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(54) **GOLF CLUB**

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(57) **ABSTRACT**

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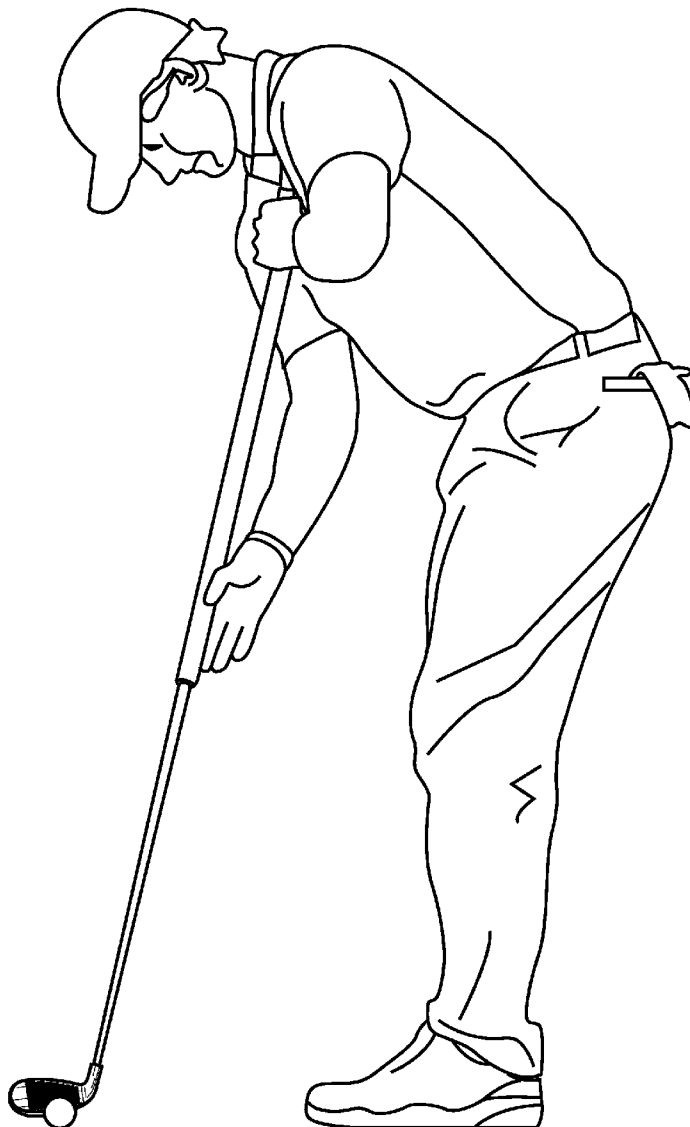
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A63B 53/00 (2006.01)

The present invention is an improved golf club intended to be used for chipping. The club is a long-shafted iron with a wedge-type head having a high lie angle and an extended grip. When used in a pendulum fashion like a long shaft putter, the club's head has a greater chance of staying within the desired impact zone during the swing. The club according to the invention comprises a club head with a lie angle of at least about 64 degrees, preferably about 67 degrees, most preferably about 72 degrees, a shaft, and a grip, the overall length of the club at least about 44-inches.



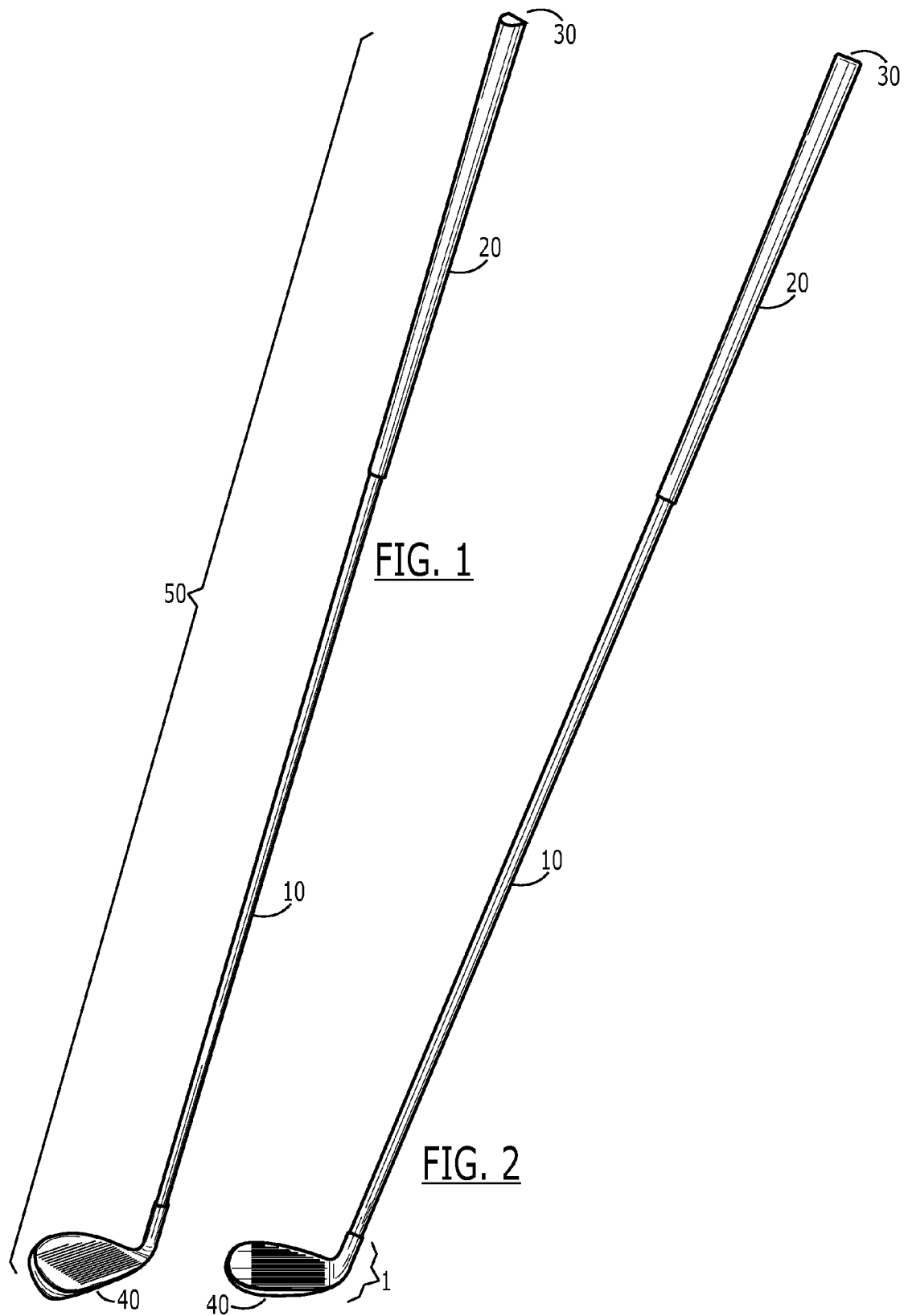


FIG. 1

FIG. 2

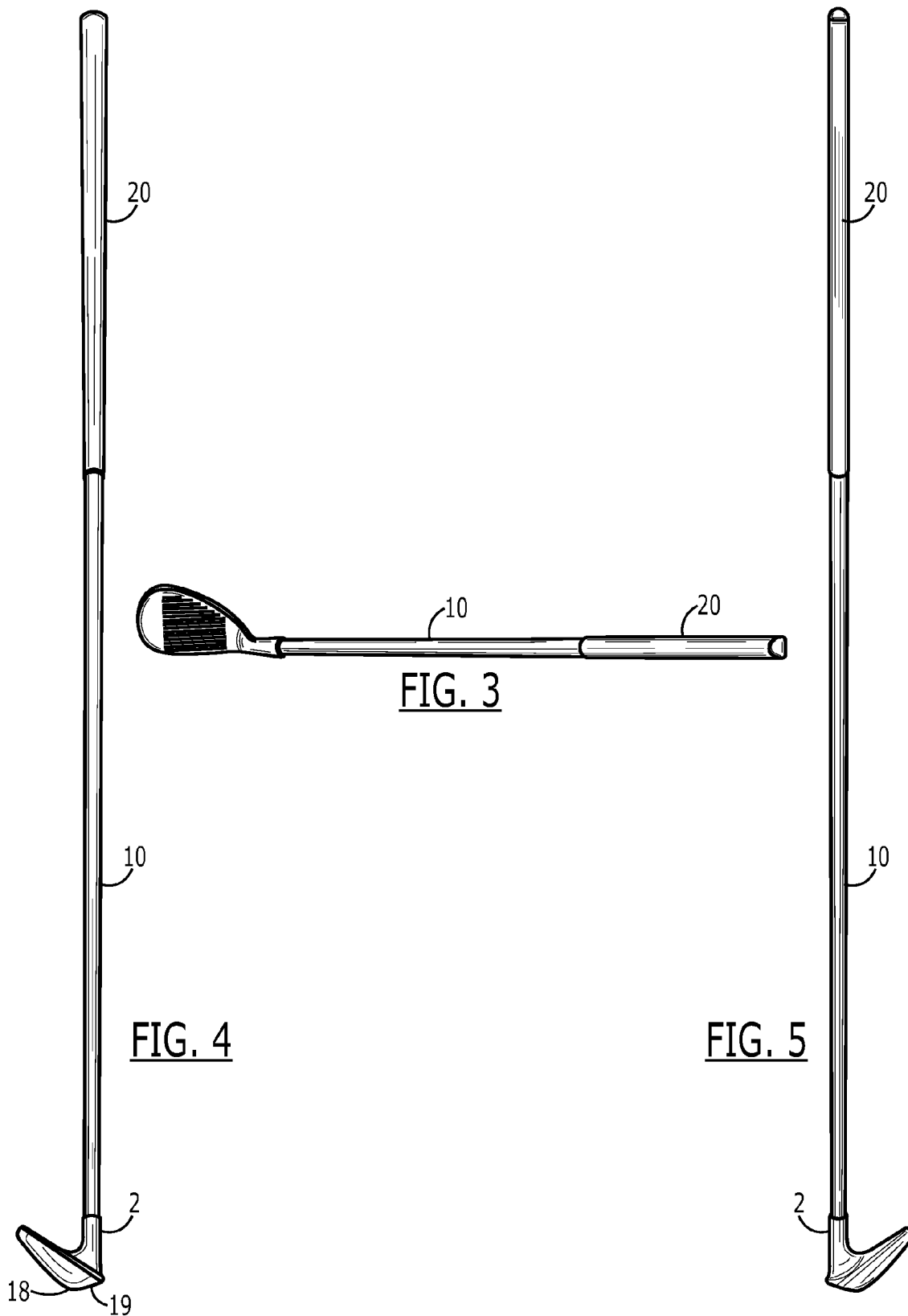
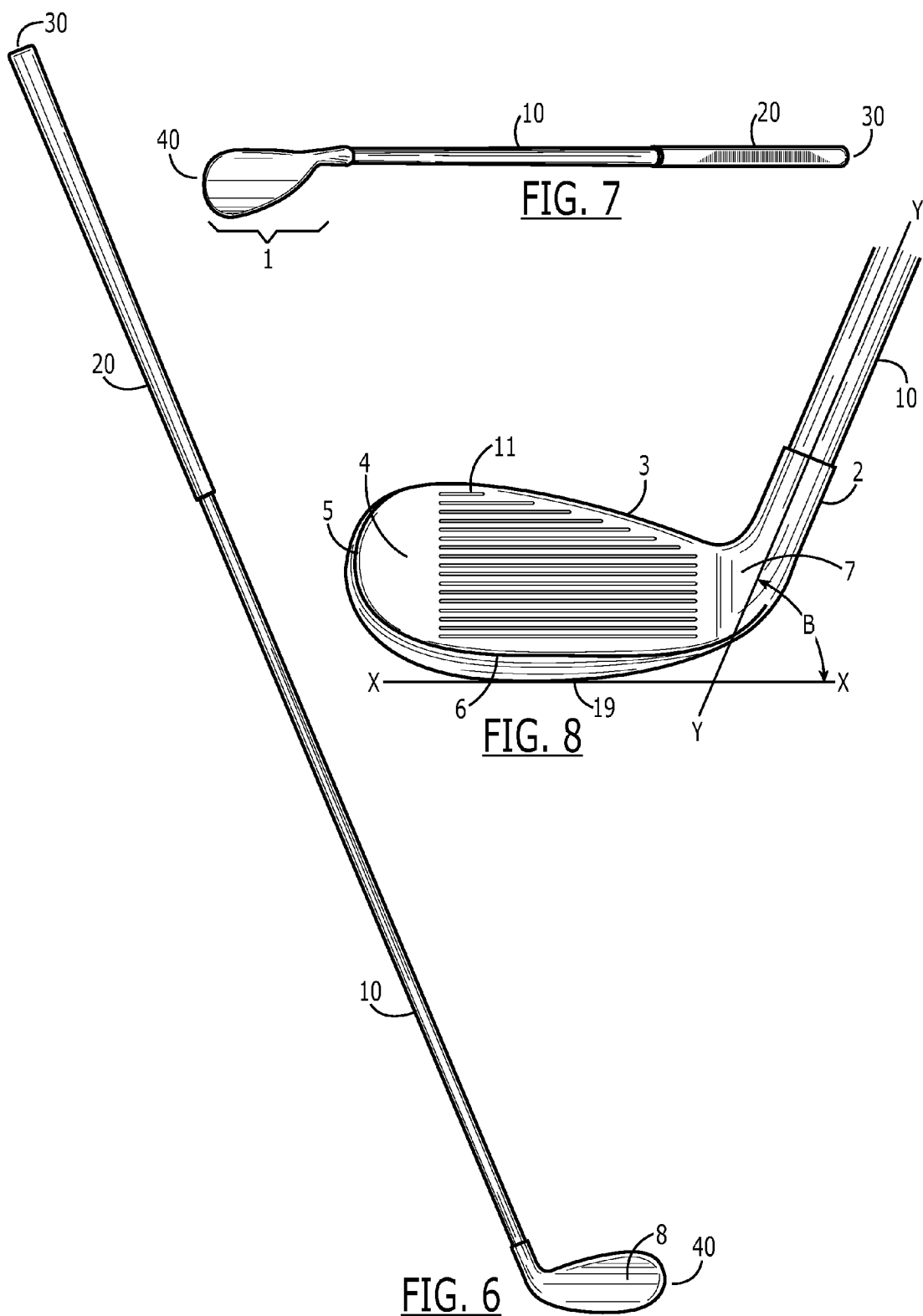


FIG. 3

FIG. 4

FIG. 5



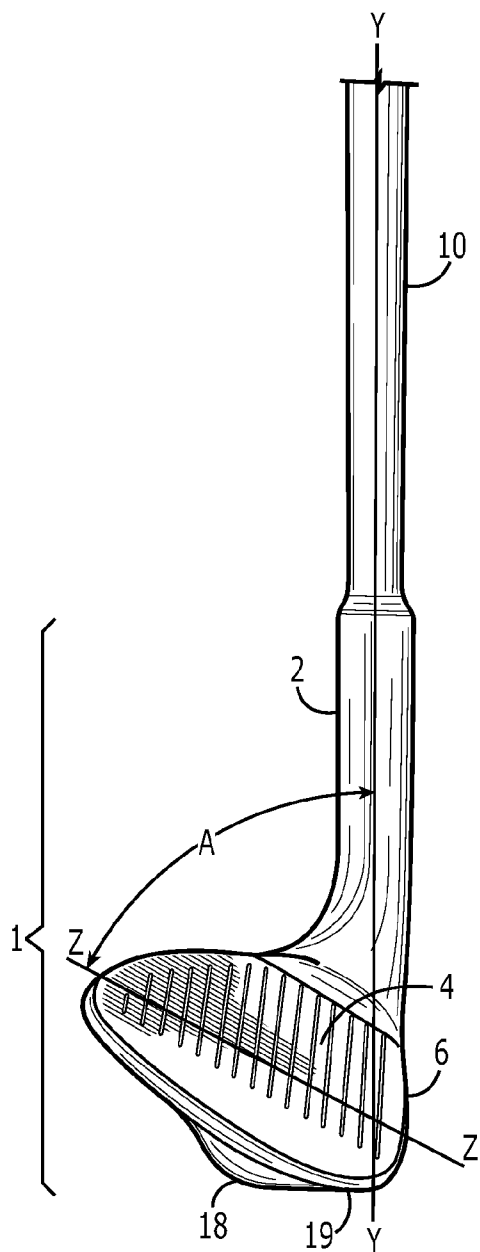


FIG. 9

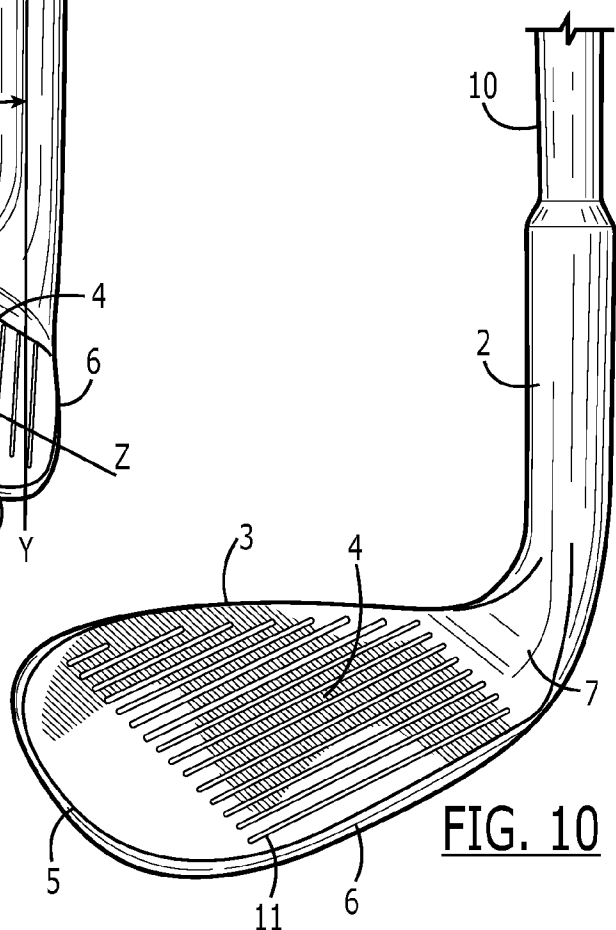
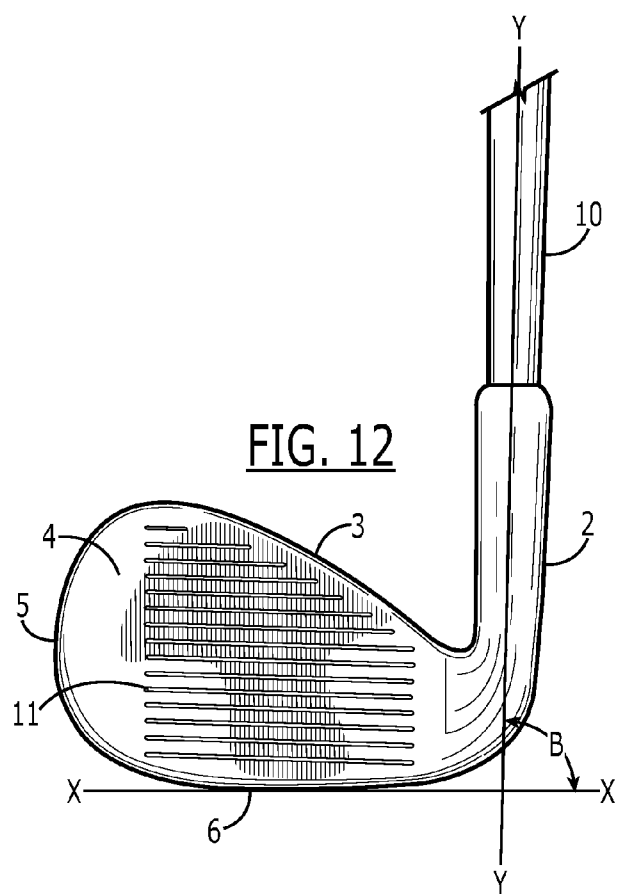
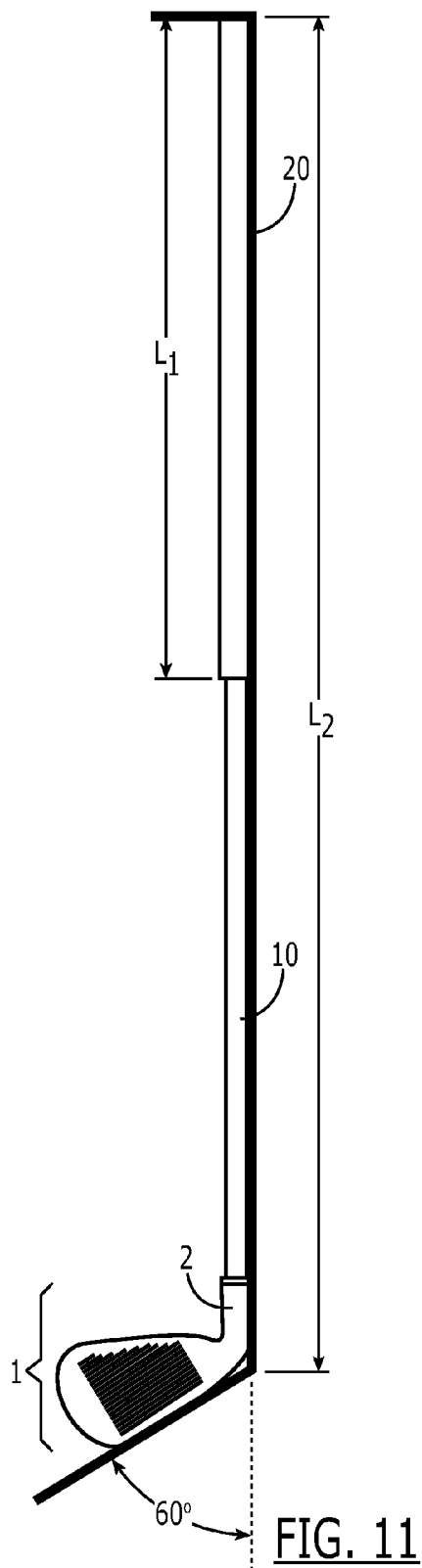
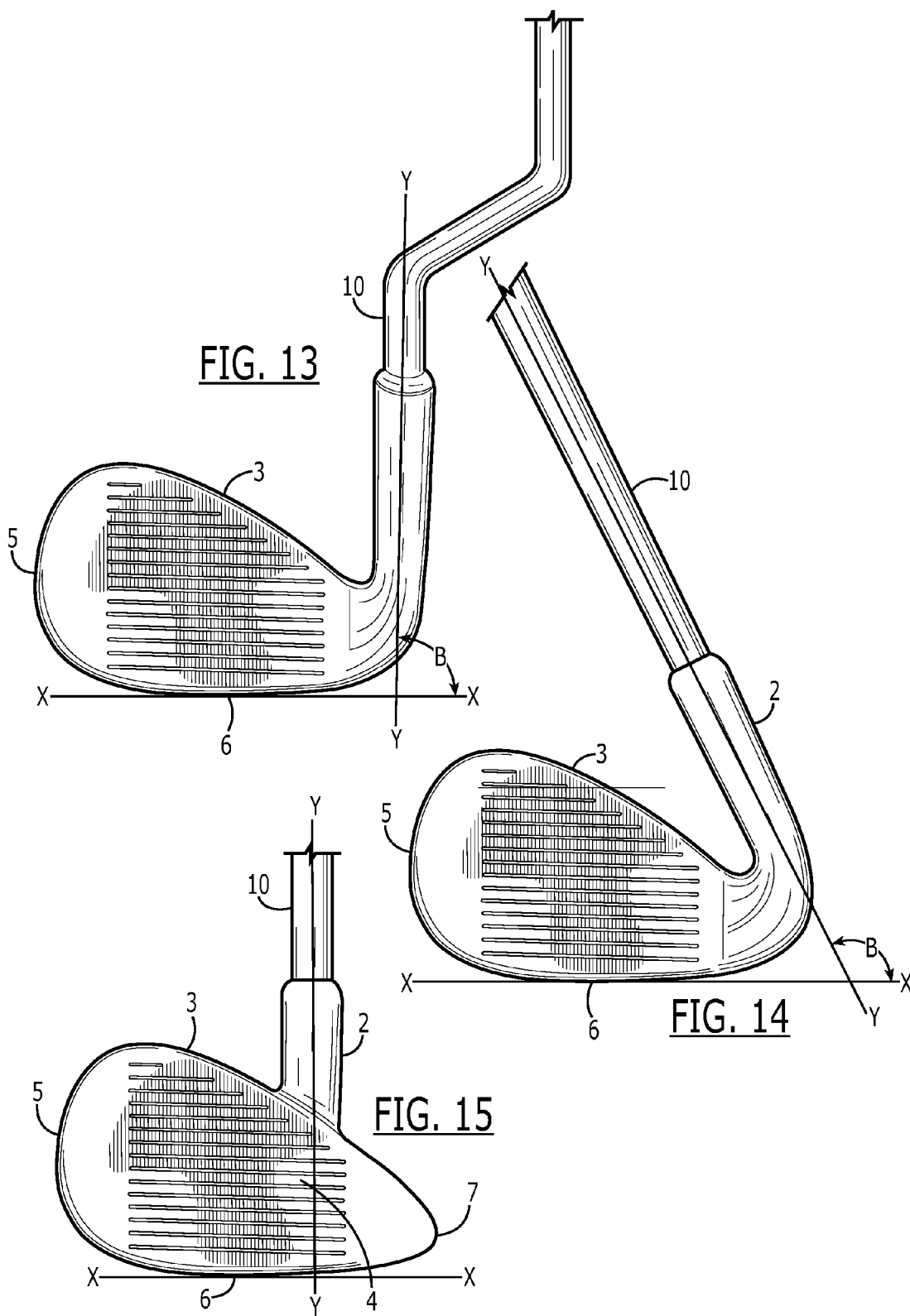
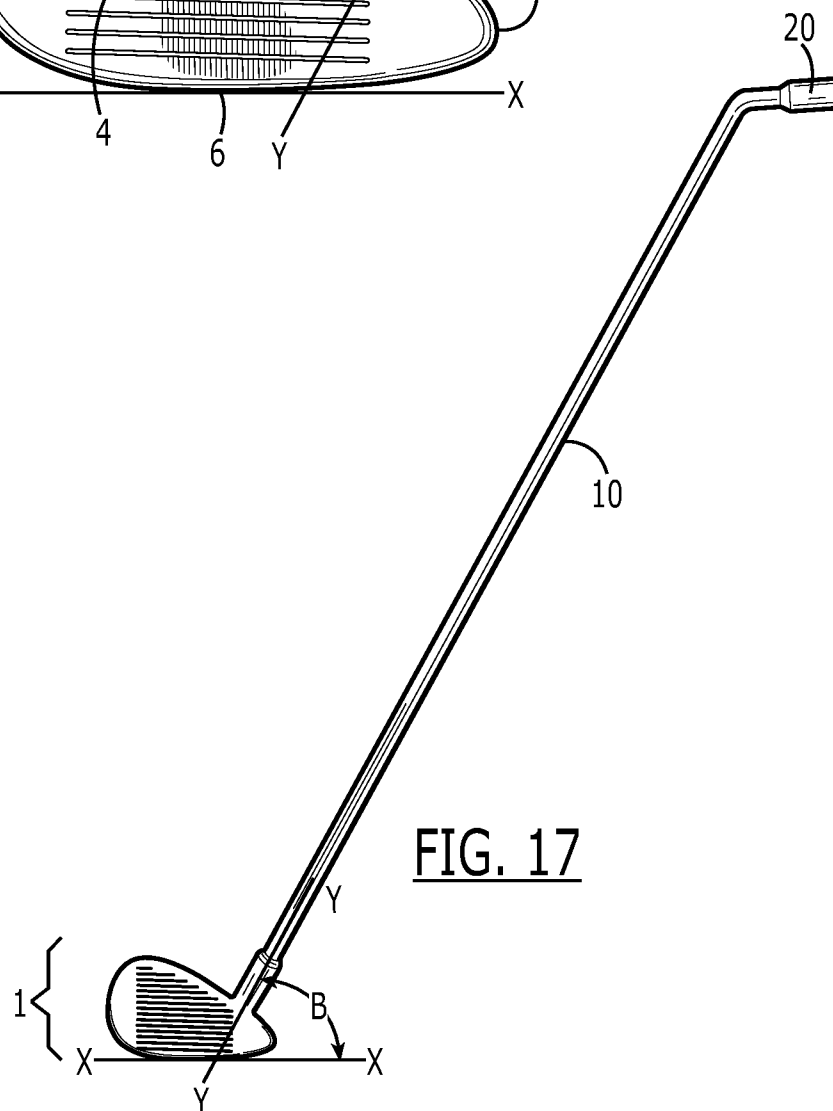
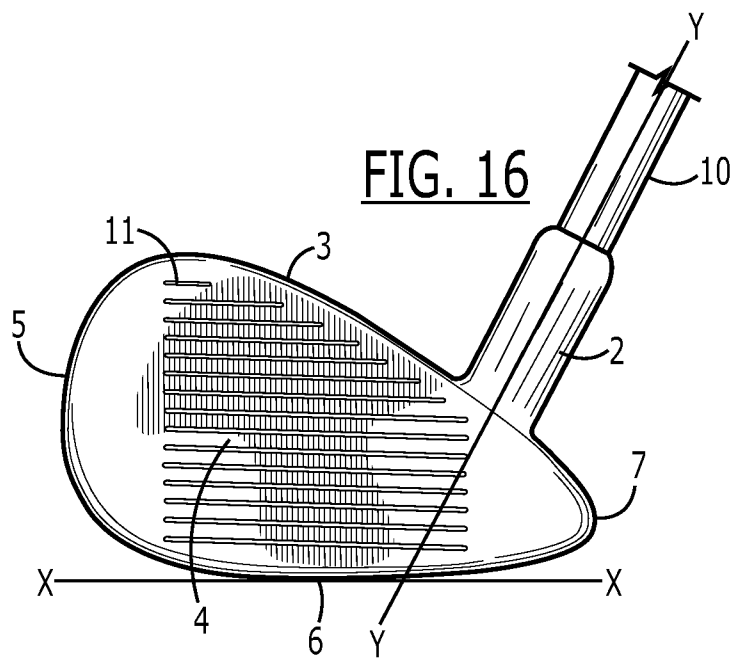


FIG. 10







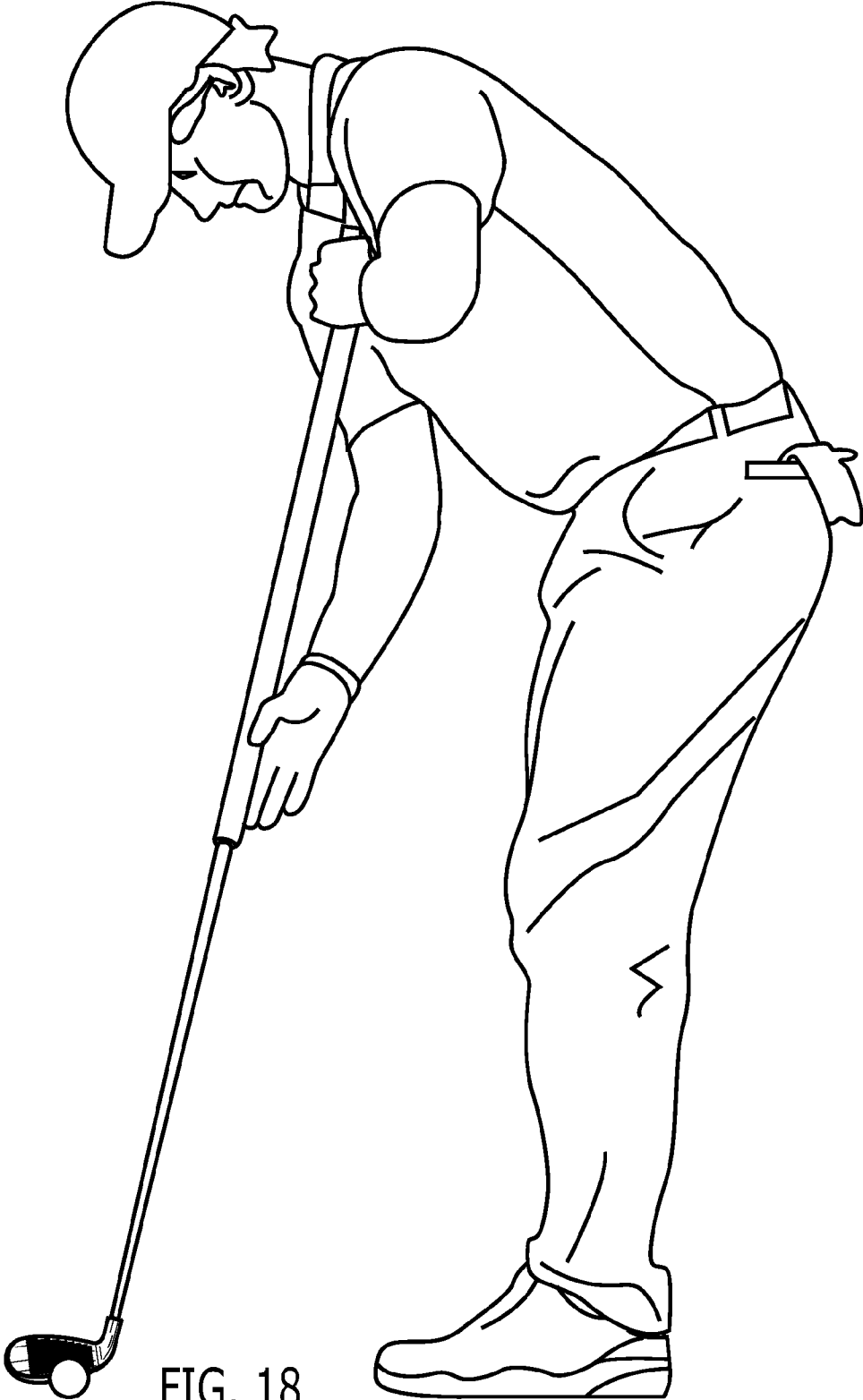


FIG. 18

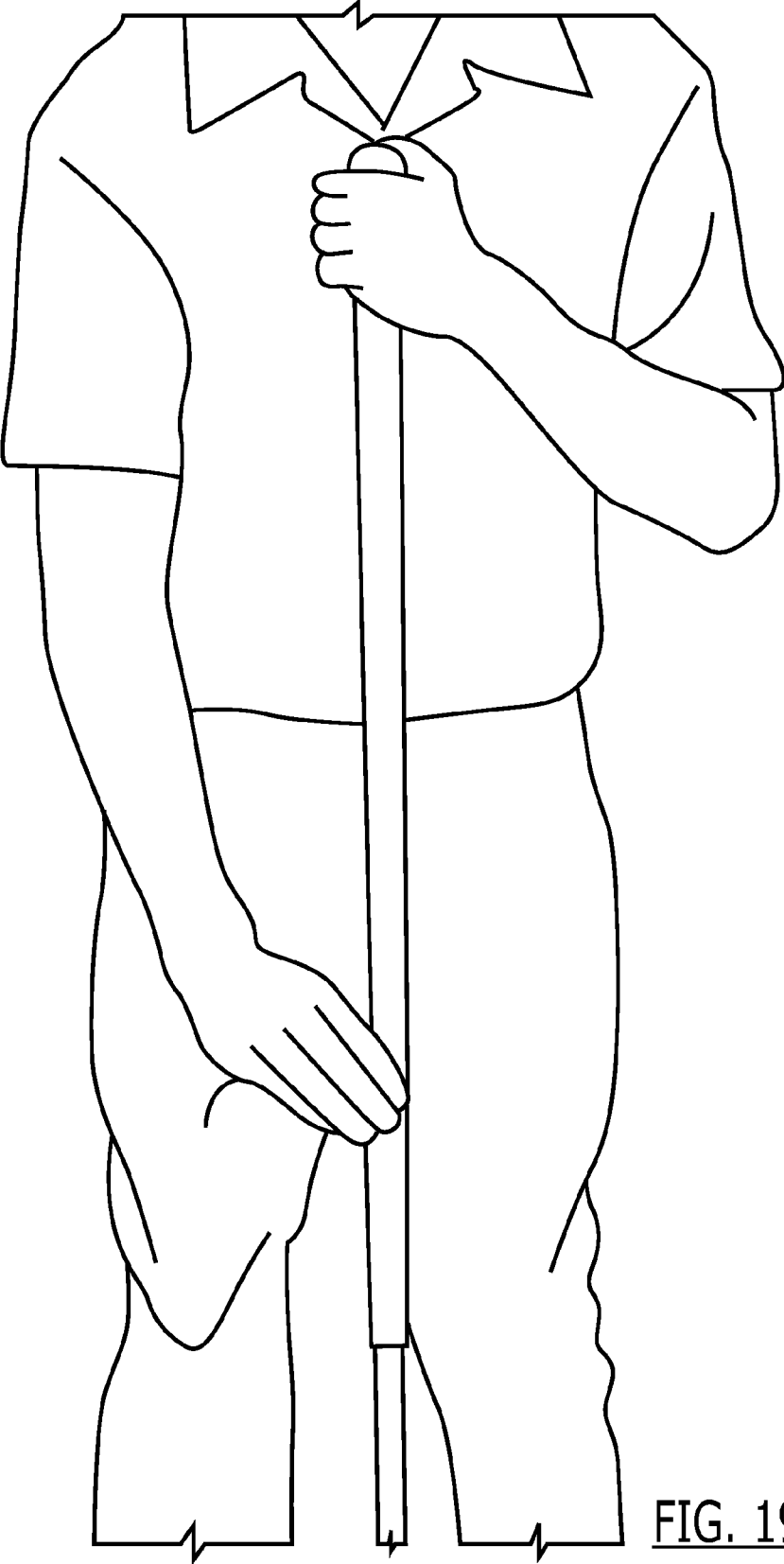


FIG. 19

GOLF CLUB**CROSS-REFERENCE TO RELATED APPLICATION**

[0001] This application claims the benefit of U.S. Provisional Patent Application Ser. No. 61/488,465 filed on May 20, 2011 which is expressly incorporated herein in its entirety by reference thereto.

FIELD OF THE INVENTION

[0002] The present invention relates generally to an improved golf club. More particularly, the present invention is an improved chipping iron comprising a wedge type club head with a long shaft. The present invention helps golfers improve their golf scores by making, among a variety of other shots, short distance chip shots easier with less chance for miss-hitting the ball.

BACKGROUND OF THE INVENTION

[0003] Golf has become an immensely popular sport in the past decades among both men and women of all ages. The sport is played by people of varying skill levels, from novices to golf professionals. The basic objective of golf is to hit the golf ball into a hole in as few hits (strokes) as possible using several different types of golf clubs. Each hole on a golf course is different presenting the golfer with various obstacles along the way and requiring many different types of shots. In addition, golf courses vary in their levels of difficulty due to their layouts, including the grading of the land (e.g. hills), and the existence of various obstacles such as coarse grass, sand traps, lakes, trees, etc. Over the years, technological advancements have been made in club technology to help a golfer improve their score. Those advancements include improved materials of construction for the club heads, shafts and grips, inserts within club heads, improved club head shapes and configurations, etc.

[0004] Golfers use several golf clubs during the course of a golf game depending on the shot at hand, including woods, irons, wedges and putters. Club selection is based upon the location on the golf course where the ball is being played from, the lie of the ball (e.g. on the fairway, in the rough, in a sand trap, on the green), the desired shot distance, the desired ball flight trajectory, and/or the need to avoid obstacles. One shot in particular that the present invention helps with is the chip shot, typically utilized in close proximity to the green to get the golf ball onto the green and, most preferably, into the hole but at least as close as possible. Most golfers use a pitching wedge or a sand wedge, and sometimes lower irons (7, 8 or 9-irons), for chip shots depending upon the distance to the hole, the hole location, the length of green before the hole, the ball lie, etc. As for other golf shots, a great deal of practice is needed for a golfer to become good at chipping the ball. For chipping, one particular aspect of the chip shot difficult for golfers is the hand and wrist action. Sometimes it is preferred to have little wrist action and at other times it is desirable to use a large amount of wrist action. Unfortunately, maintaining the proper form and the desired positioning to properly strike the ball has proven to be a difficult task for many golfers, especially novices at the sport.

[0005] A properly executed chip shot results in the ball popping into the air, landing on the ground (most often the green) and rolling forward to or into the hole. More often than desired, especially for the less experienced golfer, the shot is

chucked, flubbed, sliced, fat, thin, or otherwise miss-hit (not hitting the ball with the sweet spot on the club face or hitting the ball with the club face open or closed) which ultimately increases the golfer's score.

[0006] Applicant has invented, and there is a need for, an improved chipping club that will allow golfers to more consistently hit these around the green chip shots with less chance for miss-hitting. An improved club that provides more control for chip shots and less chance for error during the golf shot. The present invention increases the likelihood that the club head stays within a consistent impact zone with respect to the ball during the shot and reduces the chance for undesired hand and body movements that typically cause undesirable shots.

[0007] Using the golf club according to the present invention results in more consistent chip shots by increasing the likelihood that the club head stays within a consistent impact zone with respect to the ball.

SUMMARY OF THE INVENTION

[0008] The present invention is a new and improved golf club. While the invention will be described in connection with certain embodiments, it will be understood that the invention is not limited to those embodiments. To the contrary, the invention includes all alternatives, modifications and equivalents as may be included within the spirit and scope of the present invention.

[0009] The lie of a golf club is the angle in degrees between the center line of the club head's hosel and the sole of the club head when the sole is touching the ground at the center of the club face scoring area. Standard irons have a lie angle ranging from about 56 degrees for a 1-iron, up to about 63 degrees for a 9-iron. The lie angle for a standard wedge is generally between about 63.5 and 64 degrees. The loft of a golf club head is a measurement, in degrees, of the angle at which the face of the club lies relative to a perfectly vertical face represented by the club's shaft. Standard irons have a loft ranging from about 14 degrees for a 1-iron, up to about 55 degrees for a sand wedge, up to about 60 degrees for a lob wedge. The lengths of clubs decrease as the loft increases. For standard irons, lengths are about 40 inches for a 1-iron down to about 35 inches for a sand wedge. According to current USGA rules and regulations, except for putters, the maximum club length is 48 inches. This rule helps even the competitive playing field because the longer clubs generally produce greater forces and thus longer golf shots, particularly for the drivers and higher irons. Accordingly, even for very tall golfers with custom made clubs at the maximum length for the high irons, if the 1-iron is the maximum 48-inch length, the wedges are about 43-inches.

[0010] Applicant has surprisingly discovered a new golf club for chip shots to be used in the same manner as a long shaft putter which improves consistency and significantly decreases the chance for miss-hits. The present invention is an iron on a long shaft, more specifically, a wedge iron with a high lie angle (greater than 64 degrees) on a long shaft (for an overall club length greater than 44-inches) and with a long grip. When used in a pendulum fashion with one end of the grip against the golfer's body, the chip shot is easier.

[0011] The invention is a golf club comprising a golf club head, a shaft fixedly connected to the golf club head and a grip fixedly connected to the shaft. The golf club has a proximal end at the grip end and a distal end at the wedge end. The golf club head is comprised of a club face, a top line, a leading edge, a trailing edge, a sole, a heel, and a toe. The golf club

head is further comprised of a hosel which is typically, but need not be, located and connected to the club head's heel.

[0012] In the preferred embodiment, the club loft is about 58 degrees although a variety of loft angles may be used with the invention, including but not limited to anywhere between about 55 to 60, up to and above 65 degrees. The lie of the club according to the invention is at least about 64 degrees, preferably about 67 degrees, most preferably about 72 degrees.

[0013] The golf club head is fixedly attached to the distal end of the shaft at the club head's hosel. The hosel of the present invention is generally cylindrical in shape and includes an internal hosel cavity in which the distal end of the club shaft is inserted for purposes of mounting the club head on the club shaft. The internal dimensions of the hosel cavity are about complementary to the external dimensions of the club shaft's distal end so that when the distal end of the club shaft is inserted into the hosel cavity the two form a friction fit. Alternatively, the shaft may be fastened to the hosel using adhesives, fasteners, fusion or other methods known in the art.

[0014] The present invention also includes a grip fixedly attached to the shaft. The grip is about cylindrical in shape with one of its ends being open and the other end being closed or capped. When first installed, the grip slides over one end of the shaft into position on the shaft and unlike other iron grips presently known and used, the grip length is much longer allowing for gripping at about the midway point of the shaft where the golfer grips the club with the second hand. Alternatively, the grip may be two piece with a first portion at about the midway point of the shaft and a second portion at the proximal end of the shaft. The grip is made to slide over the shaft and fit securely upon the outside surface of the shaft not movable along the shaft during use of the club.

[0015] Applicant has discovered through experimentation that in the preferred embodiment, the shaft is so dimensioned so that the overall golf club length is at least about 44-inches in length, customizable for specific golfers and for the specific lie and loft of the wedge. Applicant has also discovered through experimentation that normal wedge lie angles will not work. The lie angle of the wedge needs to be higher, at least about 64 degrees.

[0016] When used, the proximal end of the club grip aligns with and is put in contact with a pivot point on the golfer (e.g., the golfer's chest) when the golfer is ready to hit the ball and aligned with the wedge sole next to the ball. The shaft may be tapered so that its diameter varies along its length.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with the general description of the invention given above and the detailed description of an embodiment given below, serve to explain the principles of the present invention. Similar components of the devices are similarly numbered for simplicity.

[0018] FIG. 1 is a front perspective view of one embodiment of the club according to the present invention with a wedge-type head having a 58 degree loft and a 67 degree lie, and a 44-inch length.

[0019] FIGS. 2-7 are front, top, left, right and bottom views of the embodiment shown in FIG. 1.

[0020] FIG. 8 is an enlarged view of a portion of the club shown in FIGS. 1-7.

[0021] FIG. 9 is a left side view of a portion of an embodiment of the invention showing shaft axis Y-Y and loft angle "A" formed by club face axis Z-Z.

[0022] FIG. 10 is a perspective view of a portion of an embodiment of the invention.

[0023] FIG. 11 shows the measurement of the length of a club (L2) using the USGA methodology.

[0024] FIG. 12 is a front elevation view of a portion of the club according to another embodiment of the invention. The hosel of the club according to this embodiment is about perpendicular to the club head's sole, about 90-degrees.

[0025] FIG. 13 shows yet another embodiment of the invention, a modified version of the one shown in FIG. 12, here with the shaft bent.

[0026] FIG. 14 is front elevation view of a portion of a club according to another embodiment of the invention. The hosel of the club according to this embodiment is about 117 degrees as measured from the non-golfer side of the club, 73-degrees as measured from the golfer side of the club.

[0027] FIG. 15 show yet another embodiment of the invention with a 90-degree lie.

[0028] FIGS. 16 and 17 show yet another embodiment of the invention with a wedge-type head having a 58 degree loft and a 64 degree lie, having a multi-angled shaft.

[0029] FIGS. 18 and 19 show a righty golfer holding and using an embodiment of the invention with the proximal end of the club held in the golfer's left hand against a spot on the golfer's chest and the right hand separated from the left hand on the club holding the grip (and shaft and club) at about the middle of club's length.

DETAILED DESCRIPTION OF THE INVENTION

[0030] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with the general description of the invention given above and the detailed description of an embodiment given below, serve to explain the principles of the present invention. Similar components of the devices are similarly numbered for simplicity.

[0031] Referring to the Figures, one embodiment of the golf club 50 according to the present invention for right handed golfers is shown in FIGS. 1-8 having a proximal end 30 and a distal end 40 comprising a shaft 10, a grip 20 and a club head 1. The length L2 of the club (measured as shown in FIG. 11) according to the present invention is approximately about 44 inches in length. The length L2 of the club 50 according to the invention may be varied, although a length L2 at least about 44-inches is preferred, most preferably at least about 48-inches. It is understood that the invention may also be configured for use by a left handed user.

[0032] When viewed facing club head 1, the club head 1 has a front, a rear, a top, a bottom, a right and a left side. The club head 1 is comprised of a toe 5, a heel 7, a face 4, a top line 3, a leading edge 6, a sole 19, a trailing edge 18, a back 8 and a hosel 2 as identified in FIGS. 8 and 9. The top line 3 is along the top of the club head 1. The leading edge 6 is along the bottom edge of the club head 1 and along the bottom portion of the club face 4. The toe 5 is located along the left side of the club head 1 and the heel 7 is located along the club head's 1 right side.

[0033] The club face 4 is an about flat surface found on the front side of the club head 1. Axis Z-Z runs along the flat surface plane of club face 4 as shown in FIG. 9. Club face 4 is the surface with which the golf ball makes contact when using

the club to strike the ball. In the embodiments shown in the Figures the club face 4 includes linear grooves 11 of varying lengths across its surface between the toe 5 and heel 7, it being understood that the invention includes various other groove configurations and surfaces for the club face 4 as known in the art. Generally, the club face grooves 11 help spin the golf ball. Likewise, the club head face 4 may be made so as not to be completely flat, instead having a curve(s), recess(es), dimple (s) or bump(s). The present invention also includes a wedge further comprising an insert on the face of the club in the club's preferred striking area similar to an insert on a putter.

[0034] The hosel 2 part of the club head 1 is an about cylindrical structure located on the right side of the club head 1 as shown in the Figures, particularly FIG. 8. In the embodiments shown in all but FIGS. 15 and 16, the hosel 2 is positioned on the heel 7 of club head 1. Other embodiments of the invention include a hosel positioned at other locations on the club head 1 which is made possible only because of the manner of use of the invention, not being swung like a normal iron. In the embodiments shown in FIG. 15 the hosel 2 is positioned about centrally behind club face 4 of the club head 1 and in FIG. 16 the hosel 2 is positioned offset from the heel 7. Alternatively, the hosel may be positioned on the left side of the club head 1 near the toe 5 as well as other positions on the club head 1 (e.g. on the back 8, side, top or bottom of club head 1).

[0035] The hosel 2 includes an aperture (cavity) within which the shaft is inserted and fixedly secured. The hosel cavity is about cylindrical in shape and extends into the interior of the hosel 2. The hosel cavity may have a smooth internal surface or alternatively it may include ridges, tabs, protrusions or a coarse texture to facilitate the fastening of club head 1 to club shaft 10. The hosel cavity may also include threads which are complementary to those that may be found on the distal end of the club shaft 10. The internal dimensions of the hosel cavity are about complementary to the external dimensions of the distal end of the club shaft 10, so that when the distal end of club shaft 10 is fitted within the hosel cavity, there is a friction fit between the hosel cavity's internal surface and the external surfaces of the club shaft's distal end.

[0036] Axis Y-Y runs along the longitudinal length of hosel 2 and shaft 10 as shown in FIGS. 8 and 9. The hosel 2 may also be made so as to be curved or bent along its entire or part of its length. For straight shaft irons, the angle "B" between the longitudinal axis Y-Y of the shaft 10 and Axis X-X at the sole of the club is equal to the angle "B" of the hosel 2 on club head 1. This is the lie of the club. For the present invention, the lie angle B is at least about 64 degrees, preferably at least about 67 degrees and most preferably at least about 72 degrees. In some embodiments, the lie angle B can be about 90 degrees (the Y-Y axis perpendicular to Axis X-X as shown in FIG. 12), bent inward toward top line 3 at an angle of 117 degrees as shown in FIG. 14), or a variety of other angles.

[0037] The present invention also includes a club head's with different offsets. When the leading edge of a club face is set back from the hosel the club is said to have offset, the distance between the middle of the club's hosel 2 and the leading edge 6 of club face 4. The club head 1 may also feature an adjustable hosel/head, featuring a hinging, rotating or similar adjustment, to allow the user to vary the lie angle B and loft angle A of the club.

[0038] The bottom of the club head 1 features sole 19. Axis X-X runs parallel to the bottommost about flat central area of sole 19. The front of sole 19 shares the leading edge 6 with the

bottom of club face 4 as shown in FIG. 8. The back of sole 19 shares the trailing edge 18 with the back 8 of club head 1 as shown in FIG. 9.

[0039] The club's loft angle A is the measurement in degrees between Axis Y-Y and Axis Z-Z as shown in FIG. 9. While the embodiments shown in the Figures show a wedge with an about 58 degree loft angle, the club according to the present invention is not limited to a 58 degree loft angle. A variety of loft angles may be used with the invention, including, but not limited to, loft angles ranging from 55 to 65 degrees, and greater. Many other golf club heads could also be used, including but not limited to ones with a high loft, low loft and hybrids.

[0040] Other embodiments of the present invention may include club heads which are weighted to adjust the club's swingweight, the ratio of the weight of the club head to the grip end of the club. Additional embodiments may include a golf club head whose top line 3 is straight across the club head from the top of the club head's toe 5 to the top of the hosel 2 (not tapered away from the hosel).

[0041] The golf club's head 1 can be made of any one or more materials (particularly when inserts are included) suitable for manufacturing golf club heads, including but not limited to steel, aluminum, titanium, etc. or any combination thereof. The golf club head 1 may also be weighted or hollowed to change its weight.

[0042] The golf club head 1 is fixedly secured to the distal end of club shaft 10 by threading the two components together, by welding the distal end of club shaft 10 and hosel 2 of club head 1 together, by fusion, using adhesive, using a fastener(s), by crimping the two together, or by any other method, or combination thereof known in the art.

[0043] The club shaft 10 includes a proximal end and a distal end. The shaft in the embodiment shown in the figures is so dimensioned so that the overall golf club length is at least about 44 inches although it is understood that many variations of the shaft length can be used to create clubs with different lengths. The length of shaft 10 can also be modified to accommodate different golfers according to their height and/or general preference. The club shaft 10 can also be made so as to be telescoping, allowing its length to be increased or decreased by the user as needed or desired.

[0044] The club shaft 10 is about cylindrically shaped. The diameter of the club shaft 10 may be uniform along its entire length or tapered. Alternatively, the club shaft 10 may be made in different shapes, including, for example, triangular, square, rectangular, oval, octagonal, pentagonal, hexagonal, etc. The distal end of the club shaft 10 is configured to fit within the hosel cavity. Although the outer surface of the distal end of the club shaft 10 is preferably smooth, it may also be made to include ridges, notches, protrusions, tabs, a coarse surface, or any other feature that will facilitate and strengthen the friction fit between the club shaft 10 and the hosel cavity. The distal end of club shaft 10 may also include threads which are complementary to those that may be found in the hosel cavity.

[0045] Preferably, the club shaft 10 is about straight with Axis Y-Y running along its longitudinal length. As the invention is not intended to be swung with the same speed and force as conventional irons, other embodiments of the invention may include club shafts which are bent or curved along a portion(s) of their length to allow the user's fingers to be positioned over or ahead of the golf ball when preparing for or following through with a swing. The club shaft 10 can also be

modified in terms of its shape and/or positioning to vary the club's offset and to make the club shaft 10 more ergonomic.

[0046] The club shaft 10 can be made of any material suitable for manufacturing golf club shafts as known in the art, including but not limited to steel, graphite, carbon fiber, titanium, etc.

[0047] The club grip 20 is about cylindrical in shape and features a proximal end and a distal end. The proximal end of the club grip 20 closest to the golfer is closed/capped, while the distal end includes an opening into a grip cavity which is an about cylindrical cavity that extends within the interior of club grip 20 along approximately the club grip's entire longitudinal length L1 as shown in FIG. 11. The interior surface of the club grip cavity may include ridges, notches, protrusions, tabs, a coarse surface, or any other feature that will facilitate and strengthen the friction fit between club shaft 10 and club grip 20. The club grip cavity may also include threads which are complementary to those that may be found on the proximal end of club shaft 10.

[0048] The club grip 20 has a length L1 equal to approximately half the length L1 of chipping golf club 50 so that the distal end of grip 20 is positioned at approximately the longitudinal center of shaft 10 (see FIG. 11). Alternatively, the invention includes alternative configurations include those where the entire shaft is gripped and where the grip is non-continuous along the length of the shaft, being in two or more pieces along the shaft.

[0049] Although the club grip 20 in the present embodiment is formed from rubber, it can also be made of any material suitable known in the art for manufacturing golf club grips, including but not limited to leather, rubber, or other similar synthetic and/or natural materials. The club grip's exterior can be smooth, it can be textured, and/or can feature grooves to assist with the user's grip and hand/finger positioning. Additional modifications can be made to the club grip to make it more ergonomic. The club grip may also include flat surfaces along some or all of its exterior surfaces. The length of the club grip can also be modified to accommodate different golfers according to their height, swing style and/or general preference. The golf grip 20 can be made to slide up and down on the golf club shaft 10 to allow the user to adjust the overall length of the chipping golf club 50. The club grip 20 may also be segmented so that a portion of the grip is mounted at about the midway point of the shaft 10 and a second portion of the grip is mounted toward the proximal end of the shaft 10. The golf club grip 20 can also be mounted to the club shaft 10 at different angles with respect to the shaft, including but not limited to being about perpendicular to the club shaft 10 (see FIG. 17). Other embodiments may include a club grip 20 which is weighted to adjust the club's swing-weight. Another possible embodiment may include a club grip 20 which features a rollable ball or other non-moving similarly curved structure (e.g., a half circle) at the grip's

proximal end to help ease the rotation of the club on the golfer and reduce friction during the swung.

[0050] When using the golf club according to the present invention, for right-handed golfers, the proximal end of the club is held in the golfer's left hand and placed in contact with the golfer's torso, preferably the chest with the golfer's left elbow pointed towards the target. The left palm faces the golfer's chest. The golfer's right hand grasps the grip on the shaft at about the middle of the club with the right palm facing the target. FIGS. 18 and 19 show a golfer holding the invention. The opposite orientation would apply for a left-handed golfer. The golfer positions the distal end of the club, the wedge face in front of the ball. The golfer uses the invention in a pendulum type action/motion maintaining the left hand in one spot on the chest while swinging the distal end of the club back away from the ball and then forward toward the intended target thereby striking the ball.

[0051] While the present invention has been illustrated by description of various embodiments and while those embodiments have been described in considerable detail, it is not the intention of applicant to restrict or in any way limit the scope of the appended claims to such details. Additional advantages and modifications will readily appear to those skilled in the art. The invention in its broader aspects is therefore not limited to the specific details and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of Applicant's invention.

I claim:

1. A golf club comprising:

- a wedge-type club head with an at least about 58 degree loft, said club head having a heel, a sole, and a hosel;
- a shaft having a proximal end and a distal end, said distal end of said shaft fixedly attached to said hosel of said club head;
- a grip fixedly attached to said proximal end of said shaft; wherein the lie angle of said club is at least about 64 degrees; and
- wherein said length of said club is at least about 44-inches.

2. A golf club according to claim 1, wherein said lie angle is at least about 67 degrees.

3. A golf club according to claim 2, wherein said length of said club is at least about 48 inches.

4. A golf club according to claim 1, wherein said lie angle is at least about 72 degrees.

5. A golf club according to claim 2, wherein said length of said club is at least about 48 inches.

6. A golf club according to claim 1, wherein said grip covers at least about one half of the length of said shaft.

7. A golf club according to claim 1, wherein said grip covers the middle of the length of said shaft.

8. A golf club according to claim 7, further comprising a second grip fixedly attached to the center of said shaft.

* * * * *