Jan. 21, 1958 V. E. MORRISON 2,820,638

GOLF CLUB

Filed March 1, 1954

FIG. 3

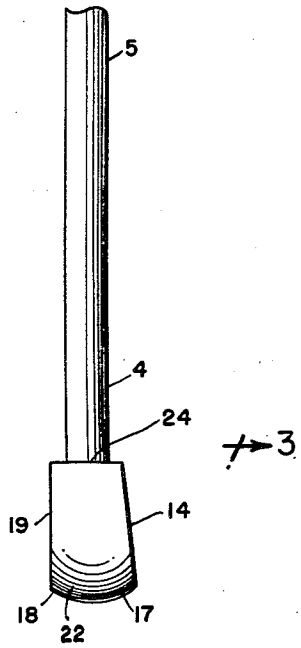


FIG. 1

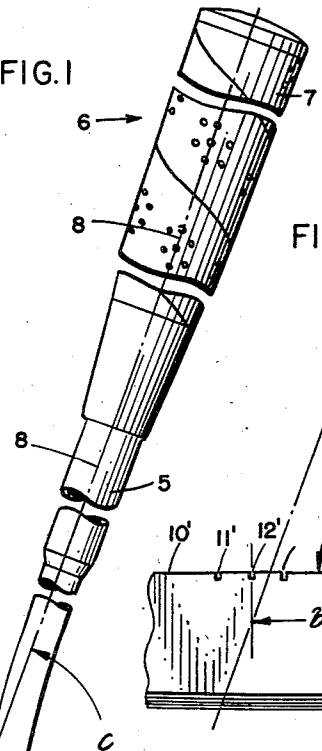


FIG. 4

FIG. 5

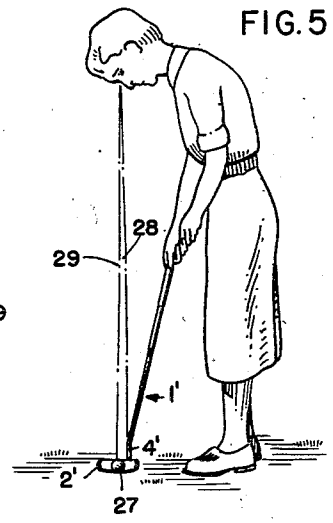
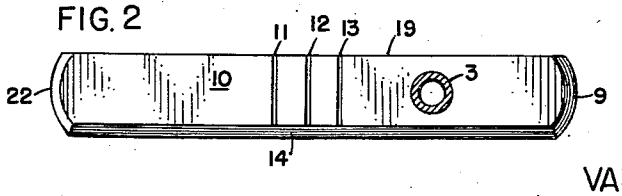


FIG. 2



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GOLF CLUB

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This invention relates to golf clubs and finds particular application in the provision of a new and improved putter.

An object of the invention is to provide a golf club that will assist the player in making accurate shots.

Another object is to provide a golf club which is balanced in such a manner that it facilitates accurate approaching and, particularly, putting.

A particular object is to provide a club which is balanced about the gripping portion of the shaft, ordinarily also about the longest axis of the shaft, to minimize club head turning and deviation from the proper arc in the course of hitting the ball.

An additional object of the invention is to provide a golf club having the club head and the shaft or shank thereof so constructed as to facilitate alignment of the player's head with the ball and the hole.

A further object of the invention is the provision of a golf club having a mark on the top of the club head and having the lower portion of the shaft, or shank portion, inclined from the vertical whereby the player can assume the proper stance by aligning his eyes with the shank to automatically bring his head over the mark on the club head in the proper position for addressing the ball.

A still further object is to provide a golf club both balanced and constructed to assist in properly aligning the player's head with the ball and the hole.

These and other objects and advantages of the invention will become apparent from the following description taken in conjunction with the accompanying drawing in which like reference characters are employed in each of the views to identify like parts, and in which:

Figure 1 is a broken elevational view of a putter embodying the invention;

Figure 2 is a plan view of the putter head taken on line 2—2 of Figure 1;

Figure 3 is a left profile view of the putter head broken away in the upper portion of the shaft, taken on line 3—3 of Figure 1;

Figure 4 is an elevational view of another embodiment of the invention, illustrating a putter head and a separate shank member attached to the head, with parts of the construction broken away; and

Figure 5 is an elevational view of a golfer addressing the ball with the putter of Figure 4.

As illustrated in the drawing, a golf club embodying the invention comprises a club head and a shaft, including a gripping portion, connected thereto, the longitudinal axis of the gripping portion being approximately coincident with the center of gravity of the club. The club is thus balanced in the golfer's hands when it is swung, so that there is no or practically no torque acting about the axis of the gripping portion to cause the head to turn around the axis, and consequently move the face of the club head out of its proper plane. The construction also assists in avoiding deviation from the proper arc of swing during backward and forward movement of the club

until contact is made with the ball and during the follow-through.

The advantages of the invention are best realized when the club shaft lies in a vertical plane, and the top of the club head is provided with an aligning mark over, or directly above, the center of gravity of the club, so that the ball contacts the face of the club head substantially at the point on the face nearest the center of gravity.

A further feature of the invention is the provision of a shank portion in the club shaft, or of a separate shank, extending upwardly from the club head for a substantial distance at an acute angle to a horizontal plane through the top of the club head. The part of the shank portion facing the toe of the club head has a straight sighting portion, preferably a flat surface, forming a slight acute angle from the vertical in the direction of the toe which serves as a sighting or aligning surface for the golfer. When the golfer's eyes are aligned with this sighting surface, his head is in the proper position over the aligning mark. A right triangle is thus formed between the golfer's eyes and the sighting portion as the hypotenuse, the golfer's eyes and the aligning mark as one of the sides, and the mark and the base of the sighting portion as the other side.

In the embodiment shown in Figure 1, a putter **1** includes a metal club or putter head **2** and a metal shaft **3** suitably united with the head at the base of the shaft, as by screwing, welding or expansion. The shaft **3** includes a lower relatively short generally vertical circular shank portion **4** and a relatively long upper circular portion **5** terminating in an uppermost gripping portion or handle **6**. Around the gripping portion there is tape-wound or otherwise affixed a suitable material **7** such as leather or a composition serving to provide a grip for holding the club.

In Figure 1, the shaft **3** is continuous from the club head to the uppermost end of the shaft and is in the form of a bent tube, preferably widening upwardly along the shaft, as represented in Figure 5. A separate shank **4'** may be employed, as illustrated in Figure 4, the shank being adapted at its upper end for connection to the remainder of the shaft unit. This facilitates the manufacture of a club furnishing the sighting feature, discussed in greater detail hereinafter.

The putter **1**, and particularly the shaft **3** thereof, is constructed so that the longitudinal axis **8** of the gripping portion **6** of the shaft, which is also the axis of the entire upper portion **5** of the shaft in the form shown, is approximately coincident with the center of gravity of the putter, identified as C. G. in the drawing. Some deviation from exact coincidence of the axis **8** of the gripping portion and the center of gravity is permissible while still accomplishing the objects of the invention; however, greatest accuracy is assured when the axis is substantially coincident therewith. Correspondence between the axis **8** and the center of gravity can be obtained by suitably constructing and joining the club head **2** and the shaft **3**. For this purpose, the club head may be weighted or lightened, such as by drilling or otherwise providing one or more holes in the club head and filling them with a heavy or light metal.

The base of the shank portion **4** of the shaft **3** is disposed toward the heel **9** of the club head **2**. The shank portion extends upwardly and generally vertically from the head and unites with the upper portion **5** of the shaft, which extends upwardly and outwardly from the shank portion. The longitudinal axis **15** of the shank portion **4** and the longitudinal axis **8** of the upper portion **5** of the shaft form an obtuse angle *c* directed toward the heel **9** of the club head **2**, to properly position the club head in relation to the body of the golfer. The shaft **3**, particu-

larly the longitudinal axes 15 and 8 of its components, lies in a single vertical plane paralleling the longitudinal axes of the club head 2 and its face 14 and perpendicular to the direction of the hole, when in the proper position for putting.

The top or upper surface 10 of the head 2 is provided with three spaced parallel straight grooves 11, 12 and 13, which are substantially normal to the face 14 of the club head, the face being inclined from the vertical to provide a small pitch. The central groove 12 is over, or directly above, the center of gravity of the putter 1 and fulfills the purpose of the aligning mark previously referred to, i. e., it is the groove sighted on by the golfer and aligned behind the center of the ball and in the direction of the hole. The grooves 11 and 13 are optional and assist in obtaining the proper centering.

The sole 16 of the club head 2 preferably has slightly rounded edges 17 and 18 (see Figure 3) along the face 14 and the back 19, respectively, of the head and also has rounded edges 20 and 21 toward the heel 9 and the toe 22, respectively, of the head. This construction minimizes interference with the turf while providing a level lie, so that the upper surface 10 of the head 2 is horizontal.

The form of the invention illustrated in Figure 4 is especially well adapted for sighting along the shank portion or shank 4' of the shaft 3' to correctly position the golfer's head. The club head 2' and grooves 11', 12' and 13' in its upper surface 10' correspond to their counterparts in Figures 1–3. The shank portion 4' shown is, however, for the most part rectangular and has a flat surface or sighting portion 23' facing the toe of the head 2'.

The sighting portion 23' of the shank 4' preferably forms an angle a' of about 87° to 89° with the upper surface 10' of the club head when the latter is constructed so that on assuming its natural lie, the upper surface is in a horizontal plane. Otherwise stated, the sighting portion 23' forms an angle with the vertical of about 1° to 3° when the club assumes its natural lie. The base line distance b' from the central groove 12' on the upper surface 10' to the base 24' of the sighting portion 23' is then about 1¼ to 1⅜ inches, preferably about 1 5/16 inches, so that the triangle shown in Figure 5 has its upper apex at the proper level.

Where there is provided a shorter base line distance b between the central groove 12 on the club head 2 and the base of the surface 23 of the shank portion 4 facing the toe 22, as shown in Figure 1, the corresponding angle a between the upper surface 10 of the club head and the surface 23 of the shank portion will be acute but greater, if the sighting feature is desired, to provide a sighting triangle of the proper height. It is preferred for greatest accuracy, however, to construct the club so that the base line distance b' is relatively long and the angle a' is relatively small. The flat sighting surface 23' can be replaced by a narrow strip or other sighting means.

The construction of Figure 4 also includes the balancing feature of the invention, whereby the longitudinal axis 8' of the upper portion 5' of the shaft 3', including the gripping portion (corresponding to the construction of Figure 1), is coincident with the center of gravity of the club. However, the construction providing the aligning feature of the invention is also useful alone and may be provided in golf clubs constructed without the balancing feature.

The longitudinal axis 15' of the shank portion or shank 4' forms an obtuse angle c' with the longitudinal axis 8' of the upper portion 5' of the shaft unit or shaft 3'. The angle c' corresponds to the angle c in the form illustrated in Figure 1, except that the angle c' is slightly smaller due to the increased inclination from the vertical of the shank portion 4', forming the angle a' which is slightly smaller than the angle a shown in Figure 1.

In the form shown, the upper portion of a shank member 25' including the shank 4' has a hollow shaft receiving portion 26' adapted for insertion of the remainder of the shaft 3' into the shank member, for connection thereto. The shank member 25' is shown as welded to the club head 2', to provide an assembly which accurately fixes the angle a' between the sighting portion 23' of the shank 4' and the upper surface 10' of the club head. The remainder of the shaft unit 3' may be inserted or connected at the time of assembly of the shank member and club head or subsequently, as desired.

The putter 1 illustrated in Figures 1–3 is used in the normal way, the golfer gripping the club adjacent the end of the shaft 3 and over the gripping portion or handle 6 and the material 7 secured thereover which forms the grip. The golfer addresses a ball 27 about as illustrated in Figure 5, and the ball is centered opposite the center of gravity of the club and in front of the face 14 of the club head 2 during alignment and at contact, by means of the central groove 12 and the auxiliary grooves 11 and 13 on the upper surface 10 of the club head. During the backswing, forward motion of the club, contact with the ball and follow-through, the golfer is assisted in avoiding club head turning and deviation from the proper arc of swing, to increase the accuracy of the shot.

When using the embodiment of Figures 4 and 5, which also assists in properly positioning the golfer's head, the central mark or groove 12' on the upper surface 10' of the club head 2' is centered behind the ball 27, and the sole 16' of the club head is allowed to take its natural lie. The golfer's eyes are then aligned along a sighting line 28 with the flat surface sighting portion 23' of the shank 4'. This brings the golfer's eyes directly over the central groove 12' in the upper surface of the club head, so that a vertical line of sight 29 can be drawn between the eyes and the groove 12'. The grooves 11' and 13', on either side of the central groove 12', assist in properly centering the ball. In this way, the golfer is able to properly align the putter, the ball and the hole and to anchor his head in the proper position to putt the ball.

Although the invention is especially useful as applied to putters, it, and particularly the balancing feature, can also be applied to other golf clubs. It is very advantageously employed in clubs customarily played from a close stance such as approach irons, 6, 7, 8 and 9 irons, and sandblasters.

It will be apparent that changes and modifications can be made in the design and construction of the club head, shaft, or shank portion of the club without departing from the principles of the invention. Thus, the club head 2 may have a variety of contours, the sighting portion 23' might assume different forms, and the locations and proportions of the parts may be altered while still providing the balancing and aligning features of the invention.

The invention is hereby claimed as follows:

1. A golf putter comprising a club head, and a shaft connected thereto, said shaft having a relatively short shank portion extending upwardly from said club head and a relatively long portion extending upwardly and outwardly from the shank portion and including a gripping portion, the part of said shank portion facing the toe of the club head having a straight sighting portion in a plane forming a slight acute angle from the vertical in the direction of the toe of the club head when the putter assumes its natural lie on the sole of the club head, which sighting portion forms the hypotenuse of a right triangle between the eye of the golfer, a point in said plane adjacent the base of the shank portion and a point in a horizontal line with said first-named point substantially over the center of gravity of the putter, said center of gravity lying between said first-named point and the toe of the club head, the longitudinal axis of said gripping portion being coincident with said center of gravity.

2. A golf putter comprising a club head, and a shank disposed toward the heel of said club head and extending

upwardly from the club head, the part of said shank facing the toe of the club head having a substantially straight sighting portion in a plane forming a slight acute angle from the vertical in the direction of the toe of the club head when the putter assumes its natural lie on the sole of the club head, which sighting portion forms the hypotenuse of a right triangle between the eye of the golfer, a point in said plane adjacent the base of the shank and a point in a horizontal line with said first-named point substantially over the center of gravity of the putter, said center of gravity lying between said first-named point and the toe of the club head.

3. A golf putter comprising a club head, and a shank disposed toward the heel of said club head and extending upwardly from the club head, the upper surface of said club head containing a groove substantially normal to the face of the club head, said groove lying in a vertical plane coincident with the center of gravity of the putter, the part of said shank facing the toe of the club head having a lowermost straight sighting portion, said sighting portion being in a plane forming a slight acute angle from the vertical in the direction of the toe of the club head when the putter assumes its natural lie on the sole of the club head, which sighting portion forms the hypotenuse of a right triangle between the eye of the golfer, a point on the sighting portion in a horizontal plane with said groove, said groove lying between said point and the toe of the club head.

4. A golf putter comprising a club head, and a shaft connected thereto, said shaft having a relatively short shank portion extending upwardly from said club head and a relatively long portion extending upwardly and outwardly from the shank portion and including a gripping portion, the part of said shank portion facing the toe of the club head having a straight sighting portion in a plane forming a slight acute angle from the vertical in the direction of the toe of the club head when the putter assumes its natural lie on the sole of the club head, which sighting portion forms the hypotenuse of a right triangle between the eye of the golfer, a point in said plane adjacent the base of the shank portion and a point in a horizontal line with said first-named point substantially over the center of gravity of the putter, said center of gravity lying between said first-named point and the toe of the club head.

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