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(54) **GOLF CLUB PUTTER AND A METHOD OF PUTTING**

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(57) **ABSTRACT**

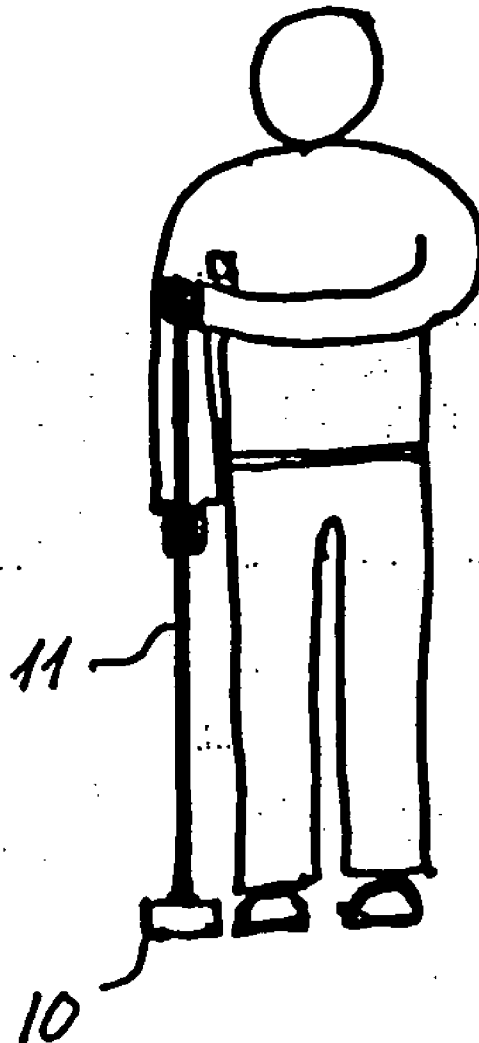
A golf club, in particular a putter, having a shaft and having a club head that has an impact face extending substantially parallel to the axis of the shaft, in which the shaft is oriented substantially perpendicular to the sole of the club head and has a length such that it can be positioned along an arm of the golfer with an end approximately at the level of the golfer's chest and held pivoting thereat by the hand of the other arm. The shaft can be grasped by the hand of the arm along which the shaft is positioned and swung back and forth with the arm about the end as a pivot point. The club head may be formed with back and side impact faces.

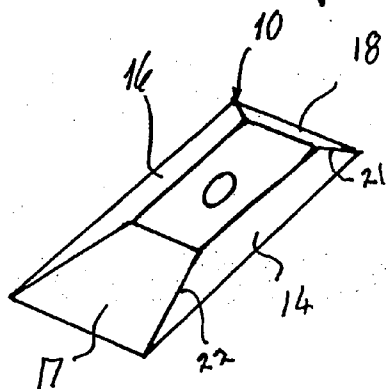
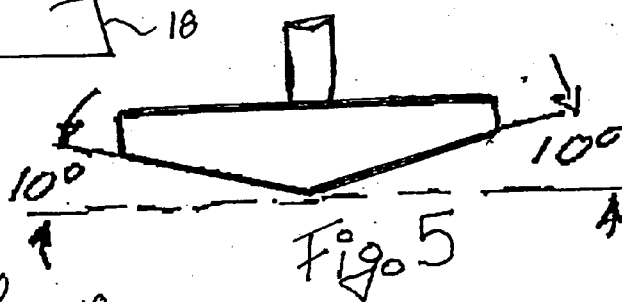
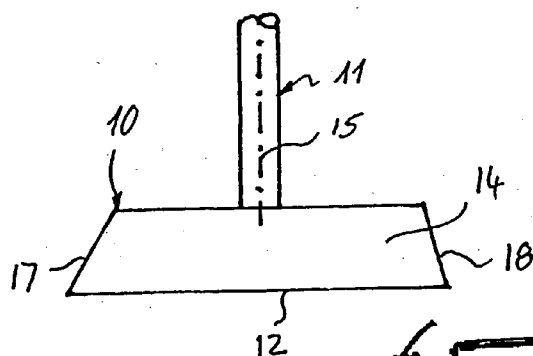
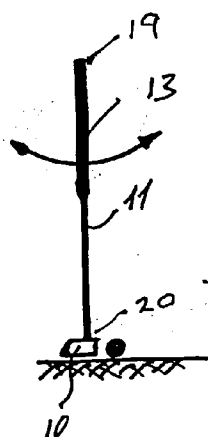
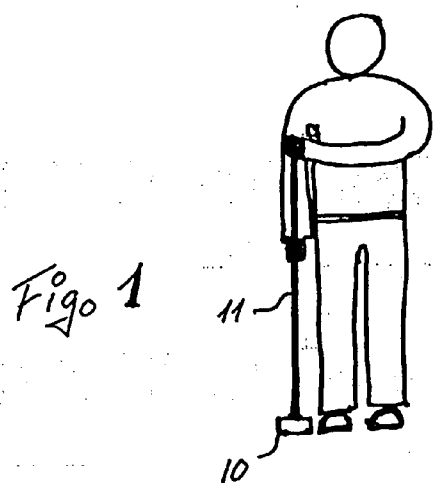
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GOLF CLUB PUTTER AND A METHOD OF PUTTING

FIELD OF THE PRESENT INVENTION

[0001] The invention relates to a golf club, in particular a putter, having a shaft and a club head that has an impact face extending substantially parallel to the axis of the shaft.

BACKGROUND OF THE PRESENT INVENTION

[0002] Numerous versions of putters exist. A common feature of all of them is that they are designed such that the golfer is oriented with the golfer's side facing toward the target for moving the putter in a pendulum motion across the front of the golfer. Typically, the shaft of the putter is held with both hands with both arms swinging together. It is also known to provide putters with an extra-long shaft. In such putters, the upper end of the shaft is held fixedly with one hand in the region of the golfer's chin or chest with the upper end serving as a pivot point about which the shaft is moved back and forth, using the other hand, in a swinging motion in front of the body. To make it possible to guide the club head of the putter as parallel to the ground as possible, it is usual, both in putters with a normal shaft and in putters with an extra-long shaft, for the shaft to be inclined relative to the underside, or so-called sole of the club head.

OBJECT AND SUMMARY OF THE PRESENT INVENTION

[0003] The object of the invention is to create a golf club, in particular a putter, of the type defined above that allows a more relaxed posture for the golfer in putting and improved control of the putting stroke.

[0004] This object is attained by orienting the shaft substantially perpendicular to the sole of the club head and selecting the length of the shaft such that the upper end of the shaft is fixable as a pivot point approximately at the level of the golfer's chest and can be swung back and forth about this pivot point.

[0005] Briefly described, the putter of the present invention has a shaft with an axis and an upper and a lower end. A club head is secured to the lower end of the shaft and has an impact face extending substantially parallel to the axis of the shaft. The shaft is oriented substantially perpendicular to the sole of the club head and has a length such that the upper end is fixable as a pivot point approximately at the level of a golfer's chest with the shaft positioned along an arm of the golfer and being grasped by the hand of that arm for being swung back and forth about this pivot point with the arm. Preferably, the shaft is attached to the club head at least approximately centrally between the ends of the impact face that is essentially parallel to the axis of the shaft. If desired to comply with The Rules of Golf, the shaft may be oriented at an angle of at least 10° from perpendicular to the sole.

[0006] In an alternative embodiment, there are two soles, each diverging from the axis of the shaft at an angle of at least 10 degrees from perpendicular to the shaft so that either sole can be oriented parallel to the ground and the shaft will then be oriented at least 10 degrees from perpendicular to the sole. With this construction, the putter can be used either from the right or left side of the golfer.

[0007] Preferably, the putter is used with the golfer oriented facing the hole while holding the putter laterally along the body. The upper end of the putter is fixed approximately at chest height with one hand, with the arm of that hand placed against the chest to stabilize the putter. The putter is then disposed along the other arm, which hangs down laterally along the body, with the hand of that arm grasping the shaft and guiding the putter to the back of the golfer and forward with the arm in a swinging motion with the shoulder as a pivot. The arm swings at the shoulder joint, so that no other motion of the golfer's body is superimposed on this swinging motion. The golfer can assume a very relaxed posture, since he or she does not have to bow forward over the head of the putter. Since the shaft is oriented essentially perpendicular to the sole of the club head, the putter can be used both "right" and "left"; that is, the same putter can be swung with either the right or the left hand, while the other hand then fixes the free end of the shaft, as a pivot point.

[0008] The length of the shaft is adapted to the golfer. For this purpose it is advantageous if the length of the shaft is variable.

[0009] Convenient manipulation is obtained if the length of the shaft is designed for the particular golfer in such a way that the shaft ends at least approximately in the region of the golfer's armpit. Then the golfer can keep the putter, which has been adapted to him or her, fixed in his or her armpit during putting.

[0010] In a feature of the invention, the back side of the club head, facing away from the impact face that is parallel to the axis of the shaft, is in the form of an impact face that is inclined relative to the axis of the shaft. Because of this feature, the golf club, which is actually a putter, can be reversed and used for chipping, with the same swinging motion employed that is used for putting.

[0011] In another feature of the invention, the club head has opposite narrow side faces, located between the front and back sides, at least one side face being in the form of an impact face that is inclined relative to the axis of the shaft. By means of the putter designed in this way, it is possible to use one of the short side faces to hit a golf ball out of an otherwise unplayable narrow lie, for instance from between trees, tree roots or rocks, where a conventional club cannot be swung.

[0012] Further characteristics and advantages of the invention will become apparent from the ensuing description of the preferred embodiment shown in the drawings and from the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Further features, embodiments, and advantages of the present invention will become apparent from the following detailed description with reference to the drawings, wherein:

[0014] FIG. 1 is a front view of a golfer with a golf club according to the preferred embodiment of the present invention;

[0015] FIG. 2 is a side view of the golf club of FIG. 1;

[0016] FIG. 3 is an enlarged front view of the club head and a portion of the shaft of the golf club of FIGS. 1 and 2;

[0017] FIG. 4 is an enlarged perspective view of the club head of the golf club of FIGS. 1-3; and

[0018] FIG. 5 is an enlarged front view of the club head and a portion of the shaft of a golf club according to an alternative embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0019] Referring now to the drawings, a first preferred embodiment the golf club shown in the drawings, which is intended to be used predominantly as a putter, has a club head 10, which is mounted on a shaft 11. The shaft 11 extends substantially perpendicular to the base or sole 12 of the club head 10. If preferred to comply with The Rules of Golf, the substantially perpendicular relation of the shaft to the sole can be at an angle, of at least 10° from perpendicular.

[0020] The putter is designed such that it is held laterally by a golfer who is facing the hole to which he is putting. The shaft 11 is long enough such that the golfer can grasp the shaft using the hand of an arm hanging loosely downward with the shaft along the hanging arm, and can hold the upper end 19 of the shaft 11 in the region of the shoulder or chest with the hand of the other arm. The golfer can hold the putter such that the shaft is located in front of the downwardly hanging arm and is grasped from behind with the hand of the hanging arm, as shown in FIG. 1. The other hand, which in this exemplary embodiment is the left hand, then holds the putter in the region of the upper end 19 of the shaft, at the upper arm or at the shoulder. When the golfer executes a swinging motion with his or her arm toward the front and back about his or her shoulder joint, the shaft 11 moves with the club head 10 in the same way, so that the pivot point of this swinging motion is approximately at the golfer's shoulder joint.

[0021] However, a golfer can also hold the putter in such a way that the shaft is located on the inside of the arm, so that the hand of the downward-hanging arm grasps the shaft 11 from the side. The other hand can hold the putter on the shaft end at the upper arm. It is also possible to adapt the shaft length to the golfer's body size in such a way that the end of the shaft 11 rests in the golfer's armpit when the club head 10 is located with its sole 12 just above the ground. In all these cases, with his or her arm, the golfer can execute a swinging motion, in which the putter is likewise carried along, toward the front and back about his or her shoulder joint.

[0022] The length of the shaft 11 may be varied to adapt to the body size of the golfer; that is, long enough that it reaches approximately to the golfer's shoulder. As a result, the shaft lengths are in the range from approximately 1.20 m to approximately 1.70 m. The upper end 19 of the shaft is provided with a grip element 13 whose length is approximately the same as the average length of a human arm so that it can be grasped by the hand of the hanging arm along which the shaft 11 is positioned. Preferably the grip element 13 extends from the upper end 19 of the shaft a distance of approximately 60 cm to 70 cm from the club head. Further, the grip element 13 may, if desired, be made in a plurality of pieces.

[0023] To make an adaptation to the body size of the golfer, putters can be furnished with shafts 11 of extra

length, which can then be cut to the proper length for the golfer's body size when the golfer buys the putter. In a modified embodiment, the shaft is composed of at least two parts that fit into one another in a conventional telescoping fashion for displacement relative to one another and fixed in a preselected position by relative twisting or by tightening a connecting nut.

[0024] The club head 10 has an impact face 14, which forms the front side of the club head 10 and extends parallel to the axis 15 of the shaft 11. This impact face 14 is used for putting. The lower end 20 of the shaft is attached to the club head 10 at least approximately centrally between the ends 21, 22 of the impact face 14. The back side 23 of the club head 10, facing away from the impact face 14, is likewise formed as an impact face 16, which is inclined relative to the axis 15 of the shaft 11. This impact face 16 can be used for chipping by reversing the position of the club.

[0025] The spacing between the front impact face 14 and the back impact face 16 is on the order of magnitude of 25 mm to 50 mm, to provide relatively narrow opposite side faces. These side faces are likewise formed as impact faces 17, 18, which extend with an inclination, preferably each with a different inclination, to the axis 15 of the shaft. By using these narrow impact faces 17 or 18, it is possible for an otherwise unplayable ball to be hit out from between objects, such as between rocks or trees or tree roots.

[0026] In the alternative embodiment illustrated in FIG. 5, a club head 20 is attached to the end of a shaft 21 and there are two (2) soles diverging from the axis of the shaft. One sole 22 extends to the left as viewed in FIG. 5 at a 10° angle to perpendicular to the axis of the shaft. The other sole 23 extends to the right of the center of the club head as viewed in FIG. 5 at an angle of 100° to perpendicular to the shaft. Thus, when using the golf club with either sole 22 or 23 aligned with the ground, the shaft will be oriented at an angle of 100° from perpendicular to the sole being used. With this construction, the golf club putter of the present invention can be used at either the right side or the left side of the golfer with the shaft extending at an angle of 100° from perpendicular to the sole being used. The angle can be selected as desired.

[0027] In a modified embodiment, the sole 12 is curved between the front and back impact faces 17, 18. This curvature has a center point located in line with the axis 15 of the shaft and may have a radius of curvature of approximately 1 meter.

[0028] It is within the scope of the invention to modify the shape of the club head 10. In a modified embodiment, the head is provided with side faces 17, 18 which extend perpendicular, that is, parallel to the shaft 11. In a second modified embodiment, the sole 12 is made so narrow between the impact face 14 and the impact face 16 that in a side view, the club head 10 has an approximately triangular contour. In a third modified embodiment, the top side, opposite the sole 12, is curved, above all between the side faces 17, 18. The impact faces 14 and 16 are lengthened inward into this region and are thus enlarged. In a fourth modified embodiment, the lateral, oblique impact faces 17, 18 do not extend into the impact faces 14, 16; that is, the impact faces 17, 18 are bounded by peripheral ribs. In a fifth modified embodiment, the club head 10 with the impact faces 14, 16, 17, 18 has been created from what was

originally a spherical or hemispherical or cubic body. It is understood that these modifications can also be realized in combinations with one another.

[0029] In view of the aforesaid written description of the present invention, it will be readily understood by those persons skilled in the art that the present invention is susceptible of broad utility and application. Many embodiments and adaptations of the present invention other than those herein described, as well as many variations, modifications, and equivalent arrangements, will be apparent from or reasonably suggested by the present invention and the foregoing description thereof, without departing from the substance or scope of the present invention. Accordingly, while the present invention has been described herein in detail in relation to preferred embodiments, it is to be understood that this disclosure is only illustrative and exemplary of the present invention and is made merely for purposes of providing a full and enabling disclosure of the invention. The foregoing disclosure is not intended nor is to be construed to limit the present invention or otherwise to exclude any such other embodiments, adaptations, variations, modifications and equivalent arrangements, the present invention being limited only by the claims appended hereto and the equivalents thereof.

What is claimed is:

1. A golf club putter, comprising a shaft having an upper end and a lower end, and a club head secured to the lower end of the shaft and having an impact face and a sole, said impact face extending substantially parallel to the axis of the shaft, said shaft being oriented substantially perpendicular to said sole and having a length such that said upper end is fixable as a pivot point approximately at the level of a golfer's chest with the shaft being positionable along one arm of the golfer for grasping by the hand of the arm for being swung back of the golfer and forward with the arm about said pivot point.

2. The golf club putter according to claim 1, characterized in that said shaft is oriented at an angle of at least 100 from perpendicular to said sole.

3. The golf club putter according to claim 2, characterized in that said putter has two soles, each diverging from the axis of the shaft at an angle of at least 10 degrees from perpendicular to the axis of the shaft.

4. The golf club putter according to claim 1, characterized in that the length of the shaft is variable.

5. The golf club putter according to claim 4, characterized in that the shaft comprises at least two parts, which are adjustable relative to one another in the direction of the axis of the shaft and are fixable to one another in a set position.

6. The golf club putter according to claim 1, characterized in that the length of the shaft is selected for the particular golfer using the golf club putter such that the upper end of the shaft is at least approximately in the region of the golfer's armpit.

7. The golf club putter according to claim 1, characterized in that said shaft is attached to the club head at least approximately centrally between the ends of the impact face that is essentially parallel to the axis of the shaft.

8. The golf club putter according to claim 1, characterized in that said club head has a back side, facing away from said impact face and forming an impact face that is inclined relative to the axis of the shaft.

9. The golf club putter according to claim 1, characterized in that said club head has opposite side faces, at least one of said side faces is located between the front and back faces and is an impact face that is inclined relative to the axis of the shaft.

10. A golf club putter according to claim 8, characterized in that said club head has opposite side faces, at least one of said side faces is located between the front and back faces and is an impact face that is inclined relative to the axis of the shaft.

11. The golf club putter according to claim 1, characterized in that the sole of the club head has a curvature with a center point located at least approximately in line with the axis of the shaft.

12. The golf club putter according to claim 11, characterized in that the curvature of the sole has a radius of at least 1 meter.

13. The golf club putter according to claim 1, characterized by a grip on the shaft extending from the upper end of the shaft a distance of approximately 60 cm to approximately 70 cm from the club head.

14. The golf club putter according to claim 13, characterized in that said grip is formed of a plurality of pieces.

15. A method for use by a golfer to putt a golf ball using a putter having a shaft attached to a club head with the shaft extending substantially vertical to the sole of the club head and being of such a length that the upper end of the shaft is positionable at approximately the level of the chest when the club head is in position to putt the golf ball, said method comprising: addressing a golf ball by facing the hole to which the golf ball is to be putted with the golf ball at a side of the golfer, holding one arm against the golfer's chest while grasping the upper end of the shaft with the hand of the golfer's arm that is against the chest so that the shaft extends generally along the other arm which is hanging, grasping the shaft with the hand of the hanging arm, swinging the hanging arm to the back of the golfer and forward to putt the golf ball while holding the upper end of the putter as a pivot point.

16. The method according to claim 15 characterized in that in said grasping of the upper end of the shaft the upper end of the shaft is positioned at the armpit of the golfer.

17. The method according to claim 15 characterized by the final step of removing the ball from the hole after correctly performing the steps recited in claim 14.

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