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(54) **GOLF PUTTER TRAINING DEVICE**

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(57) **ABSTRACT**

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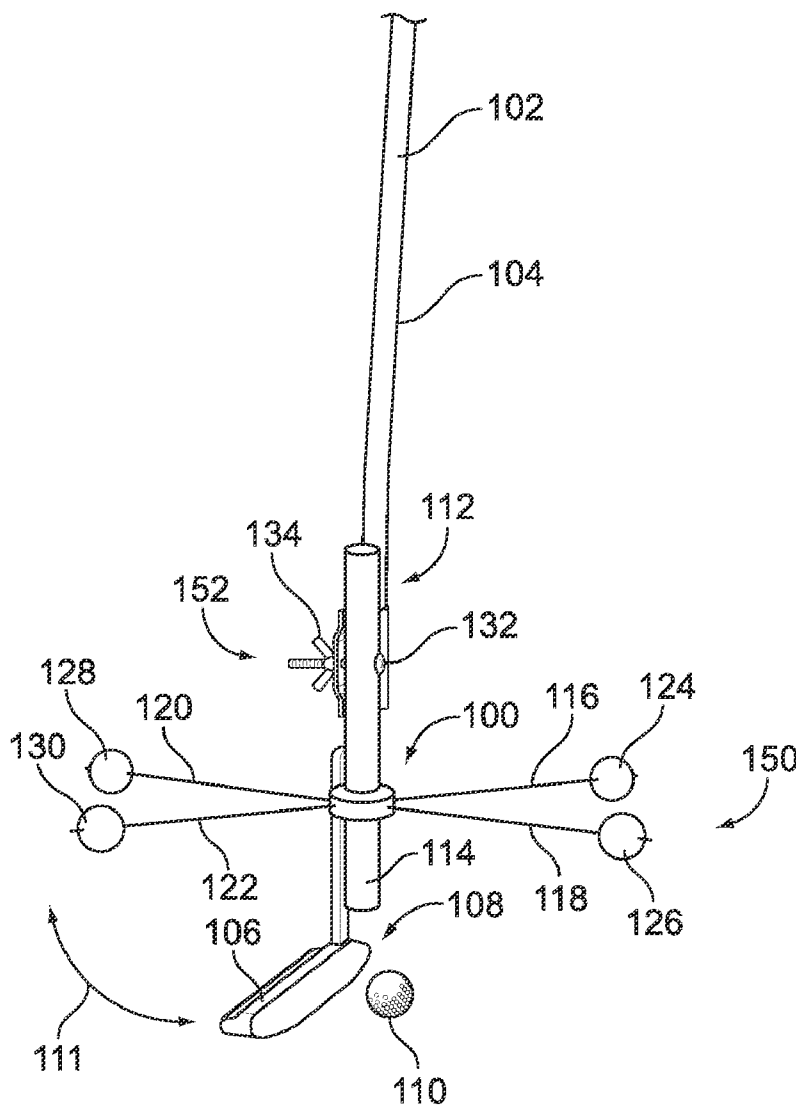
A golf putter training device is described. The training device includes a bracket having a first end configured to be attached to the putter shaft and a second end connected to a support shaft, a first visual guide connected to the support shaft and extending in a direction away from the bracket first end and at an angle to the plane formed by the putter shaft and the putter head and on a first side of the plane, and a second visual guide connected to the support shaft and extending in a direction away from the bracket first end and at an angle to the plane formed by the putter shaft and the putter head and on the second side of the plane. In another embodiment, the training device includes a third and fourth visual guide. In yet another embodiment, the training device includes visual indicators.

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Related U.S. Application Data

(60) Provisional application No. 61/081,422, filed on Jul. 17, 2008.



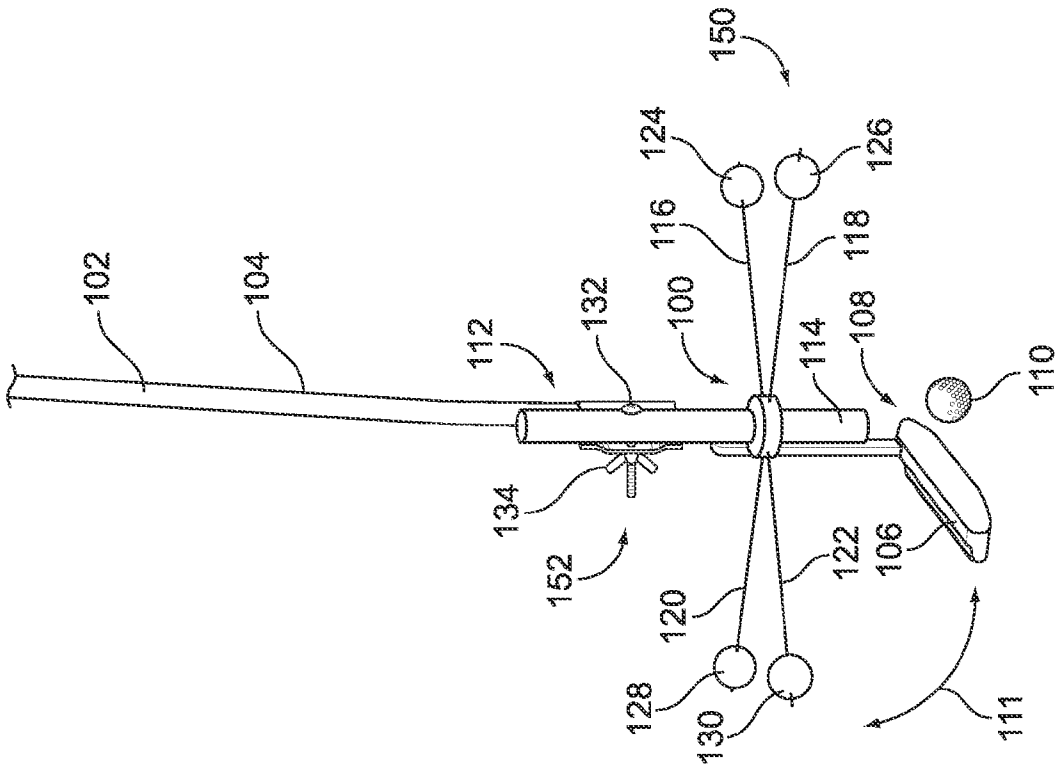


FIG. 1

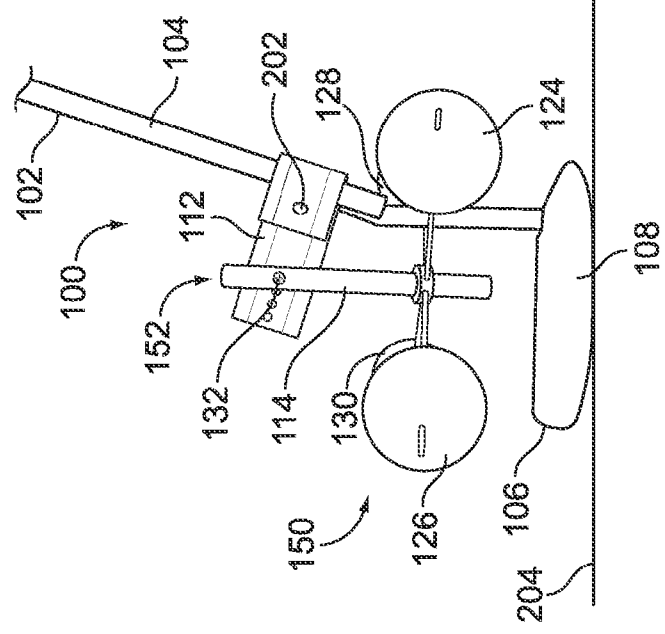


FIG. 2

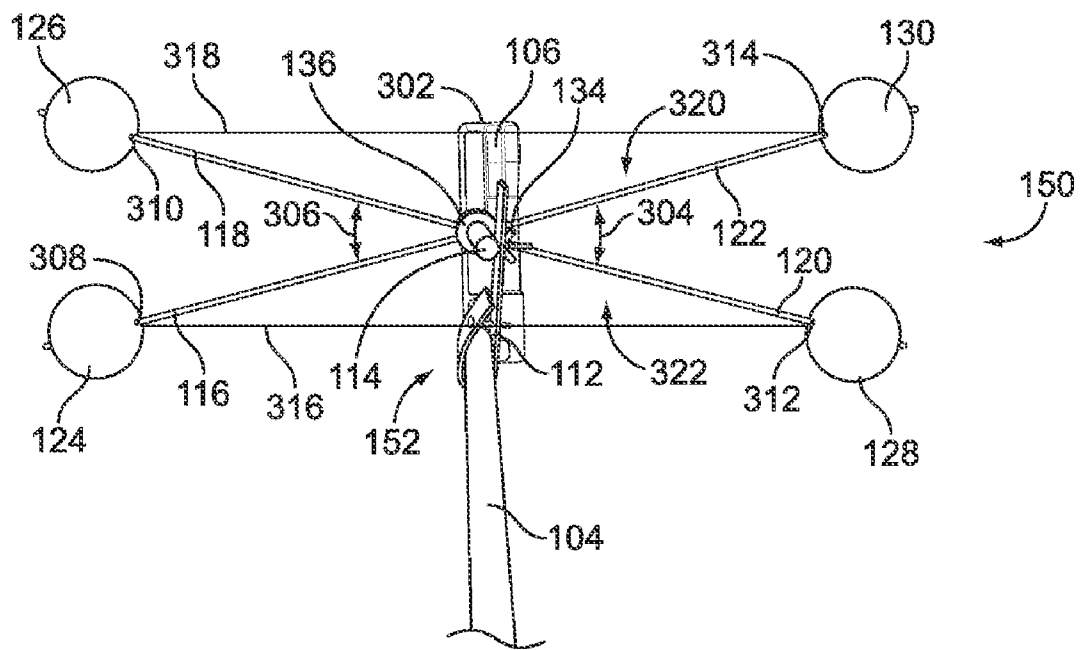


FIG. 3

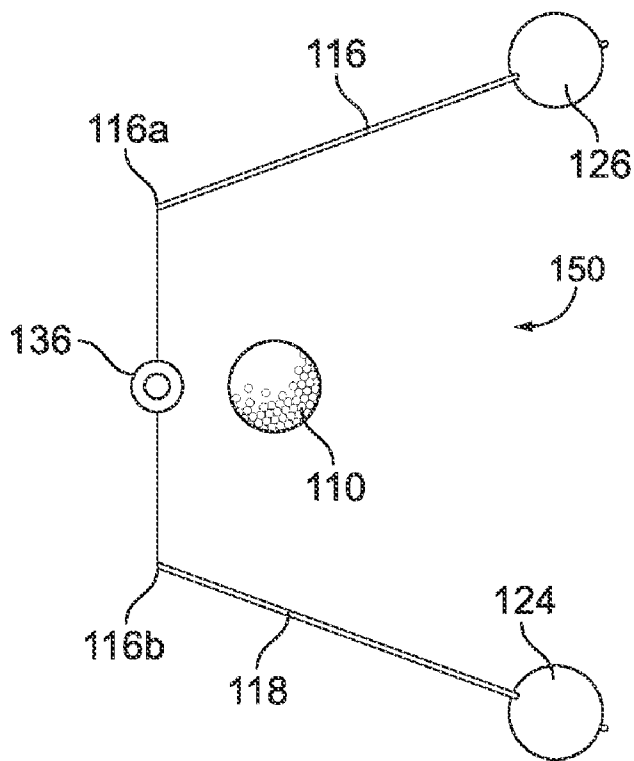


FIG. 4

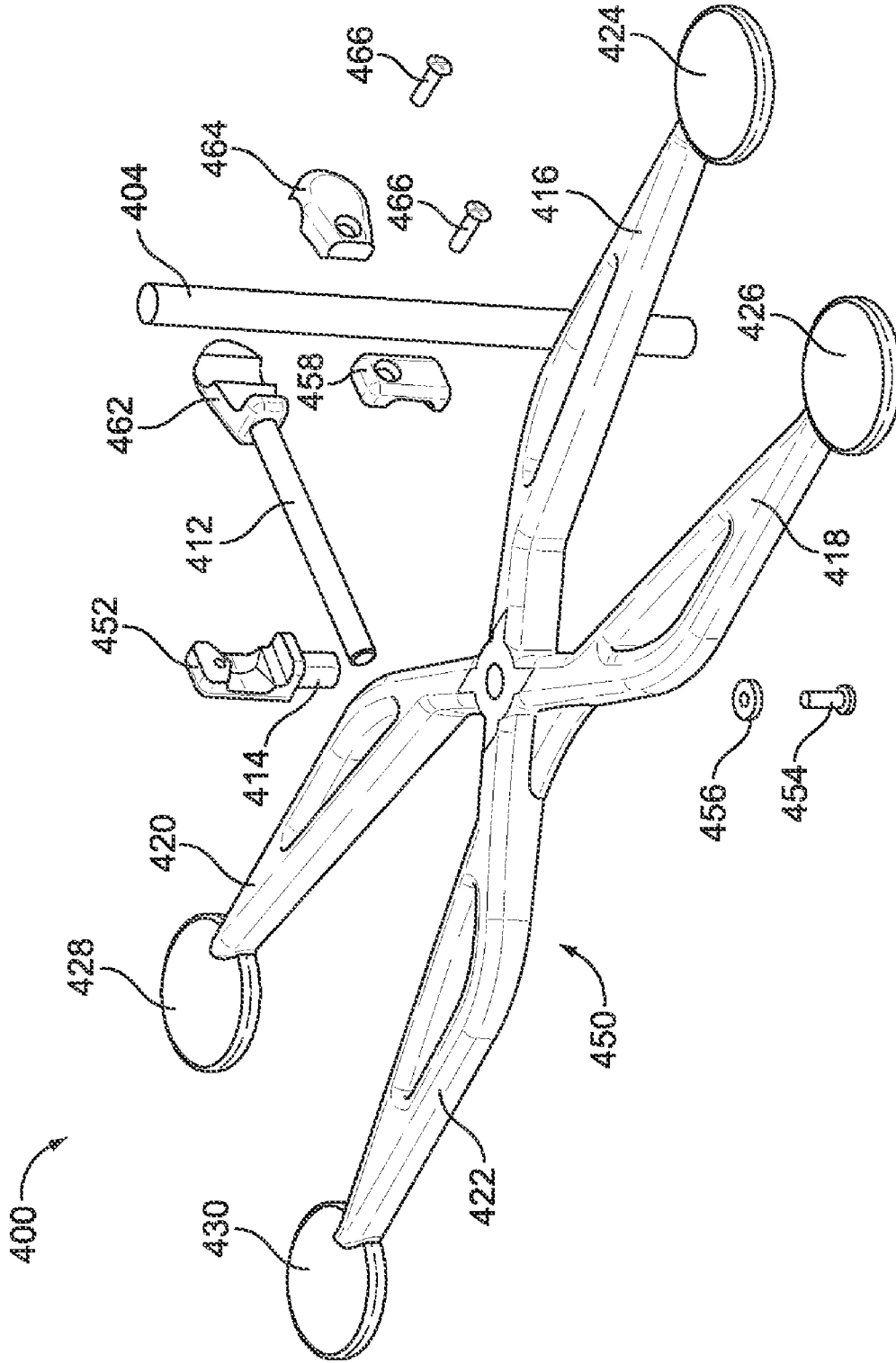


FIG. 5

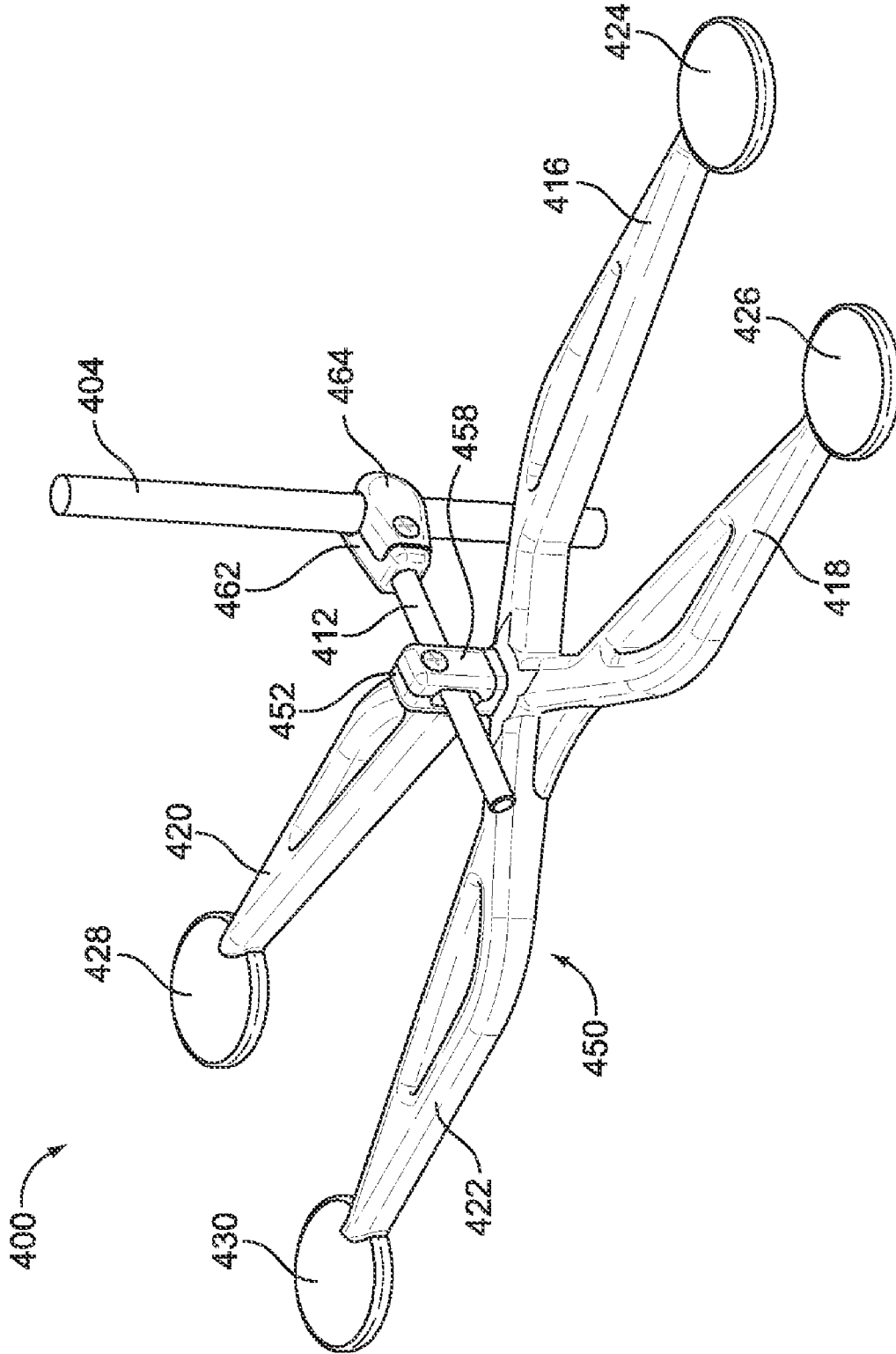


FIG. 6

GOLF PUTTER TRAINING DEVICE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority from U.S. Provisional Patent Application No. 61/081,422, filed Jul. 17, 2008, the disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] The present disclosure generally relates to golf and more particularly to a golf putter training device.

[0003] As great golfers, and even the not so great golfers, know, the game of golf involves hitting a golf ball with various golf clubs from different distances from a desired target, i.e., the hole or cup. Part of the game of golf, for example, involves driving the ball down the range. Ideally, a golfer will get the ball on to what is commonly referred to as the green, an area of short grass within which the cup lies, the ultimate goal into which a golfer wishes to place the ball. On the green, golfers use a golf putter to putt the golf ball into the hole. While putting a golf ball may appear simple to an outside observer, especially when done by pros on television, it requires great skill, and big championships or rivalries amongst friends may be won or lost based on one's ability to putt a golf ball. As such, professional golfers and amateur golfers alike have great need to fine tune and develop their golf putting skills.

[0004] Although putting may appear simple, a great deal of skill is required to be a great golf putter. For example, different landscapes may require a ball to be putted differently. Reading the landscape is a skill that may be acquired over time with great practice to learn how different slopes, different grass types, and other factors affect a ball's ability and likelihood to roll in certain directions on a given green. Although reading the landscape is one critical skill involved in golfing, the ability for a golfer to swing a golf putter is also critical. If a golfer can read the landscape perfectly, but cannot accurately swing the golf putter in order to cause a golf ball to go in a given direction with a given speed, the golfer will most likely not be a great player.

[0005] As with any acquired skill, practice makes perfect. In the case of golf putting, one of the benefits gained by practicing is learning what it feels like to swing a golf putter as desired. In other words, a golfer is able to develop a "muscle memory" of what it feels like to swing a golf putter to cause a golf ball to go a desired direction and a desired speed. This muscle memory may develop over time by repetitive practice swings. A golfer may simply practice over and over, time and time again, in order to develop a muscle memory. However, repetitive practice swings may not be enough. A golf putter training device may help a golfer both correctly and more quickly develop a good golf putter swing.

BRIEF SUMMARY OF THE INVENTION

[0006] A golf putter training device comprises a bracket having a first end configured to be attached to the putter shaft and a second end connected to a support shaft, a first visual guide connected to the support shaft and extending in a direction away from the bracket first end and at an angle to the plane formed by the putter shaft and the putter head and on a first side of the plane, and a second visual guide connected to the support shaft and extending in a direction away from the bracket first end and at an angle to the plane formed by the

putter shaft and the putter head and on the second side of the plane. In another embodiment, the training device includes a third and fourth visual guide. In yet another embodiment, the training device includes visual indicators.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0007] Certain embodiments are shown in the drawings. However, it is understood that the present disclosure is not limited to the arrangements and instrumentality shown in the attached drawings, wherein:

[0008] FIG. 1 is a front perspective view of an example of a golf putter training device attached to a golf putter;

[0009] FIG. 2 is a side view of the golf putter training device shown in FIG. 1;

[0010] FIG. 3 is a top view of the golf putter training device shown in FIG. 1;

[0011] FIG. 4 is a top view of a portion of another example of visual guides on a golf putter training device;

[0012] FIG. 5 is an exploded view of another embodiment of the invention.

[0013] FIG. 6 is a perspective view of the embodiment of FIG. 5.

DETAILED DESCRIPTION OF THE INVENTION

[0014] For the purposes of promoting and understanding the principles disclosed herein, references are now made to the preferred embodiments illustrated in the drawings and specific language is used to describe the same. It is nevertheless understood that no limitation of the scope of the disclosure is thereby intended. Such alterations and further modifications in the illustrated device and such further applications of the principles disclosed as illustrated herein are contemplated as would normally occur to one skilled in the art to which this disclosure relates.

[0015] FIG. 1 shows a front view of a golf putter training device 100 attached to a golf putter 102. Golf putter 102 may be any golf putter and includes, among other things, a shaft 104 (which is only partially shown and otherwise conventional in construction) and a putting head 106, which contains a putting surface 108. As shown in FIG. 1, the putting surface 108 is set in close proximity to a golf ball 110. As known in the art, a golfer (not shown) may swing the putting head 106 along a putting swing path, such as that designated by line 111, away from the ball 110 (to the left in this figure) and then forward towards the ball 110 to make contact with ball 110, thereby causing the ball to move forward (and ideally into a cup on a green).

[0016] Generally speaking, golf putter training device 100 comprises a visual guide assembly 150 and a support 152 to attach visual guide assembly 150 to shaft 104. Support 152 in the illustrated embodiment comprises a mounting bracket 112 (not visible in this figure, but see other figures herein) and a support shaft 114. Support 152 may be any means for attaching visual guide assembly 150 to shaft 104, including other types of brackets, clamps, couplings, rods, yokes, or other connectors. Visual guide assembly 150 comprises at least two visual guides 116, 118. Although not required, visual guide assembly 150 may also include two additional visual guides 120, 122. Furthermore, visual guide assembly 150 may also include visual indicators 124, 126, 128, and

130. Visual guide assembly **150** may also include a first outer visual guide **316** and a second outer visual guide **318**, as described below.

[0017] FIG. 2 shows a side view of the golf putter **102** and the golf putter training device **100**. As shown, mounting bracket **112** may be any suitable device or component to attach the golf putter training device **100** to the golf putter shaft **104**. In this example, mounting bracket **112** is a thin piece of metal that wraps around the shaft **104** of golf putter **102** and uses a bolt and nut **202** to firmly secure the mounting bracket **112** to the shaft **104** of the golf putter **102**. It is understood, that any other suitable means, now known or later developed, may be used to attach the golf putter training device **100** to shaft **104** of the golf putter **102**. For example, another embodiment of a mounting bracket is shown in FIG. 5, as will be described below.

[0018] Mounting bracket **112** is also attached to support shaft **114**. In this example, a bolt **132** and a wing nut **134** is used to secure the support shaft **114** to the mounting bracket **112**. It is understood, however, that support shaft **114** and mounting bracket **112** may be connected by any suitable means. It is further understood, for example, that support shaft **114** and mounting bracket **112** may be made from one piece. In this particular example, mounting bracket **112** is formed from a metal, and support shaft **114** is a dowel rod. It is understood, however, that any suitable material may be used for any of the components of the golf putter training device **100**, such as, but not limited to, metal, wood, plastic, or any combination thereof. It is preferred, however, that the chosen material be light weight.

[0019] Turning now to FIG. 3, the support shaft **114** is positioned directly over the putting head **106**. Additionally, support shaft **114** is positioned over the portion of the putting head **106** that a golfer would be desire to have make contact with a ball **110** during a putt. For example, support shaft **114** may be equidistant from the end **302** of the putting head **106** and where the shaft **104** is attached to the putting head **106**. It is understood, however, that support shaft **114** may be positioned in any suitable location with respect to putting head **106**, whether over putting head (from a top view) or not. Furthermore, in one example, support shaft **114** is perpendicular to the ground when the golfer is lining a golf putter **102** up for a putt. More specifically, when putting head **106** is substantially parallel to the ground **204** as shown in FIG. 2, the support shaft **114** is substantially perpendicular to both the putting head **106** and the ground **204**. As one skilled in the art will recognize, however, various orientations and positions of mounting bracket **112** and support shaft **114** may be better suited for particular training exercises for enhancing one's golf putting skills.

[0020] Turning back to FIG. 3, visual guide assembly **150** comprising visual guides **116**, **118**, **120**, and **122**, is shown from a top view. Visual guide assembly **150** may also include a first outer visual guide **316** and a second outer visual guide **318**, as described below. Visual guides **116** through **122** are connected to support shaft **114**. In this example, a mounting ring **136** is adapted to receive support shaft **114**. It is understood, however, that visual guides **116**, **118**, **120**, and **122** may be directly mounted to support shaft **114**. It is further understood, as described above, that the entire golf putter training device **100** may be made from one material and perhaps even one piece. For example, FIG. 5 shows a one-piece embodiment of visual guide assembly **450**, as will later be described.

[0021] Visual guides **116**, **118**, **120**, and **122** are preferably formed from a lightweight material, such as fiberglass or lightweight plastic or other similar material. When mounted to mounting ring **136**, visual guides **116**, **118**, **120**, and **122** are preferably substantially parallel to ground **204** when support shaft **114** is perpendicular thereto. Furthermore, angle **304** and angle **306** are preferably about **300**. However, it is understood that angles **304** and **306** may be any desired angle that may be used to help improve one's golf putting skills. Furthermore, angles **304** and **306** may not be equal. Additionally, it is understood that visual guides **116**, **118**, **120**, and **122** need not be substantially parallel to ground **204**. Visual guide assembly **150** may also include a first outer visual guide **316** and a second outer visual guide **318**, as described below.

[0022] Visual guides **116**, **118**, **120**, and **122** provide multiple forms of visual feedback to the golfer to help the golfer develop muscle memory of a good putting technique. For example, one problem that golfers have while putting is an unsteady swing. It is preferred that a golf putting swing be relatively smooth. Because of the extended length of visual aids **116**, **118**, **120**, and **122**, visual aids **116**, **118**, **120**, and **122** have a tendency to show movement during an unsteady swing. Although unsteadiness may be seen by a careful observer watching putting head **106**, the unsteadiness may be very difficult to see. Visual aids **116**, **118**, **120**, and **122**, however, amplify every movement that a putting head **106** makes during a swing. Not only will the golfer be able to have immediate feedback from the visual guides **116** through **122**, an observer, such as a golf instructor, will better be able to perceive any undesired rotation or movement of a putting head **106** during a golf putter swing.

[0023] To further enhance the ability to observe and detect any undesired characteristics of a golf putter swing, golf putter training device **100** also includes one or more visual indicators. As shown in FIGS. 1 through 4, visual indicators **124**, **126**, **128**, **130** are connected to an end **308**, **310**, **312**, and **314** of visual guides **116** through **122**, respectively. More specifically, visual indicator **124** is connected to end **308** of visual guide **116**; visual indicator **126** is connected to end **310** of visual guide **118**; visual indicator **128** is connected to end **312** of visual guide **120**; and visual indicator **130** is connected to end **314** of visual guide **122**. In one example, visual indicators **124** through **130** are table tennis balls, and each visual indicator **124** through **130** is connected to its respective visual guide **116** through **122** by inserting the ends of visual guides **116** through **122** through each of the table tennis balls. It is understood, however, that any suitable visual indicator **124** through **130** may be used, such as a visual indicator made of plastic, cloth, metal, or any other suitable material or formed of another shape. For example, the alternative embodiment shown in FIG. 5, as will later be described, has visual indicators **424** through **430** formed in the shape of flat discs.

[0024] It is further contemplated, that visual indicators **124** through **130** may be of any suitable color. In one example, visual indicators **124** through **130** are of a contrasting color that is easily visible compared to the color of the ground **204**, which is usually green.

[0025] Another use of the visual guides **116** through **122** and visual indicators **124** through **130** is that a user may use the V shape that visual guides **116** and **118** form to help visualize whether the swing will allow the putting surface **108** to hit the ball **110** at the desired impact location. When aligned properly, the ball **110** should always visually appear directly between visual guides **116** and **118** during the swing.

First outer visual guide **316** and second outer visual guide **318** create two parallel lines that help magnify the swing plane. This visual appearance is from the perspective of the golfer making the swing and having a substantially top view of the ball **110** and putting head **106**. Furthermore, however, even a third person observer, such as a golf instructor, is able to observe the golfer's swing and determine whether the ball **110** was properly aligned (i.e., centered) during the swinging motion. The visual indicators **124** and **126** further help with the ability for one to watch the swing.

[0026] While the V-shape helps one visualize the golf putter **102** with respect to ball **110**, golf putter training device **100** may further include one or more outer visual guides. As shown in FIG. 3, a first outer visual guide **316** is connected to visual indicators **124** and **128**, and a second outer visual guide **318** is connected to visual indicators **126** and **130**. It should be recognized, however, that outer visual guides **316**, **318** may be directly connected to the visual guides **116**, **118**, **120**, and **122**. Outer visual guides **316** and **318** are substantially parallel to each other and are made of any suitable material, such as the same material used for visual guides **116-122**, string, or any other suitable material, such as fiberglass, plastic, or any other suitable lightweight material. Outer visual guides **316** and **318** help a golfer visualize his or her swing with respect to the putter swing plane or swing line, i.e., the line that the golfer desires to follow to get the ball to a cup (assuming, of course, a perfect putting surface without any slopes or other characteristics that would not promote a direct putt into a hole).

[0027] To further elaborate on two of the visualizations that golf putter training device **100** enhances, other examples are now given. First, the "V" shape of visual guides **116** and **118** help the golfer to ensure that the putting surface **108** of the putting head **106** will make contact with ball **110** at the desired impact position, most likely the center of putting surface **108**. A golfer does this by, while making a swing, ensuring that the ball **110** appears centered between visual guides **116** and **118**. The outer, substantially parallel visual guides **316** and **318** help the golfer visualize the swing plane a distance from the ball, i.e., most likely the direction towards the hole.

[0028] For example, it is often difficult for a golfer to hit the ball **110** as desired. Even after properly lining a putting surface **108** up with a ball **110**, a golfer may slightly twist the putting head **106** during swing **111** such that the putting surface **108** will not make contact with ball **110** at the desired angle. By amplifying the size of putting head **106** with visual guides **116** through **122** (and further enhanced with visual indicators **124** through **130** and outer visual guides **316** and **318**), a golfer will more readily be able to visualize undesired movements during his or her swing. As such, the golfer may better be able to determine what portion of his or her swing has a problem, e.g., the swing away from the ball, back towards the ball, or both. Although use of golf putter training device **100** would most likely not be permitted during actual game play, especially during a sanctioned tournament, a golfer may build up muscle memory of a proper swing with sufficient practice and with proper focus on the visual feedback given by golf putter training device **100**. Thus, when it comes time for the big game, the golfer will be able to rely on muscle memory to make the perfect putt.

[0029] Visual guides **116**, **118**, **120**, and **122** are preferably mounted and positioned on support shaft **114** such that they are approximately six inches from the ground when the putting head **106** is resting and is parallel to ground **204**. It is

understood, however, that the distance between visual guides **116**, **118**, **120**, and **122** may be adjusted or changed for any desired reason, such as based on personal preference or one's ability level. For example, a user may desire to place the visual guides **116** through **122** closer to the ground so that the visual guides **116** and **118** will actually make contact with ball **110** if the golfer is making an undesired swing that does not properly align ball **110** with a desired impact area of putting surface **108**.

[0030] As one skilled in the art will readily recognize, however, the "V" shape of the visual guides **116** and **118** would not permit ball **110** to even make contact with putting surface **108** if the visual guides **116-122** are lowered that close to the ground. It is contemplated, however, that the general "V" shape of the visual guides **116** and **118** may not form a pointed base of the "V." For example, as shown in FIG. 4, another example of the at least two visual guides **116** and **118** is shown. In this example, visual guides **116** and **118** are not straight but are instead bent at corner positions **116a** and **116b**, forming basically a "U" shape, thereby allowing ball **110** to fit between visual guides **116** and **118** if the visual guides **116** and **118** are lowered closer to the ground **204**.

[0031] Another embodiment of the invention is shown in FIG. 5, for use on a putter having shaft **404**. In this embodiment, golf putter training device **400** comprises a mounting bracket **412**, a support shaft **414**, and a visual guide assembly **450**. Visual guide assembly **450** in this embodiment is a one-piece combination of visual guides **416**, **418**, **420**, and **422**, preferably formed integrally of injection-molded plastic. Visual indicators **424**, **426**, **428**, and **430** are flat discs, either formed integrally with visual guide assembly **450** or attached by glue, threads, interference fit, fasteners, or other suitable means.

[0032] In this embodiment, support shaft **414** has a post clamp **452** at a top end. A screw **454** and washer **456** or other fasteners hold visual guide assembly **450** onto support shaft **414**. Visual guide assembly **450** could also connect to support shaft **414** by glue or other adhesive, threads, screws, or other suitable fastening means. A post-clamp cap **458** mates with post clamp **452** to attach support shaft **414** to a distal end of bracket **412**. A shaft clamp **462** at the proximal end of bracket **412** and a shaft clamp cap **464** attach bracket **412** to shaft **404** of a putter. The two caps **458**, **464** can attach to the clamps **452**, **462**, respectively, using screws **466** or other suitable fastening means.

[0033] Golf putter training device **400** otherwise operates in the same manner as golf putter training device **100** as described above, the discussion of which is incorporated herein.

[0034] The example embodiments disclosed within are only examples and are not shown and described as a means of limitation, as many other variations and enhancements are contemplated for a golf putter training device **100**. For example, it is known to use weights to weight different portions of a putting head (and even driver heads for other golf clubs). It is contemplated that the golf putter training device disclosed herein may further include weights to influence a golfer's swing. For example, the sizes, shapes, or masses of elements **124**, **126**, **128**, **130**, **424**, **426**, **428**, **430** can be manipulated to influence the center of gravity of visual guide assemblies **150**, **450**, to influence a golfer's swing.

[0035] As another example, cover panels may be inserted between portions of the guides. For example, as shown in FIG. 3, a user would see the ground **204** (and a portion of

putting head 106) in the triangular regions formed by angles 304 and 306. It is contemplated, however, that a panel may be placed over one or both of these regions. As yet another example, one skilled in the art will appreciate that different colors may be used for the various visual indicators and visual guides based on personal preference, ease of receiving different types of visual feedback, or any other suitable reason.

[0036] It is understood that the preceding is merely a detailed description of some examples and embodiments of the present design and that numerous changes to the disclosed embodiments can be made in accordance with the disclosure made herein without departing from the spirit or scope of the disclosure. The preceding description, therefore, is not meant to limit the scope of the disclosure but to provide sufficient disclosure to one of ordinary skill in the art to practice the disclosure without undue burden.

I claim:

- 1. A golf putter training device comprising:
 - a means for connecting to a shaft of a golf putter; and
 - two or more visual guides connected to the means for connecting, the visual guides providing visual feedback to a golfer.
- 2. A golf putter training device for use with a putter having a putter shaft connected to a putter head, the training device comprising:
 - a visual guide assembly comprising a first pair of visual guides forming a V; and
 - a support configured to attach the visual guide assembly to the putter shaft and to position the visual guide assembly above the putter head.

3. The device of claim 2, further comprising a visual indicator connected to each visual guide at a distal end of the visual guide.

4. The device of claim 2, wherein said visual guide assembly further comprises a second pair of visual guides forming a V, said V formed by said second pair of visual guides pointing in a direction opposite the V formed by said first pair of visual guides.

5. The device of claim 4, further comprising a first outer visual guide having a first end connected to a distal end of a first one of said first pair of visual guides and a second end connected to a distal end of a first one of said second pair of visual guides.

6. The device of claim 5, further comprising a second outer visual guide having a first end connected to a distal end of a second one of said first pair of visual guides and a second end connected to a distal end of a second one of said second pair of visual guides.

7. The device of claim 4, further comprising a visual indicator connected to at least one of said visual guides at a distal end of said visual guide.

8. The device of claim 7, wherein said visual indicator comprises a round ball.

9. The device of claim 7, wherein said visual indicator comprises a disc.

10. The device of claim 7, wherein said visual indicator has a color contrasting to green.

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