GOLF PUTTER HEAD WITH HOLLOW TOE AND HEEL PORTIONS

ABSTRACT

A golf putter head which is designed to make available to the player a relatively large mass at the ball-striking area of the putter face and the loft of a long iron club for putting a ball from just outside the green, while retaining the directional and power control for short puts. Undue increase in the weight of the putter which would result from the concentration of mass at the ball-striking area, and the unattractive bulge such concentration of mass would entail, are avoided by retaining the constant thickness of the usual putter over its entire length while making the heel and toe of the putter hollow.

3 Claims, 6 Drawing Figures
This invention relates to an improvement in golf putter heads.

Golf putter heads as heretofore made have been designed to impart a rolling motion to a golf ball for short distances. For a satisfactory result upon the rolling ball a slight initial spin about a horizontal axis has been considered desirable, and putter heads have therefore been provided with a ball-striking face which is tipped backward at an angle of about 5° from the vertical. The ball-striking face itself is a flat plane. Since the distances that the ball is to be putted are small, not much weight has been incorporated into the putter head. Furthermore, weight has been substantially evenly distributed along the length of the head, but from the standpoint of maximum control of the club, i.e., to decrease turning of the club while striking the ball, it would be best if the weight were concentrated in the ball-striking area of the club face.

It sometimes occurs, however, that a ball is to be putted from just outside the green. Such putts are long, and for maximum accuracy it would be desirable to lift the ball over the turf bordering the green to drop it on the green with a slight backspin, and then have it roll the remaining distance to the cup. Such lifting and spinning of the ball requires a greater backward angle of loft of the club face and also greater concentration of mass at the ball-striking area for greater accuracy. For eye appeal, however, it is desirable to have the front and back faces of the putter flat and evenly spaced from one another, which of necessity implies an even distribution of the mass over the club head. This conflicts with the objective of having the mass of the putter concentrated at the ball-striking area.

An object of this invention is to provide a golf putter head which concentrates the greater portion of the weight of the head at the ball-striking area of the putter face, while retaining flat, substantially evenly spaced front and rear faces, thereon.

Another object of this invention is the provision of a golf putter head which has sufficient weight and loft to move a ball initially through the air and then along the green with a maximum of control. As a more specific object, this invention has within its purview the provision of a golf putter head which has a concentration of weight at the ball-striking area thereof for better directional control, which has substantially evenly spaced flat front and rear faces, each tilted backward from the vertical approximately 10° for greater loft, but which weights little more than an average golf putter head.

The foregoing objects are attained in the golf putter head of this invention by making the head approximately twice as thick as the average golf putter head to provide a mass of metal at the ball-striking area of the club, and by making the toe and heel of the head hollow to reduce the weight of the head to that normally considered acceptable, the mass at the ball-striking area being retained. To achieve the hollow construction, the head is made of two parts each of which is cast to have the desired inner hollow-forming shape, and the two parts are then joined by any suitable soldering, brazing or welding technique to form the unitary head. One of said parts has the hosel of the club cast integrally therewith. These and other objects of this invention will become apparent from the following detailed description of a preferred embodiment of the invention when taken together with the accompanying drawings in which:

FIG. 1 is a side elevational view, partly cut away, of a putter head of this invention;

FIG. 2 is a front elevational view of the putter head of FIG. 1;

FIG. 3 is a plan view, partly cut away, of the putter head;

FIG. 4 is a side elevational view, in section, of the head of FIG. 1, the section being taken along line 4—4 of FIG. 2;

FIG. 5 is a front elevational view, in section and exploded, of the head of FIG. 1, the section being taken along line 5—5 of FIG. 1; and

FIG. 6 is a side elevational view of one of the components of the head of FIG. 1 taken along line 6—6 of FIG. 2.

Referring now to the drawings for a detailed description of the invention, the putter selected to illustrate this invention has a form in vertical outline substantially identical to that used in a commercial putter sold by John Reuter, Jr., Inc., of Phoenix, Arizona under the trademark "BULLS EYE". It is understood, however, that the principles of this invention can be applied very readily to putters having other vertical outlines. Thus the head is shown at 10 and, as is customary, is formed with a hosel 11 extending downwardly and slightly backwardly from the upper portion of the head 10. Said head has a toe region 12, a heel region 13, and a central region 14, the latter being specifically designed to be the ball-contacting region of the club. It is understood, of course, that the usual shaft and handle will be attached to the hosel 11 in the finished club. Since the shaft and handle form no part of this invention they are not shown here in detail.

In accordance with the principles of this invention, the central ball-contacting region 14 is made heavier than usual and is the region which contains the center of mass of the club head. Thus central region 14 is made thicker than the average golf putter head, as shown more clearly in FIG. 2, to accommodate the greater concentration of mass at this point.

The ball-striking surface of the putter head, however, is required to be substantially flat, and if the putter head is made symmetrical about the longitudinal center line thereof, the front face 15, as shown in FIG. 2, and the rear face 16 will be substantially evenly spaced apart throughout the length of the head. As much as the distance between the front and rear faces 15 and 16, respectively, is greater at the central region 14, to provide the desired increase in mass thereof, an exceptionally thick club head results and the total weight of the club head would be increased excessively. This undesired increase in the weight of the head is obviated by making the toe and heel regions 12 and 13, respectively, hollow. A number of ways are available to achieve this result, but I prefer to make the putter head in two parts each of which can be molded to provide a relatively thin wall for the heel and toe regions and a solid portion for the central ball-contacting region 14.

Referring now to FIGS. 4, 5, and 6, a vertical mold parting line is established between the front and rear portions of the club head, to form a front portion such as is shown in FIG. 6 and designated by the reference character 17, and a rear portion such as is shown in FIG. 4 and designated by the reference character 18. The hosel 11 may also be split so as to have one part integral with the front portion and the other part integral with the rear portion, but in the preferred form shown in FIGS. 4 and 5 the entire hosel can be made integrally with the rear portion 18, with a horizontal parting line 19 between the hosel and the front portion 17.

The hollow toe and heel regions are formed by molding the front and rear portions with recesses 20 and 21, respectively, in the rear portion 18, and recesses 22 and 23, respectively, in the front portion 17. The solid central region 14 is formed by lands 24 and 25 on the rear and front portions 18 and 17, respectively. The size and shape of the lands 24 and 25 can vary in accordance with the mass it is desired to concentrate over the ball-striking region of the club.

The material of which the club head is formed may be any of those presently used for putters. I have found that brass is a satisfactory material from the standpoint of appearance and moldability and I have found further that the two portions 17 and 18 can be readily machined and united by well known techniques, the uniting, for example, being readily accomplished by a silver soldering process.

In accordance with the aforesaid objectives of this invention, the front faces 15 and 16, respectively, of the club head are inclined backward from the vertical by approximately 10°. This angle may vary in the range of from 8° to 12°, and is approximately twice that of the normal putter head. The additional mass of the head and its concentration over the ball-striking region makes it possible to use the putter for moving the ball from the region immediately adjacent to the green and into the cup. The increased angle with the vertical provides greater loft to the ball to raise it over that.
portion of the turf immediately adjacent to the green which might otherwise impede or deflect the ball, and it also provides a certain amount of spin to the ball for directional stability, once the ball strikes the green and rolls thereon towards the cup.

The increased width, or thickness, of the putter head of this invention, with the greater mass concentrated solidly in the ball-striking area of the head, provides greater control over the ball in the normal putting positions and also in the unusual positions bordering on the green which might otherwise require an approach stroke as well as a putting stroke. There is also a psychological advantage produced by the apparent increased weight to the club resulting from its greater thickness which also contributes towards greater control of the ball while it is being putted.

It may be apparent from the foregoing description that modifications may be made in the shape of the putter head, the location of the parting line between the front and rear portions thereof, and in the shape, size, and location of the solid central portion, without departing from the spirit of the invention and that the scope of the invention, therefore, is not to be limited to the form illustrated and described herein, but is to be determined by the appended claims.

I claim:

1. A golf putter head assembly including the heel and toe of the putter, said assembly comprising elongate front and rear parts having respectively front and rear faces, said front face having a ball-striking area at the mid-region thereof, said parts having contiguous solid regions between the front and rear faces at said ball-striking area and contiguous hollow regions throughout the heel and toe of said head assembly, and means holding said front and rear parts together to form a unitary head, said elongate parts being in contact with one another along their outer edge regions, and said solid part comprising opposed lands on said elongate parts in contact with one another.

2. A golf putter head assembly including the heel and toe of the putter, said assembly comprising elongate front and rear parts having respectively front and rear faces, said front face having a ball-striking area at the mid-region thereof, said parts having contiguous solid regions between the front and rear faces at said ball-striking area and contiguous hollow regions throughout the heel and toe of said head assembly, and means holding said front and rear parts together to form a unitary head, and a hosel formed integrally with one of said parts and extending upwardly from one of said contiguous solid regions and over the other of said contiguous solid regions.

3. A golf putter head assembly as described in claim 2, said front and rear parts being symmetrical about a plane passing between said contiguous solid regions, and said hosel having a horizontal parting line with respect to the other of said parts.