged with the supporting surface when a person stands on the upper platform 68, thus preventing damage to supporting surfaces made of wood or tile. An upper slide 136 is mounted to the underside of the upper platform 68 and is able to slide over the mini brake pads 142. A flanged aligning bushing (not shown) is set in upper platform 68 at the contact point 40, and extends downwardly to engage the stationary base assembly 138, thus rotatably coupling upper platform 68 to stationary base assembly 138.

[0077] A connecting bolt 52 extends downwardly through flanged aligning bushing 51, as described in previous embodiments, and has a holding nut 59 threaded onto its bottom end, thereby joining the upper platform 68 and the stationary base assembly 138. The resulting pressure between stationary base 139 and upper slide 136 prevents the loose mini brake pads 142 from moving out of the counterbores 140 on the stationary base 139. Instead of sitting freely in counterbores 140, the mini brake pads 142 could be fixedly coupled to stationary base 139 inside the counterbores 140. A trainee standing on the upper platform 68 on the contact point 40 creates pressure between the upper slide 136 and mini brake pads 142. Thus, when the soccer ball 12 is kicked, the upper platform rotates 68 about rotation axis 40' and friction between the rotating upper slide 136 and the mini brake pads 142 functions as a braking means for platform 68. As one of skill in the art will appreciate, to reduce or increase the rotational distance of platform 68, additional counter bores and mini brake pads 142 may be respectively added to or removed from the top

of stationary base 139. Similarly, to reduce or increase the rotational distance of platform 68, the size of mini brake pads 142 may be respectively increased or decreased. A support bracket 146 for the trainee to hold is mounted to the top side of upper platform 68, between the soccer balls 12, as an aid to stabilize the trainee while kicking.

[0078] In the embodiment shown in FIGS. 13, 14, 14A, 14B, and 14C, as in previous embodiments, a holding nut 59 may assist as a braking means, along with the friction created between upper slide 136 and mini brake pads 142. Specifically, holding nut 59 may be loosened on connecting bolt 52 to decrease pressure between the upper slide 136 and mini brake pads 142 and thereby increase the speed and rotational distance of upper platform 68. Alternatively, holding nut 59 may be tightened on connecting bolt 52 to increase the pressure between the upper slide 136 and mini brake pads 142 and thereby decrease the speed and rotational distance of upper platform 68.

[0079] FIG. 15 shows another embodiment of training device 10 with a turntable assembly 69 disposed between the stationary base assembly 66 and an upper platform assembly 65. FIG. 16 shows a bottom view of a brake assembly 104, a brake drum 82, the turntable assembly 69 and the upper platform 68 (shown in dotted lines). For purposes of clarity, the stationary base 67 has not been shown in FIG. 16. The turntable assembly 69 has a turntable base 72 coupled to the top side of stationary base 67 via screws 76 and a turntable top 74 coupled to the bottom side of rotatable upper platform 68 via screws 78. A plurality of ball bearings 70 fill a circular groove 100 formed between the rotating turntable top 74 and turntable base 72 on an outer perimeter of turntable assembly 69. A curving flange 102 of stationary turntable base 72 extends upwardly and then radially inwardly to wrap over the outer edge of rotating upper turntable 74, thus securing ball bearings 70 in the groove 100 and preventing them from displacing radially outward. A pair of vertical indents on rotating upper turntable 74 and stationary turntable base 72 extend vertically downwards and upwards, respectively, adjacent groove 100, thus preventing bearings 70 from displacing radially inward. With this arrangement, bearings 70 are only permitted to roll within groove 100. The rotating turntable top 74 and the stationary turntable base 72 hold the ball bearings 70 in place on the outer perimeter, such that the turntable top 74 rotates freely by riding on the ball bearings 70 in the groove 100 over the stationary turntable base 72.

[0080] A flanged aligning bushing 51 is set in the upper platform 68 and extends downwardly to stationary base 67, thereby rotationally coupling the upper platform 68 to stationary base 67. As described in previous embodiments, a connecting bolt 52 is inserted into the depression 54 disposed in the top of the flanged aligning bushing 51. The depression 54 has a nominally wider diameter than the head of the bolt 52, thus preventing the bolt 52 from rotating in the depression 54. A holding nut 59 is screwed onto connecting bolt 52 with a thrust washer 58 disposed in between holding nut 59 and stationary base 67, thereby vertically securing the stationary base assembly 66 to upper platform assembly 65. A dirt shield 107 is disposed on the bottom side and outer perimeter of rotating upper platform 68. The dirt shield 107 extends downwardly so as to block the top outer edge of the brake drum 82, thereby preventing foreign material from entering any exposed area of the turntable assembly 69.

[0081] The brake assembly, or drum brake assembly 104 has a brake bracket 86, a brake lining 84, at least two eye bolts 88, tension springs 90, spring posts 92 and wing nuts 94. The brake assembly 104 is coupled to the bottom side of and rotates with the upper platform 68. The brake assembly 104 is disposed vertically between the stationary base 67 and the upper platform 68. The brake assembly 104 acts as a braking means to adjust the rotational distance of the upper platform 68 when a ball 12 is kicked. The brake drum 82 is coupled to and extends upwardly from the top of stationary base assembly 67, thus preventing brake drum 82 from rotating. A wear resistant ring 83, preferably made of slideable plastic, is coupled to the bottom side of upper platform 68. The ring 83 extends around the bottom side of the upper platform 68 and is disposed over the top surface of brake drum 82, maintaining a nominal clearance therebetween. However, to prevent excessive pressure and wear between the ball bearings 70 and groove 100 in turntable assembly 69, the ring 83 and brake drum 82 become engaged when the weight of the trainee's foot strays too far from the contact point 40.

[0082] The brake bracket 86 is coupled to the bottom side of upper platform 68 and extends downwardly, positioned radially outside of brake drum 82. The brake lining 84 is coupled to an inner side of the brake bracket 86 and has a vertical inner surface 106 that is engaged against an outer circumferential edge of the brake drum 82. The two eye bolts 88 are set through two cylindrical recesses on opposite ends of brake bracket 86 in a plane roughly parallel to upper platform 68. Each eye bolt 88 has an eye on an inner side of brake bracket 86 that holds a first end of each tension spring 90. The spring posts 92 are mounted to the bottom side of upper platform 68 and extend vertically downwardly to couple an opposite end of spring 90. Each eye bolt 88 has a wing nut 94 threaded on to the stem of the bolt that extends outside of brake bracket 86 on an outer side of the brake bracket.

[0083] Thus, in cooperation with wing nuts 94 and eye bolts 88, tension springs 90 bias brake bracket 86 in an inner direction towards brake drum 82, such that the vertical inner surface 106 of brake lining 84 is in forced engagement with the outer circumferential edge of brake drum 82. Pressure between brake lining 84 and brake drum 82 can be increased or decreased by tightening or loosening the wing nuts 94. A pair of holding blocks 89 are coupled to the opposite ends of brake bracket 106 to prevent the brake assembly 104 from moving in a direction perpendicular to the stem of eye bolts 88. In an alternative arrangement, the brake assembly 104 could be coupled to the top side of stationary base 67 and the brake drum 82 could be coupled to the bottom side of upper platform 68. With this arrangement, the brake drum 82 would rotate with upper platform 68 against brake assembly 104 fixedly mounted on stationary base 67.

[0084] FIG. 17 illustrates a first embodiment of a quick release ball holder assembly 158 and FIG. 18 shows a side sectional view of the assembly 158. A quick release bracket 160 is mounted to the top side of an upper platform 157 and has a rectangular slot 162 defining a recess extending from a first opening to an opposite second opening of the quick release bracket 160. A lower ledge of a removable ball holder 159 extends in a direction perpendicular to an upright vertical portion of ball holder 159, such that removable ball holder 159 forms an "L" shape. The lower ledge is configured to slide into the first opening on a front side of slot 162

and slide all the way through the recess and past the opposite second opening on a rear side of the quick release bracket 160.

[0085] A pull pin 161 is inserted through holes extending all the way through the top side of quick release bracket 160 and the lower ledge of removable ball holder 159. The holes of quick release bracket 160 and lower ledge of removable ball holder 159 are configured to be in concentric alignment when the lower ledge of removable ball holder 159 has been fully inserted into slot 162. The bottom of pull pin 161 extends down into a vertical recess on the top side of upper platform 157. The recess is configured to be in vertical alignment with the concentrically aligned holes of quick release bracket 160 and lower ledge of removable ball holder 159. The recess has nominally wider lateral dimensions than the concentrically aligned holes of removable ball holder 159 and quick release bracket 160. A spring ball 163 is set in and biased radially outwards from the bottom of the vertical pull pin 161. Once pull pin 161 has been fully inserted, such that the bottom side of pull pin 161 is set in the recess on the top side of upper platform 157, the spring ball 163 protrudes against a lateral side of the recess, thus preventing the pull pin 161 from slipping vertically upwards and out of the recess without a person's assistance.

[0086] To remove the removable ball holder 159, a person must first pull the pull pin 161 from the holes in bracket 160 and removable ball holder 159. Once a person has removed the pin 161, the lower ledge of removable ball holder 159 may be slid out of the rectangular slot 162 in a direction parallel to upper platform 157. Thus, once a trainee has finished kicking with one foot, the trainee can remove the pull pin 161 and removable ball holder 159 from a first side of the upper platform 157 and insert the holder 159 and pin 161 into a bracket 160 on the opposite side of platform 157, permitting the trainee to quickly switch from practicing with one foot to the other. Other configurations of a quick release bracket 160 and removable ball holder 159 may be made of metal, plastic or urethane. Thus, instead of a training device 10 with two soccer ball holder assemblies 19 fixedly mounted to the upper platform 11 on first and second opposite sides as shown in the embodiment of FIG. 3, the training device 10 may employ two quick release brackets 160 in conjunction with one removable ball holder 159, as shown in FIGS. 20 and 21.

[0087] FIG. 19 shows another embodiment of a moveable ball holder 164 coupled to an upper platform 165. The moveable ball holder 164 holds a soccer ball (not shown) and is placed into a two-sided or three-sided slot 170 in the upper platform 165. A connecting bolt 166 is inserted through a cylindrical hole extending all the way through the lower ledge of the moveable ball holder 164 and a hole extending all the way through upper platform 165. A nut 167 is welded to a thrust washer 168 which is connected to the bottom side of upper platform 165 in a cavity 169. The connecting bolt 166 is inserted downwardly through the hole in the moveable ball holder 164 and the hole in upper platform 165 and threaded into nut 167 to secure the moveable ball holder 164 to the upper platform 165. To move the moveable ball holder 164 from a first side of the upper platform 165 to an opposite second side, the connecting bolt 166 and the moveable ball holder 164 are removed from the first side and the above-described process for mounting the moveable ball holder 164 is repeated on the second side. This removable ball holder structure and

mounting method can be used in conjunction with any suitable platform described in this application. The quick release bracket 160 and the quick release ball holder assembly 159, as well as the moveable ball holder 164 can be used to mount soccer balls, footballs, or targets to any of the single platform 11, upper platform 68, mini platform 39, and upper platform 165, in any of the suitable embodiments of training device 10 described herein.

[0088] FIG. 22 shows another embodiment of a support structure which a person or trainee can use to stabilize themself on a single platform 11 as described in FIGS. 1 and 2. A support cord assembly 171 has the structure as described above and shown in FIG. 12.

[0089] A support bar 173 may fit vertically inside a hollow cylindrical interior of vertical support tube 172 and is held in place by rubber grommets positioned at the top of the support tube 172. When practicing kicking with the right foot 35, the trainee holds onto the support bar 173 mounted in the left-side support tube 172 with the left hand. The support bar 173 can then be moved to the right-side support tube 172, at which point the trainee may proceed to kick with the left foot 36 as described above. The support bar 173, support tube 172, and support cord assembly 171 are adaptable to be used in all configurations of the training device 10 discussed herein.

[0090] FIG. 23 shows a side view of a band brake assembly 150 which may be used as another braking means to reduce or increase the rotational distance of the upper platform 68. Band brake assembly 150 is made of band brake 151, holding block 152, drum brake 155, stationary block 154, adjusting bolt 153, and wing nut 94. FIG. 24 shows a bottom view of the band brake assembly 150 with the stationary base 67 removed for clarity. Also not shown in FIG. 24 are the connecting bolt 52 and the flanged aligning bearing 51. The band brake assembly 150 has a band brake 151 wrapping around the outer circumferential edge of a circular brake drum 155, which is coupled to the top side of stationary base 67. The two opposite ends of the band brake 151 are connected to a holding block 152. The stationary block 154 is coupled to the bottom side of upper platform 168 and extends in a downward direction. As shown in FIG. 23, the adjusting bolt 153 extends horizontally through the stationary block 154 and the holding block 152. A wing nut 94 is assembled to bolt 153 on the outside edge of stationary block 154. When the wing nut 94 is tightened, band brake 151 is tightened around the brake drum 155. This tightening creates pressure and additional friction between band brake 151 and brake drum 155, thus reducing the rotational distance and speed which the upper platform 68 rotates. Alternatively, the stationary block 154 could be coupled to the top side of stationary base 67 and the brake drum 155 could be attached to the underside of upper platform 68. The band brake assembly 150 can be modified to use on any embodiment of the device described herein in which an upper platform rotates over a stationary base.

[0091] As one of skill in the art will appreciate, the rotational distance of any of the rotating platforms described herein is relatively determined by the magnitude of the braking means, the kicking force applied to the ball or kicking target, and the weight of the person or trainee standing on the rotating platform. A relatively lesser braking magnitude, a relatively lighter person, and a relatively stronger kicking force applied to the kicking target will all promote a relatively greater rotation distance. Alternatively,

a relatively greater braking magnitude, a relatively heavier person, and a relatively lighter kicking force applied to the kicking target will all promote a relatively shorter rotation distance.

[0092] Before the trainee practices his or her first kick on the kicking target, it is advisable that braking means be adjusted to relatively increase the magnitude of braking. Once the trainee has practiced the first kick against the ball or kicking target, the trainee may then adjust the braking means to increase or decrease the braking magnitude, to respectively decrease or increase the rotational distance of the platform, according to his or her preference. This kick-and-adjust method may be repeated as many times as necessary until the trainee achieves what is an ideal individualized adjustable braking magnitude for that individual trainee. The ideal braking magnitude may differ from individual to individual. Whatever each individual prefers, all the braking means described herein may be adjusted to a preferred braking magnitude so as to allow the platform to spin in a preferred rotational range about the rotation axis.

[0093] It is advisable that when the person or trainee steps onto the rotating platform for the first time, the non-plant (kicking) foot is kept on the ground while the plant foot is firmly placed on the contact point. If the device employs one or more of the stabilizing means discussed herein, it is advisable that the person holds on to the stabilizing means while stepping on with the plant foot. Because the person or trainee may not be aware of the training device's pre-set braking magnitude, as set by the previous person using the device, holding the stabilizing device and keeping the non-plant foot on the ground prevents the person from accidentally slipping off a device which has a very low braking magnitude. Once the person is able to safely step on the device and practice the first kick, the person can then utilize the kick-and-adjust method described in the previous paragraph to adjust the braking magnitude to his or her liking.

[0094] It is further advisable to adjust the braking means to achieve a high enough braking magnitude that just prior to the moment when the person applies the kicking force to the ball or kicking target on the platform, the braking means prevents or strongly limits the rotation of the platform. Thus, while the person is drawing back their leg just prior to moving the leg forward to apply the kicking force, the braking means inhibits the platform from rotating. If the braking means did not prevent the platform from rotating prior to the kick, the motion of drawing the leg back may cause the platform to rotate enough that the person would be put off balance and be unable to complete the kick. Therefore, the braking means must hold the platform stationary enough that the only force sufficient to rotate the platform is the kicking force applied by the person or trainee's foot to the kicking target. Adjusting the braking means to such a braking magnitude will also assist in holding the platform steady as a person steps onto it for the first time, as discussed in the preceding paragraph.

[0095] The position of the kicker's leg during the swing forward and the position of the kicker's foot on the ball after the kick can be compared with desirable kicking motions shown on the instructional DVD. The instructor may then instruct the trainee on how to adjust the kicking motion. The heavier embodiments of the training device, which may be used by older players who are soccer or football kickers, is portable with a handle for carrying and can be used indoors or outdoors on a level firm surface.

[0096] Soccer players who are proficient at kicking with one leg and have a limited ability to kick with the other leg can use the training device to improve the kicking techniques of the limited leg. The quick, repetitive kicking action permitted by the training device, allows a trainer to practice many more kicks in a period of time, because the trainee does not have to spend any time repetitively chasing and retrieving a kicked soccer ball. This leads to a much more efficient practice and can result in shorter practice periods. Along with the ability of the kicker to view the placement of the kicking foot on the ball after each kick, the device is an ideal training tool to improve the strength, muscle memory and kicking skills of both feet in the shortest time possible.

What is claimed is:

1. A training device for a person to practice kicking, the training device comprising:

- a platform having a planar top surface configured to support a person on a top side of the platform, wherein the platform is configured to be supported on a supporting surface disposed below the platform;
- a stationary base disposed below the platform and above the supporting surface and configured to remain stationary against the supporting surface;
- a fastener rotatably coupling the platform and the stationary base;
- a kicking target coupled to the platform and disposed on the top side of the platform;
- a rotation axis extending perpendicular to the planar top surface of the platform, wherein the rotation axis is spaced a distance from the kicking target;
- a means for rotating the platform about the rotation axis when the person applies a kicking force to the kicking target whereby the platform and person supported by the platform are rotated by the rotating means about the rotation axis; and
- a means for braking the rotation of the platform about the rotation axis.

2. The training device of claim 1, wherein the rotating means includes at least one of the fastener and the stationary base, an upper slide rotatable above a stationary lower slide, an upper slide rotatable on a plurality of brake pads, or a turntable assembly.

3. The training device of claim 2, wherein the rotating means includes the fastener and the stationary base, the stationary base coupled to a bottom side of the platform, the fastener aligned with the rotation axis, such that when the person applies the kicking force to the kicking target, the platform rotates about the rotation axis relative to the stationary base and the supporting surface.

4. The training device of claim 2, wherein the rotating means includes the upper slide rotatable above the stationary lower slide, the upper slide coupled to a bottom side of the platform, the lower slide coupled to a top side of the stationary base such that when the person applies the kicking force to the kicking target, the upper slide rotates with the platform about the rotation axis relative to the lower slide and the stationary base.

5. The training device of claim 2, wherein the rotating means includes the upper slide rotatable on the plurality of brake pads, the upper slide being coupled to a bottom side of the platform, the plurality of brake pads disposed on a top side of the stationary base such that when the person applies

the kicking force to the kicking target, the platform and the upper slide slideably rotate on the plurality of brake pads about the rotation axis.

6. The training device of claim 2, wherein the rotating means includes the turntable assembly having a turntable base coupled to a top side of the stationary base, an upper turntable coupled to a bottom side of the platform, a circular groove defined between the turntable base and the upper turntable, and a plurality of ball bearings disposed within the groove such that when the person applies the kicking force to the kicking target, the ball bearings roll within the groove about the rotation axis and the platform and the upper turntable rotate about the rotation axis relative to the turntable base and the stationary base.

7. The training device of claim 1, wherein the braking means includes at least one of the fastener and the stationary base, a base and brake assembly, a drum brake assembly, or a band brake assembly.

8. The training device of claim 7, wherein the braking means includes the fastener and the stationary base, the stationary base coupled to a bottom side of the platform and the fastener aligned with the rotation axis, whereby tightening of the fastener increases a magnitude of braking.

9. The training device of claim 7, wherein the braking means includes the base and brake assembly having a brake support coupled to the stationary base, a moving brake pad coupled to the platform and disposed on a bottom side of the platform, a stationary brake pad coupled to the brake support and disposed on a top side of the brake support, and wherein the fastener is aligned with the rotation axis and rotatably couples the moving brake pad with the stationary brake pad and the brake support, whereby tightening of the fastener increases a magnitude of braking.

10. The training device of claim 7, wherein the braking means includes the drum brake assembly having a brake bracket coupled to the platform and disposed on the bottom side of the platform, a brake lining coupled to the brake bracket, and a brake drum coupled to the stationary base and disposed on a top side of the stationary base such that the brake lining adjustably engages the brake drum.

11. The training device of claim 7, wherein the braking means includes a band brake assembly having a brake drum coupled to a top side of stationary base, and a band brake wrapped around a circumference of the brake drum wherein tightening the band brake around the brake drum increases a magnitude of braking.

12. The training device of claim 1, further comprising at least one additional kicking target coupled to the platform and disposed on the top side of the platform.

13. The training device of claim 1, wherein the platform includes a center portion and two side portions flanking the center portion, and wherein the kicking target is disposed on one of the side portions.

14. The training device of claim 1, wherein the platform includes a center portion and two side portions flanking the center portion, and wherein the kicking target is disposed in the center portion.

15. The training device of claim 1, wherein the rotation axis is a first rotation axis, and wherein the training device further comprises a second rotation axis, wherein the kicking target is positioned between the first and second rotation axes.

16. The training device of claim 1, further comprising a means for stabilizing the person when the person applies a kicking force to the kicking target, wherein the stabilizing means includes at least one of a support bracket, a support tube, or a support cord.

17. The training device of claim 1, further comprising a removable target holder coupled to the kicking target, and a means for removably securing the kicking target holder to the platform.

18. The training device of claim 17, wherein the means for removably securing the kicking target holder includes at least one of a pull pin or a connecting bolt.

19. The training device of claim 1, further comprising a low-friction pad coupled to the platform and disposed on a bottom side of the platform.

20. A method of practicing kicking, the method comprising:

- supporting a platform on a supporting surface;
- supporting a person on a top surface of the platform;
- planting a foot of the person on a contact point of the platform;
- applying a kicking force with a non-planted foot of the person to a kicking target coupled to the platform and disposed on the top side of the platform;
- rotating with the kicking force the platform and person about a rotation axis passing through the contact point; and
- braking the rotation of the platform about the rotation axis.

21. The method of claim 20, further comprising: maintaining the non-planted foot in contact with the kicking target throughout the rotation of the platform.

22. The method of claim 21, further comprising: braking the rotation of the platform about the rotational axis prior to applying the kicking force to the kicking target.

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