

United States Patent

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- [54] PENDULUM-TYPE GOLF PUTTER**
3 Claims, 4 Drawing Figs.

- [52] U.S. Cl..... 273/81,
273/80, 273/167

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- [50] **Field of Search**..... 273/77, 80,
80.2, 81, 81.3, 162, 164, 183, 193, 167, 168

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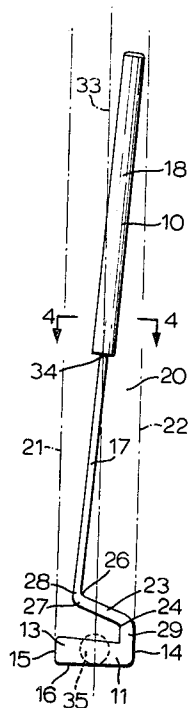
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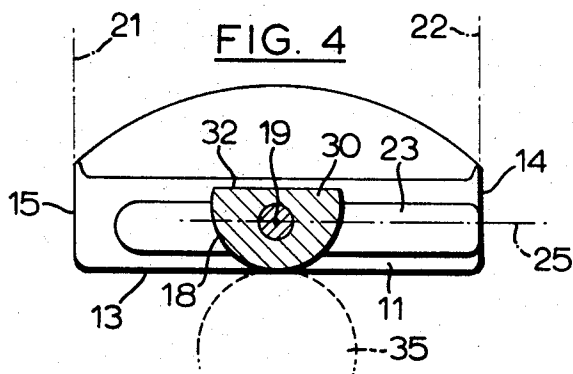
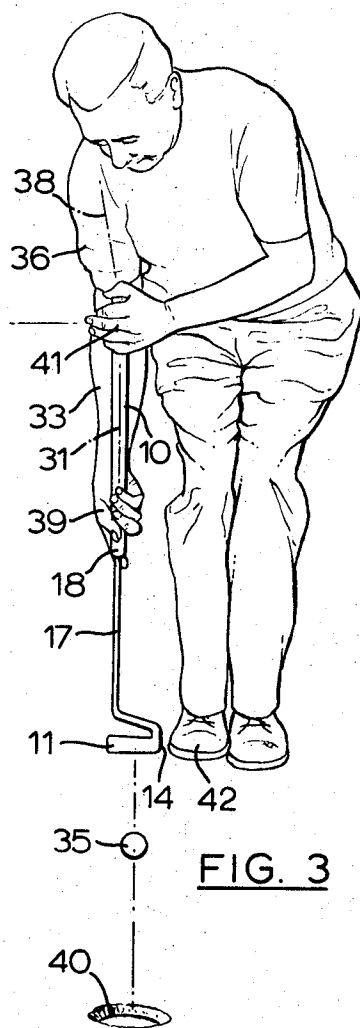
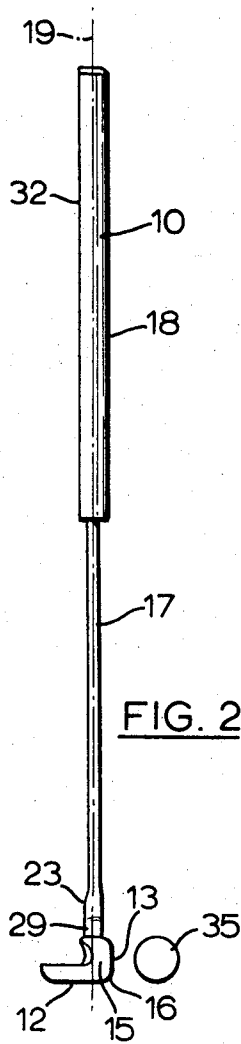
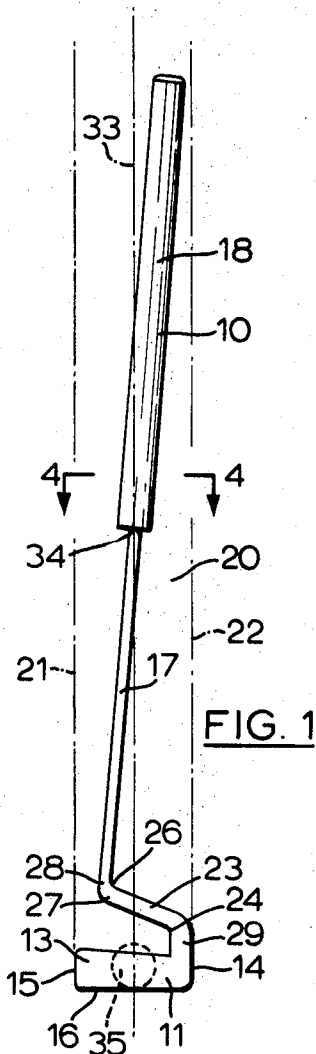
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ABSTRACT: A golf putter having a shaft the axis of which is subperpendicular to the sole-edge of the putter-face, the lower end of the shaft overlying the putter head, the shaft including a grip of substantially greater diameter than the lower portion of the shaft, said grip being of elongated, cross-sectionally segmental configuration to present a flattened rear side portion designed to lie against the player's forearm when supinate. The entire length of the shaft is disposed between two spaced vertical planes extending upwardly from the toe and heel of the head.





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PENDULUM-TYPE GOLF PUTTER

The present invention is specifically designed for a novel method of putting, and one which is not contrary to the rules of golf. It is also designed to fulfill and advance, by a novel construction designed to implement a novel concept, the following three important principles of putting, that is to say:

- (1) Direction: i.e. the maintenance of the face or of the putter head at right angles to the line between the ball and the cup at the moment of impact with the ball.
- (2) Stroke: i.e. quality of impact between the putter head and the ball and which ideally involves making impact with the ball at the conclusion of a low, shallow arc as close to the grass as possible and as closely resembling the swing of a pendulum as possible.
- (3) Stance: i.e. perfect and comfortable immobile equilibrium combined with a perfect view of the cup location.

The invented putter facilitates implementation of the foregoing three principles by making it easier for the player to maintain the face of the putter head at right angles as aforesaid, facilitating a natural pendulumlike action of the putter as an extension of the putter-holding arm and by introducing a stance which is natural, comfortable and with the whole body facing the ball, with the arm swing involved being essentially that which is the arm swing performed in the act of bowling.

Heretofore, putting has always been performed with the player facing a direction at right angles to the intended direction of the travel of the ball to the cup. With all variations of putting when the body is at right angles as just stated, a putter comprised of shaft and head, the face of which is at an obtuse angle to the axis of the shaft has been essential and unavoidable—unless the putter is of the illegitimate mallet-type i.e. is essentially a modified form of croquet mallet.

Conventional methods of putting comprise (i) wrist putting, and (ii) arm and shoulder putting. In wrist putting there is high liability to angular variation of the putter shaft resulting in uneven pendulum strokes, a smaller and higher arc, and "rolling" of the wrists which results in the putter blade (or head) being "fanned open" on the back swing.

Hazards of imperfect arm and shoulder putting reside in large and higher arcs, and pivoting of the shoulder which, like wrist putting, also opens the putter-head on the back swing with resultant loss of control and a pendulum swing which is through a conic path rather than through a plane sectorial path. Incoordination results through the involvement of movement in too many parts of the body.

By use of the present method and the novel putter invented for the employment of such method, no distortion of the body is involved in the sense of twisting, as in conventional putting. Instead, the putting swing takes place through a stiff-arm hinging action from the shoulder joint in which the entire arm together with the length of the putter shaft right down to the head thereof may be regarded as a single unit. By means of such a swing the weight of the head alone if desired can be employed to produce the needed momentum. The swing is straight toward the hole with no involvement of any conically deviating component therefrom.

It will be clear from what has already been stated that if the player is facing the cup with the whole body he has greater control of the travel of the ball since eyes and the swinging arm are acting in perfect coordination with each other. The only contortions involved generally speaking in connection with the present novel putting stance are (1) usually some bending of the legs at the knees, and (2) a slight curvature at the waist in the frontal plane so that the shoulder hinge, the adjacent eye, the right (lower) hand, and the ball are all in approximately vertical alignment.

The invented putter is so held that the palm-side of the hand of the arm which swings the putter is, prior to closing around the shaft, substantially at right angles to the sagittal body plane, i.e. facing the cup, wherefore, in other words, the forearm has been rotated as from the elbow. The shaft is so designed that the grip thereof includes a flattened portion which may be steadied against the rotated forearm by the flat

palm of the upper (left) hand which will be placed against the upper end of the grip above the elbow. The flattened grip portion is accordingly parallel with the face of the head but on the opposite (rear) side of the club.

An important novel feature of the invented putter also resides in providing a shaft the axis of which is subperpendicular to the sole of the putter-head or blade, but with its lower end overlying the head, such lower end including an acutely angled portion relative to the head, the plane of this acutely angled portion being parallel with the putter face so that the complete ball is clearly visible below it whereby the sweet spot on the face of the club may be more accurately located. By the expression "sweet spot" is meant in this specification, the point-area of most perfect impact; a point or point area which can be described with reference to mass, torque, momentum and the like, but which is generally understood by the above expression as being the point or area of the most efficient impact, by more practiced players.

As a result of this disposition of the grip, with reference to the lower portion of the shaft, it will be apparent that the player with an arm hanging vertically beside him, which arm is rotated from the elbow downward as aforesaid, has only to bend his body or head slightly, for one eye to be directly over, and in the vertical "cup plane" of the grip and the ball wherefore he is obviously in a position of particular mechanical and ocular advantage as to line of flight and sight between ball and cup. The coincident plane referred to is achieved by obtusely angling the lower portion of the shaft above said acutely angled portion, by approximately 10° as will become clearly apparent hereinafter. A further important novel feature of the presently invented putter resides in recognition and utilization of the observed fact that when the radius of the forearm is rotated about the ulna into supination, a small angle exists between the axis of the upper arm and the axis of the (supinate) forearm such that the latter diverges outwardly and downwardly slightly from the elbow. Thus, when the present club is held with the right arm in supination and the upper part (above the elbow) of such arm tucked against the player's side, the putter shaft will lie parallel with the forearm while the heel of the head is fairly close to the outer edge of the adjacent foot (an inch or somewhat more as a rule) in view of the obtuse angulation at the lower end of the shaft toward the player's adjacent foot.

With the foregoing considerations in view and such other objects, purposes of advantages as may become apparent from consideration of this disclosure and specification the present invention consists of the inventive concept which is comprised, embodied, embraced or include in the method, process, construction, composition, arrangement of parts, or new use of any of the foregoing, herein exemplified in one or more specific embodiments of such concept, reference being had to the accompanying FIGS. in which:

FIG. 1 is an elevation of the invented putter as viewed from the cup.

FIG. 2 is an elevation of the invented putter as viewed from the left side of FIG. 1.

FIG. 3 is a pictorial representation of a player whose frontal plane is intended to be parallel with the picture plane, employing the novel putting method herein disclosed, and the novel putter for carrying out such method.

FIG. 4 is a section on the line 4-4 of FIG. 1.

In the drawings like characters of reference designate similar parts in the several FIGS.

The golf putter according to the present invention comprises, in combination, a shaft generally designated 10, and a head generally designated 11. The head includes a sole 12, a face 13, a heel 14, toe 15, and a lower faced edge 16 at the junction of the sole and face.

The shaft 10 is formed of a lower shank 17 and an upper grip 18, the common axis of the shaft including shank and grip being designated 19. At least the axis of the greater part of shank 17 is in acute superior angular relationship to face edge 16 and occupies a stratum of space 20 lying at least predomi-

nantly within that pair of spaced paralleled planes 21 and 22 the former of which, when edge 16 is horizontal, touches the toe 15 while plane 22 touches heel 14, these planes being both horizontally and vertically at right angles to edge 16. In stating they are horizontally at right angles to edge 16 it is meant that if the planes 21 and 22 were viewed in plan (as in the accompanying FIG. 4) they would also be at right angles to edge 16 (and of course face 11).

The shank 17 includes a portion generally designated 23 which is acutely angulated as at 24 relative to head 11 in the vicinity of the lower end of the shank, the vertical axial plane 25 of said acutely angled portion being parallel with face 11. The acutely angled portion aforesaid diverges from the heel end of head 11, and an obtuse interior angle 26 is formed between the divergent upper end 27 of said acutely angled portion, and the adjacently superior portion 28 of the shank 17. The obtuse angle 26 and the angle of said acutely angled portion are on opposite sides of the shaft 10.

It will be observed by best reference to the accompanying FIG. 1 that a vertically disposed socket 29 is interposed between the heel 14 of head 11 and the diverging shank portion 23. This is to be preferred for practical manufacturing and other purposes but the acute angulation of the lower end of shank 17 if desired commence right at the heel 14.

Grip 18 is of substantial length relative to the total length of the shaft. At right angles to its longitudinal axis, the grip-area is seen to be substantially greater than that of shank 17. The grip 18 includes a grip surface 31 which is predominantly rounded, and preferably semicircular as viewed at right angles to its longitudinal axis 19, but the surface of the grip 18 also includes a portion 32 which is flat and intended to be held in interfacing contact with the front surface of the player's forearm 33 when supinate to facilitate the prevention of unwanted axial twisting of shaft 10. The portion 32 is upon the opposite side thereof to that of face 13, and is of substantial length relative to the shaft 10, such flat portion 32 being the chord of a segment as clearly to be discerned from an inspection of the accompanying FIG. 4.

A vertical 33 perpendicular to edge 16 and passing through the center of face 13 will be seen to intersect the shaft 10 at the junction of the shank 17 and grip 18, in other words at locus 34. This, as a rule, will be sweet spot of the head 11 and the locus of most perfect impact for the ball 35. The slight angle previously referred to which is made between the forearm 33 and upper arm 36 is designated by the axis 37 and 38 of the portions of the arm respectively, and from an inspection of FIG. 3 it will be apparent that the present putter functions as an extension of the supinate forearm and the axes 37 and 19 will be substantially parallel when the hand 39 (with palm in front) is wrapped around the lower portion of grip 18.

From all the foregoing it will be clearly apparent that the right eye of the player depicted in the accompanying FIG. 3 is substantially on the line 33 of FIG. 1, in line with hand 39 and the ball 35 which, when the putter is vertical as in the accompanying FIG. 2 will be perceived by the said eye substantially as shown in the accompanying FIG. 4. As a result, a very accurate pendulum swing and lineup with cup 40 is achieved, it

being understood that the left hand 41 will overlie the upper end of grip 18 to hold the putter steady either at or just above the elbow. As shown, the player's right foot 42 is preferably a little behind the left foot so that the inner edge of the right foot (in the vicinity of the ball thereof) can be tucked more or less into the arch of the left foot. Thus the heel 14 of the club can be very close to the outer edge of the player's right foot or shoe.

It should finally but importantly be added in connection with the invention which has been described and is illustrated in the accompanying drawings that the same may if desired be used in the manner of a conventional putter. By this is meant that, if desired, a player may, with the invented putter address the ball in the conventional way, standing at right-angles so to say to the position illustrated in the accompanying FIG. 3. Then he still has the same advantage of "stiff-arm" pendulum action which has been described in detail.

It is to be emphasized in this last connection that one cannot obtain the highest efficiency with this club by the alternative conventional approach method just referred to. However, the advantage of being able to employ the putter this way is that it is a highly convenient way of introducing the new method of holding such a putter. In other words, new users of the same may wish to learn first of all to hold it as has just been described, before turning into the position of the accompanying FIG. 3.

Various modifications can be made within the scope of the inventive concept disclosed. Accordingly, it is intended that what is set forth herein should be regarded as illustrative of such concept and not for the purpose of limiting protection to any particular embodiment thereof, and that only such limitations should be placed upon the scope of protection to which the inventor hereof is entitled, as justice dictates.

I claim:

1. A golf club having a head and a shaft, said head being transversely horizontally elongated and including a substantially vertical front face, a back side, a toe and a heel, said shaft having a relatively short lower shaft portion which is connected to the top of said head at the heel and extends obliquely upwardly above the head substantially toward the toe, said shaft also having a relatively long and straight upper shaft portion which constitutes a continuation of and extends upwardly from the toe end of said lower shaft portion and angularly toward the heel, said upper and lower shaft portions being disposed in a common plane which is parallel to and lies wholly between two spaced vertical planes extending upwardly from the front face and the back side of said head, and the entire length of said shaft being disposed wholly between two spaced vertical planes extending upwardly from the toe and heel of the head.

2. The device as defined in claim 1 wherein said head also includes a lip projecting rearwardly from said back side of the head.

3. The device as defined in claim 1 wherein said upper shaft portion is provided with a hand grip having a flat back surface, substantially coplanar with said vertical plane of said back side.