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(54) **DUAL PUPOSE GOLF PUTTER**

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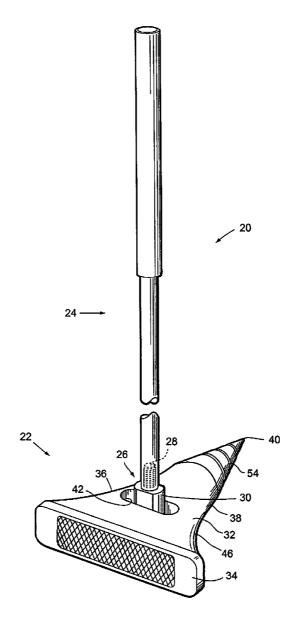
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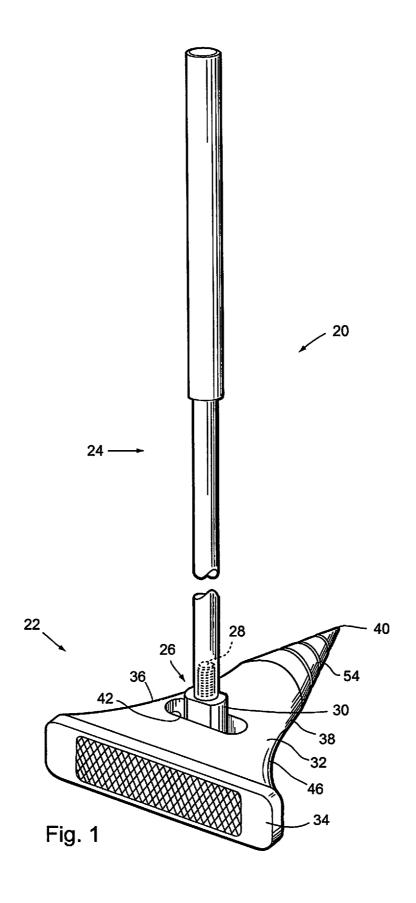
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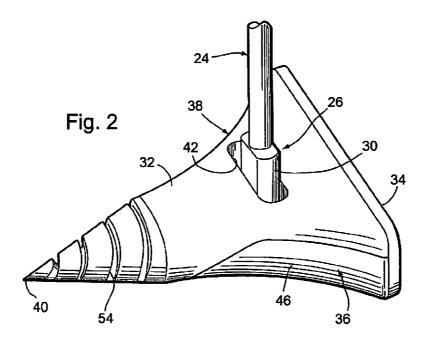
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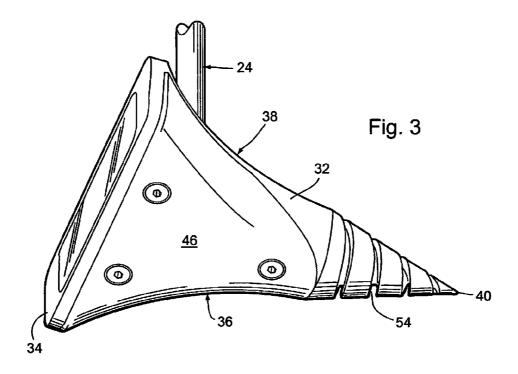
(57) ABSTRACT

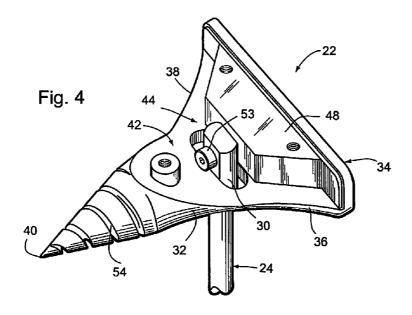
A golf putter comprising a head generally triangular in plan form, including a cap and a sole, and a plurality of side walls, a strike face formed by one of said sidewalls, and a conical end formed by a convergence of the remaining sidewall, an axis of symmetry for the conical end oriented substantially orthogonally to a plane containing the strike face. The hosel attached to the head approximately at a moment center for the generally triangular shaped head for centralizing the mass of the club head and providing a more stable swing, resulting in better alignment with the target. The angle of the shaft with respect to the head may be adjusted and configured for use by both left-handed and right-handed players.

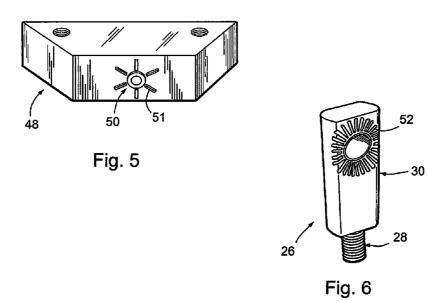


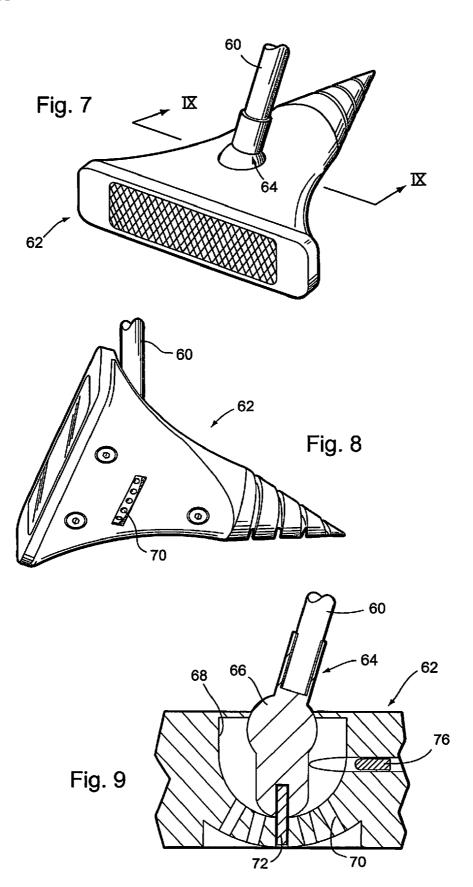


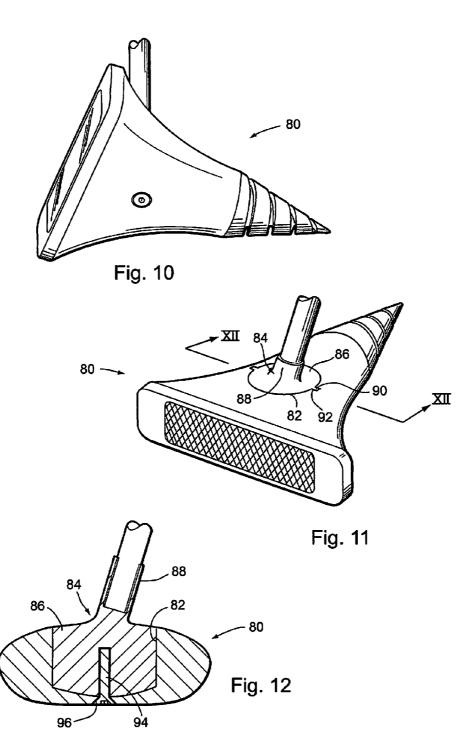


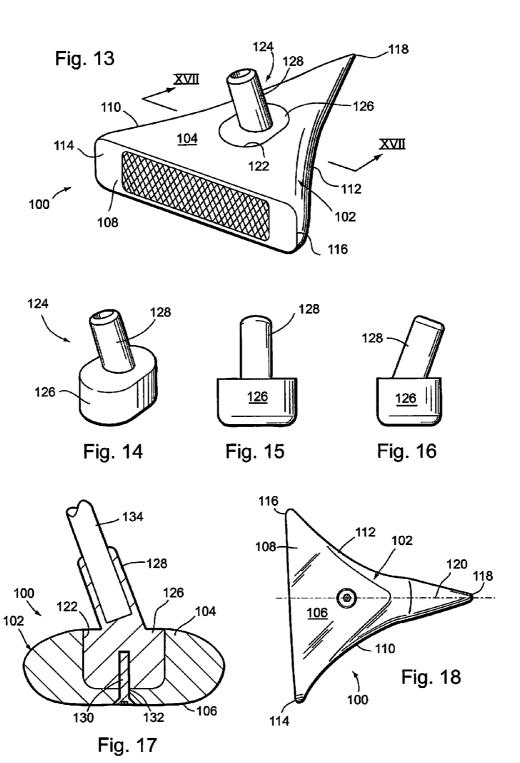












DUAL PUPOSE GOLF PUTTER

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a non-provisional patent application claiming priority to provisional patent application Ser. No. 61/527,244 filed Aug. 25, 2011, the contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] This invention relates to the game of golf and particularly to dual purpose golf putters which may be used by left- and right-handed players for both practicing striking the ball and regulation play.

[0004] 2. Discussion of the Related Art

[0005] Traditionally in the game of golf, certain clubs are designed specifically for use on certain areas of the course. For example the putter is traditionally used when a ball lies on the green. Specialized clubs, called practice clubs, are clubs which teach or instruct proper form, but are not desirable for competitive play due to their function. Thus, a person who repeatedly practices with a practice club may find the transition to a traditional club difficult when they transition to competitive play. This case is especially true for putters.

[0006] A traditional putter typically contains one straight guideline used to align the target, the golf ball, and the center of the putter face. Due to variations in eyesight and perception, these guidelines often present a visual challenge for golfers. Traditional putter heads are balanced with the club shaft fixed in one set position, prompting players to adjust their swing based on the distribution of weight in the club head and throughout the shaft, resulting in inconsistent swings with a small margin for error of the golfer. Additionally, putters may be designed for a left-handed or right-handed player. Golfers also choose putters based on their length and contact surface with the ball.

[0007] It is the purpose of this invention to provide a dual purpose golf putter wherein the head contains both a playing surface and a practice point, allowing the club to be used for both practice and competitive play. A tapering triangular shape of the head assists the golfer's swing by creating a balance between the head and the shaft in each of the embodiments described below, while also assisting in putting near the first cut of the green. Further, the inventive putter may include an adjustable hosel, allowing the angle between the head and the shaft to be adjusted for varying golfer heights and left-handed or right-handed play.

SUMMARY OF THE INVENTION

[0008] The advantages provided by the inventive dual purpose golf putter permit substantially greater flexibility in use than previously achieved in standard golf putter embodiments. The dual purpose club allows for either competitive play using its front end or practice using its back end. The structure of the club allows the head to balance with the shaft in more positions than in a traditional putter which may help to stabilize the golfer's swing and create a more accurate show under varying margins of error. The structure further allows the golfer to align his or her entire body with the target, promoting a more accurate alignment and shot. These and

other advantages will become apparent to those skilled in the art upon reading of the specifications and in reference to the attached drawing figures.

[0009] In one form of the invention, the golf putter comprises a head having a cap, a sole, and three sidewalls interconnecting the cap and the sole. The cap includes a cavity formed therein generally at a center of mass of the head. A first of the three sidewalls defines a substantially planar striking face having two opposing ends. The second and third of the three sidewalls are connected to opposing ends of the first sidewall and converge toward one another to merge into a cone having an axis oriented generally orthogonal to the substantially planar striking face. A hosel assembly is disposed in the cavity formed in the cap, the hosel assembly having a hosel extending from the head. A shaft is affixed to the hosel extending from the hosel assembly. A fastener extending through a port in the sole of the head and into the hosel assembly rigidly fixes the hosel assembly in said cavity. [0010] According to another form of the invention, the dual purpose golf putter comprises a shaft, a head having a cap and a sole, both generally triangular in plan form and interconnected by three sidewalls. A first of the three sidewalls defines a generally planar striking face, and a second and third of the three sidewalls are interconnected to the first sidewall and converge toward one another away from the striking face to merge into a cone where an axis of the cone is oriented substantially perpendicular to the generally planar striking face. A hosel assembly is provided which interconnects the shaft to the head. The hosel assembly includes a base member, and a hosel member extending from said base member. A fastener is used extending through a port in the sole and into the base member of the hosel assembly to fix the orientation of the hosel assembly relative to said head.

[0011] According to another form of the invention, a golf putter is provided, comprising a head assembly having a generally triangular plan form. The head assembly includes a cap, a sole, and three sidewalls interconnecting the cap to the sole. A first of the three sidewalls forms a generally planar striking face while a second and third of the three sidewalls are interconnected to the first of the three sidewalls and converge toward one another into a cone having an axis which is substantially perpendicular to the generally planar striking face. A hosel assembly for connecting the head to a golf club shaft is provided disposed in the recess formed in the cap at a point approximating center mass of the head. The hosel assembly includes a base member that conforms to the shape of the recess formed in the cap, and a hosel member extending from the base and upwardly away from the cap for attachment to the golf club shaft.

[0012] In yet another form of the invention, a dual purpose golf club comprises, a club head coupled to the shaft by an adjustable hosel assembly which is secured in a golfer's desired configuration. The club head further includes a tapering triangular-body wherein the front face is substantially planar and wherein the opposite end tapers to a point opposite the face.

DESCRIPTION OF THE DRAWING FIGURES

[0013] FIG. 1 is a perspective view of one embodiment of a golf putter;

[0014] FIG. 2 is a oblique top view of the putter head shown in FIG. 1;

[0015] FIG. 3 is oblique bottom view of the putter head shown in FIG. 2;

[0016] FIG. 4 is a oblique bottom view of the putter head shown in FIG. 3 with a cover removed;

[0017] FIGS. 5 and 6 show details of the components within the putter head shown in FIG. 4;

[0018] FIG. 7 is an oblique top view of an alternate embodiment of the putter head;

[0019] FIG. 8 is an oblique bottom view of the putter head shown in FIG. 7;

[0020] FIG. 9 is a sectional view taken at line IX-IX shown in FIG. 7;

[0021] FIG. 10 is an oblique bottom view of another embodiment of the invention;

[0022] FIG. 11 is an oblique top view of the putter head shown in FIG. 10;

[0023] FIG. 12 is a section view of the putter head taken along line XII-XII shown in FIG. 11;

[0024] FIG. 13 is an oblique top view of yet another embodiment of the invention;

[0025] FIG. 14 is an oblique view of one embodiment of a hosel member:

[0026] FIGS. 15 and 16 are elevation views of the hosel member shown in FIG. 14:

[0027] FIG. 17 is a section view of the putter head taken along line XVII-XVII shown in FIG. 13; and

[0028] FIG. 18 is a bottom view of the putter head shown in FIGS. 13 and 17.

DESCRIPTION OF THE DIFFERENT EMBODIMENTS

[0029] For purposes of the following description, the terms "upper", "lower", "left", "right" and derivatives of such terms shall relate to the invention as oriented in FIG. 2. One embodiment of the invention shown in FIGS. 1-6 illustrates the various views of the inventive golf putter. Referring to the figures, the inventive golf club 20 includes a golf club head 22 coupled to a golf club shaft 24 by a hosel assembly 26. The hosel assembly 26 in one embodiment is comprised of an upper member 28 and a lower member 30. The hosel upper member 28 engages the golf club shaft 24 and the hosel lower member 30 engages the golf club head 22. The golf club head 22 is comprised of an outer frame assembly 32 defining a front or strike face 34 and adjoining adjacent sides 36 and 38 converging toward one another to define a back end point 40. The outer frame assembly may be formed by casting or machining using one or more alloys of aluminum, steel, or other suitable metals. Polymers may also be used to make the putter head if that is desired.

[0030] Extending through the frame assembly and formed therein is a central cavity 42 which receives the lower member 30 of the hosel assembly 26 which is attached to the club head 22 via an inner adjustment assembly 44. Covering the central cavity 42 and attached to a lower surface of the putter head 22 is a cover 46 shown in FIGS. 2 and 3. The cover 46 may be attached to the outer frame assembly a number of ways, including a plurality of fasteners. The cover 46 is connected to the frame assembly 32 and is easily removable for adjusting the angle of the lower member 30 of the hosel assembly 26 relative to the head 22. It is contemplated that the cover 46 may contain one or more drain holes (not shown).

[0031] FIGS. 4-6 better illustrates how the lower member 30 of the hosel assembly 26 is connected to the outer frame assembly 32 in the central cavity 42. The lower member 30 is interconnected to the golf club head 22 by an inner adjustment assembly 44 (described below) at any one of a number of

adjustable angles, which allows a golfer to vary the angle between the shaft 24 and the golf club head 22. The adjustable angle permits the golf club head 22 to be positioned relative to the shaft 24 for left-handed or right-handed use.

[0032] The inner adjustment assembly 44 include a block 48 disposed behind to the club face 34. Block 48 is connected to the lower member 30 of the hosel assembly 26 at an angle that may be infinitely adjusted by the user. The block 48 contains a plurality of protrusions 50, a subset of which 51 extend radially from a central point in a generally circular pattern and adapted to engage one or more of a set of depressions 52 formed in the lower member 30 of the hosel assembly 26. The mating of the protrusions 50 to the depressions 52 creates a plurality of set angle positions for the hosel assembly to be positioned relative to the golf club head 22. The interaction of the protrusions 50 and depressions 52 also increases the locking force between the shaft 24 and the putter head 22 when held in place by a fastener 53 extending through the lower member 30 of the hosel 26 and into the block 48. The positioning action of the protrusions and depressions creates a stronger mount between the hosel assembly 26 and the putter head 22. The block 48 provides structure for the golf club 20 by connecting the lower member 30, which is connected to the golf club shaft 24, and to the face 34, which makes contact with the golf ball. In this embodiment of the invention, the block 48 also provides a counter weight which balances the golf club and aids in the stabilization of the golfer's swing.

[0033] Alternative mounting methods are also anticipated for use with this invention. These alternate methods include, but are not limited to, mounting the club head 22 to the club shaft 24 through the use of a rotating connector and locking pin, through bolting, riveting, or through non-permanent adhesives.

[0034] The club head outer frame assembly 32 preferably tapers from a point proximate the face 34 to the point 40 to create a general triangle plan form. The outer frame assembly 32 includes sides 36 and 38 that taper toward one another from face 34 to form the apex of the triangular plan form. In this particular embodiment, sides 36 and 38 are convex relative to the head 22 to assist a golfer in displacing the grass along the first cut of a green if the ball is against the edge of the green.

[0035] The embodiment shown in FIGS. 1-6 depicts the point or apex end 40 of the golf club head to include an optional helical groove 54. This optional feature, shown in FIGS. 2-4, in one form, may contain a substantially square cross-section with a radiused outer edge. The optional helical groove, in this form of the invention, is formed in the club head 22 with an angular twist ranging between 20 degrees and 60 degrees, and progressing from the termination of the point 40 to a position proximate the termination of sides 36 and 38. [0036] The best mode of operating the invention shown in FIGS. 1-6 may be achieved by removing the cover 46 from the sole of the club by removing the various fasteners. The user may then loosen fastener 53 to allow the hosel assembly 26 to separate away from the protrusions 50 and move freely relative to the block 48. The user may then select the desired angle of the hosel assembly 26 and shaft 24 relative to the lie of the club head 22 to suit the user's particular needs or preferences for using the practice conical end 40 or for use with the conventional striking face 34. Once the desired angle is set, the user simply tightens the hosel assembly 26 against the block 48 using the fastener 53 to fix the relative position. The

protrusions 50 will engage the plurality of recesses 52 formed in the lower member 30 of the hosel assembly 26 thereby rigidly fixing the angular position of the hosel to the club head. The user then simply places the cover in position and holds in place with the provided fasteners.

[0037] FIGS. 7-9 illustrate another embodiment of the invention. In the embodiment shown, the shaft 60 may be connected to the club head 62 by a ball and socket hosel assembly 64. The lower portion of the hosel member 64 includes a ball portion 66 which is received within a hemispherical socket 68 formed in the body of the putter head 62. The angular position of the ball portion 66 is fixed within the socket 68 by a screw 72 extending though one of a plurality of mounting holes 70 extending through the sole or bottom of the club head 62. A set screw 76 may extend through the head 62 and into the hemispherical socket to retain the ball member in place while the user is changing the angle of the club head 22 relative to the shaft 60.

[0038] Operation of the invention shown in FIGS. 7-9 may be achieved by removing the pin 72 accessible in the sole of the club so that the pin is disengaged from the ball portion 66 of the hosel assembly 64. The user may then tilt the hosel assembly 64 to the desired angle to use the practice conical end or the conventional striking face. Once the desired angle is set, the user simply tightens pin 72 through the desired port 70 into the hosel assembly 64 to fix the relative position.

[0039] Another embodiment of the invention, shown in FIGS. 10-12, allows the golfer to quickly and easily adjust the angle of the shaft relative to the club head as well as change the club for use by left- or right-handed players. In the embodiment depicted, a putter head 80 includes a recess or hole 82 formed generally at the center moment or zero moment-arm for the club head 80. Received within recess 82 is a hosel member 84 having a base portion 86 having an outer profile substantially identical in shape to the inside profile of the recess 82 so that the base portion 86 of the hosel member 84 fits in the recess in one of two orientations corresponding to uses for left- and right-handed users. The hosel member 84 includes an upper member or portion 88 extending upwardly from the base portion 86 at an angle (ranging from 90 degrees to 30 degrees measured from the horizontal) to accept the end of the golf club shaft as is convention for hosel assemblies. In one form of this embodiment, the hosel base portion 86 may further include opposing protrusions or keys 90 adapted to be received within and engage matching keyways 92 formed within the walls of the recess 82. This keyway relationship allows the shaft to be fixed at two opposing positions to fix the shaft for use by either left- or right-handed players. Moreover, it is contemplated that a number of different hosel members may be produced wherein the angle of the hosel or upper portion 88 may be disposed at a fixed angle relative to the lower or base portion 86 of the hosel member 84. The hosel member 84 may be retained within the recess 82 and thus connected to the putter head 80 by a fastener 94 passed through a mounting hole 96 formed in the base of the putter

[0040] In operation the angle of the upper hosel 88 may be predefined at a set angle. For example, a plurality of pre-set hosel angles may be defined by the manufacturer to range from ninety degrees to as low as thirty degrees as measured from the horizontal. For convenience, the desired angle may be determined at a golf shop or by the user and the desired shaft is attached and fixed to the hosel assembly 84. To switch between using the practice conical tip and the conventional

striking face, the user simply removes the fastener 94 from the bottom or sole of the club head 80 and pulls the hosel assembly 84 from the recess 82 and then reinsert the hosel assembly 84 so that the keyways 90 are aligned with the key slots 92 to permit the hosel assembly to slide back into the club head. This way the user can quickly and easy change between the practice conical end and the conventional striking face. The fastener 94 is then simply reinserted into the hole 96 and into the hosel assembly and tightened to hold the assembly together.

[0041] Yet another embodiment of the invention is illustrated in FIGS. 13-18. There a golf club putter 100 is partially illustrated, comprising a putter head 102 made from one or more metal or polymeric alloys to define a cap 104, a sole 106, and three sidewalls 108, 110, and 112. A first of the three sidewalls 108 is oriented and disposed on the head 102 to form a substantially planar striking face having opposing ends 114 and 116. The second and a third of the three sidewalls 110, 112 are connected at one end to the opposing ends 114, 116 of the first sidewall 108 and converge toward one another at their opposite ends to merge into and form a cone or point 118 having an axis of symmetry 120 oriented generally orthogonal to the substantially planar striking face 108. A cavity or recess 122 is formed in or defined in the cap 104 at generally the moment center of the putter head. The cavity or recess is preferably bilaterally symmetrical on opposite sides of a vertical plane including the axis 120 for reasons that will become apparent below.

[0042] Received within the cavity or recess 122 is a hosel member 124. The hosel member 124 includes a base member 126 disposed within the recess 122. The hosel member 124 also includes a hosel 128 extending from the base member 126. The base member 126 of the hosel member 124 is substantially identical in form to the shape of the recess so that it fits therein in one of two positions, once again to provide flexibility in adjustment for left- and right-handed users. As in the previous embodiments, the hosel 128 extending from the base may be disposed at anyone of a number of predetermined angles ranging from 90 degrees to as low as 30 degrees (measured from the horizontal). A fastener 130 extending through a port 132 extending through the sole 106 of the head and into the base member 126 of the hosel member 124 is used to rigidly fix the hosel member or assembly 124 in the cavity 122. As is customary with golf club, a shaft 134 is attached to the hosel 128 in a conventional manner.

[0043] In operation the angle of the upper hosel 128 relative to the lower hosel 126 may be predefined at a set angle. As in the previous embodiment, a plurality of pre-set hosel angles may be defined by the manufacturer ranging from ninety degrees to as low as perhaps thirty degrees measured from the horizontal. For convenience, the desired angle may be ascertained at a golf shop or by the user and the desired shaft is attached and fixed to the hosel assembly 124. To switch between using the practice conical tip 118 and the conventional striking face 108, the user simply removes the fastener 130 from the bottom or sole 106 of the club head 100 and pulls the hosel assembly 124 from the recess 122 and then reinserts the hosel assembly back into the recess to slide back into the club head. This way the user can quickly and easy change between the practice conical end and the conventional striking face. Likewise the club head can quickly and easily be re-configured for use by a left- or right-handed player. The

fastener 130 is then simply reinserted into the hole 132 and into the hosel assembly and tightened to hold the assembly together.

[0044] In each of the embodiments described above, a golf putter is provided, comprising a shaft, a head having a cap and a sole, both of which are generally triangular in plan form and interconnected by three sidewalls. A first of the three sidewalls defines a generally planar striking face, with the second and a third of the three sidewalls interconnected to the first sidewall and converging toward one another away from the striking face to merge into a cone having an axis which is oriented substantially perpendicular to the generally planar striking face. A hosel assembly is provided interconnecting the shaft to the head, the hosel assembly including a lower member, and an upper member. A fastener received by the lower member connects the lower member to the club head at a set angle.

[0045] In yet another form of the invention, a dual purpose golf putter is provided comprising a head assembly having a generally triangular plan form, including a cap, a sole, and three sidewalls. A first of the three sidewalls forms a generally planar striking face. The second and third of the three sidewalls are interconnected to the first of the three sidewalls and converge toward one another to form a cone having an axis of symmetry which is substantially perpendicular to the generally planar striking face. A hosel assembly is provided connecting the head to a golf club shaft. The hosel assembly includes a lower member disposed in a recess formed in the cap generally at a moment center, and an upper hosel member extending from the lower member upwardly away from the cap at a predetermined angle for attachment to the golf club shaft.

[0046] The golf putter described herein may be utilized in competitive play using the strike face, while the pointed or cone-end of the club may be utilized for practice. The apex of the point or cone end may be positioned approximately 4.0 to 6.6 millimeters below the hemisphere or center of the golf ball to promote proper upward swing which results in a solid roll along the target line by precisely contacting the ball. In the depicted embodiments of the invention described above and shown in attached Figures, the apex of the point or cone is depicted as a relatively sharp point. Alternative versions of this design include, but are not limited to, radiused points of varying diameter, as well as removable tips, which may be constructed of materials different from that of the putter head.

[0047] The generally triangular plan form or shape of the golf club head promotes a reverse target line intended to assist the golfer in keeping his or her body aligned to the target line. Graphic guidelines or target aids may be applied to the upper surface or cap of the putter head to further assist the golfer to align the putter. By balancing the golf club at its moment center or center of mass, the putter head is balanced at the end of the shaft in multiple orientations to help stabilize the golfer's swing.

[0048] The advantages provided by this invention include the versatility of the club. In short, the invention is a dual purpose putter, which creates a club suitable for practice or regular play. The tapering triangular shape of the head allows the golfer to align his or her body with the target and promotes a reverse target line. The shape of the head further acts as a stabilizer throughout the golfer's swing. The club also allows for the adjustment of the angle between the shaft and the head, which may be utilized for right-handed or left-handed use. The club head also can balance with the shaft in four different

positions which will further stabilize a golfer's swing. Though this particular embodiment of the invention is a putter, the concept described above may be extended to other golf club designs after one of ordinary skill reviews this description and develops other advantages and modification. [0049] Modifications of the invention will occur to those skilled in the art and to those who make or use the invention. It is therefore understood that the embodiments described and shown herein are merely for illustrative purposes and not intended to limit the scope of the invention.

1. A golf putter, comprising:

- a head including a cap, a sole, and at a plurality of sidewalls interconnecting said cap and said sole, a first of said plurality of sidewalls defining a substantially planar striking face having opposing ends, and a second and a third of said plurality of sidewalls connected to said opposing ends of said first sidewall and converging toward one another to merge into a cone having an axis of symmetry oriented generally orthogonally to said substantially planar striking face;
- a hosel assembly including a base member for receipt in a cavity formed in said cap of said head, and a hosel extending away from said base member;
- a shaft having an end attached to said hosel; and
- an fastener extending through a port in said sole of said head and into said base ember of said hosel assembly for attaching said hosel assembly to said head.
- 2. The golf putter as defined in claim 1, wherein said cavity formed in said cap of said head is located generally at a moment center for said head.
- 3. The golf putter as defined in claim 1, further comprising an inner adjustment assembly disposed within said cavity.
- **4**. The golf putter as defined in claim **1**, wherein said head includes a frame assembly.
- 5. The golf putter as defined in claim 4, wherein said frame assembly includes a block.
- **6**. The golf putter as defined in claim **5**, wherein said block includes a plurality of interlocking protrusions and depressions for fixing a relative position of said hosel assembly relative to said head.
- 7. The golf putter as defined in claim 1, wherein said hosel assembly includes a ball and socket assembly.
- **8**. The golf putter as defined in claim **1**, wherein said hosel assembly includes a keyed protrusions.
- 9. The golf putter as defined in claim 1, wherein said hosel assembly is bilaterally symmetrical.
- 10. The golf putter as defined in claim 1, wherein the hosel assembly may be attached to the head to permit use by left-and right-handed users.
- 11. The golf putter as defined in claim 1, wherein said head is substantially balanced about said hosel assembly.
- 12. The golf putter as defined in claim 1, wherein a user may hit a golf ball using an apex of said cone of said head.
- 13. The golf putter as defined in claim 1, wherein a user may hit a golf ball using said strike face of said head.
 - 14. A golf-ball putter, comprising:
 - a shaft:
 - a head having a cap and a sole, both generally triangular in plan form and interconnected by sidewalls, a first of said sidewalls defining a generally planar strike face, and a second and a third of said sidewalls interconnected to said first sidewall and converging toward one another away from said striking face to merge into a cone apex

- having an axis of symmetry oriented substantially perpendicular to said generally planar strike face;
- a hosel assembly interconnecting said shaft to said head, said hosel assembly including a base member, and a hosel member extending from said base member; and
- a fastener extending through a port in said sole and connected to said base member of said hosel assembly for fixing an orientation of said hosel assembly relative to said head.
- 15. A golf putter comprising:
- a head assembly having a generally triangular plan form, including a cap, a sole, and three sidewalls interconnecting said cap to said sole, a first of said three sidewalls
- forming a generally planar striking face, and a second and a third of said three sidewalls interconnected to said first of said three sidewalls and converging toward each other and merging to produce a cone having an axis which is substantially perpendicular to said generally planar striking face; and
- a hosel assembly for connecting said head to a golf club shaft, said hosel assembly including a base member disposed in a recess formed in said cap, and a hosel extending from said base and upwardly away from said cap for attachment to the golf club shaft.

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