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C. S. BUTCHART

GOLF CLUB HEAD

Filed May 11, 1926

Fig. 1.

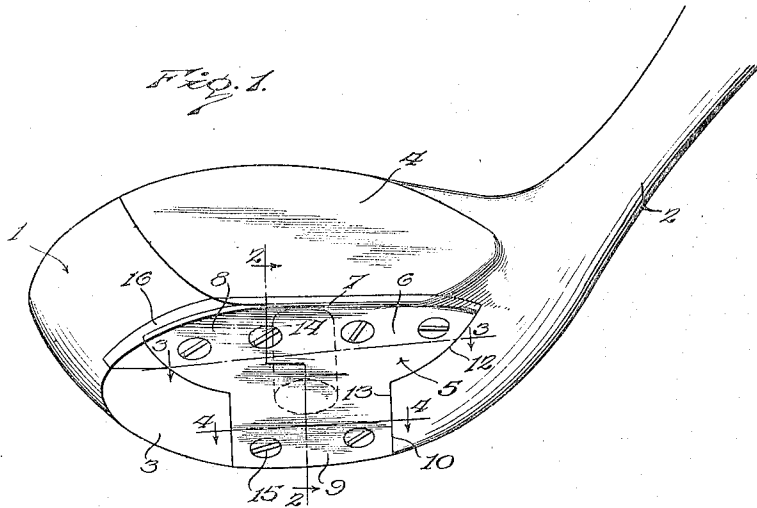


Fig. 2.

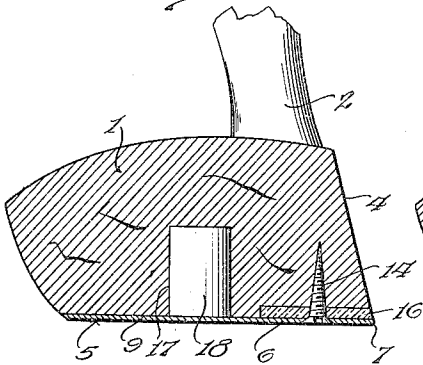


Fig. 3.

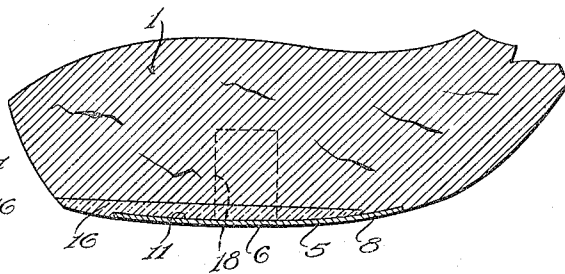
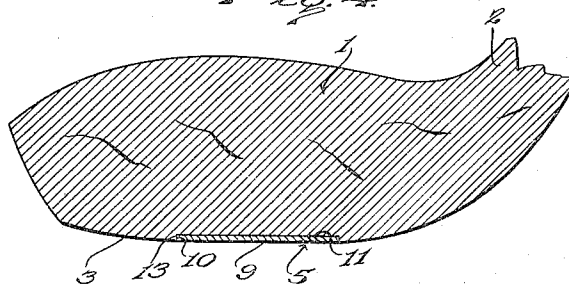


Fig. 4.



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GOLF-CLUB HEAD.

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This invention relates to improvements in the heads of golf clubs and more particularly to the heads of golf clubs of the brassie and driver types.

5 The heads of golf clubs of the types referred to are ordinarily provided with a sole plate secured to the sole of the head but it has been found that such plates are soon loosened through impacts with the golf balls, particularly if the player makes a slice or hook drive, and this is due to the fact that such sole plates are ordinarily applied directly to the sole of the golf club head and secured in place by screws or, if they are countersunk in recesses formed in the soles of the heads, their marginal contour is such that such loosening of the plates will occur. Therefore, it is the primary object of the present invention to overcome this difficulty by providing a sole plate so constructed and so assembled with the sole of the golf club head as to preclude any loosening of the plate in the event inaccurate strokes are made.

25 While it has been proposed, heretofore, to recess the sole of a golf club head and dispose the sole plate within the recess flush with the surface of the head, such plates have been of such marginal contour as to render them incapable of withstanding the stresses imposed upon impact with the ball to be driven, the contour of such plates being usually such that there is a torsional or twisting stress imposed thereon, and which is not overcome, in the event of slice or hook drives or, if the plates are constructed with the object in view of overcoming this disadvantage, they are usually made of wedge shape and seated flush in a correspondingly formed recess in the sole of the golf club head and, under impact, soon become loosened. Therefore, the invention has as a further object, to provide a sole plate of such marginal contour that when secured in place within a correspondingly formed recess in the sole of a golf club head of the types referred to above, it will not be liable to become loosened under the impacts incident to slice and hook drives as well as direct and proper drives.

40 Another object of the invention is to so construct the sole plate and so assemble the same with the sole of a golf club head as to adapt the plate to securely retain in place the weighting element usually employed in golf clubs of the type referred to and to

permit of disposition or location of this weighting element at the most advantageous point to effect balancing of the head.

In the accompanying drawings:

Figure 1 is a perspective view illustrating a golf club head constructed in accordance with the present invention.

Figure 2 is a vertical transverse sectional view taken substantially on the line 2—2 of Figure 1, looking in the direction indicated by the arrows.

Figure 3 is a vertical front to rear sectional view through the head, taken substantially on the line 3—3 of Figure 1, looking in the direction indicated by the arrows.

Figure 4 is a similar view on the line 4—4 of Figure 1, looking in the direction indicated by the arrows.

In the drawings, the numeral 1 indicates in general a golf club head having the usual shank 2 to which the shaft of the club (not shown) is secured in the usual manner, the head having the usual sole 3 and striking face 4, the sole 3, in the present instance, being slightly curved longitudinally, as shown in Figure 3 of the drawings, and the striking face 4 being flat and inclined upwardly and rearwardly from the juncture with the substantially straight forward edge of the sole. As clearly shown in Figure 3 of the drawings, the sole of the club head is slightly curved between the heel and toe of the head and this curvature is more pronounced at the portion of the sole nearer the striking face 4, the intermediate portion of the sole near the rear side of the head being substantially flat, as shown in Figure 4 of the drawings.

The sole plate embodying the invention is indicated in general by the numeral 5 and the same is of brass or any other metal which may be found suitable for the purpose. The sole plate comprises a body portion 6 having an approximately straight forward edge portion 7 and approximately semi-elliptical side portions 8, one of the edges of each of which portions constitutes a continuation of and merges with the straight edge portion 7. The sole plate further comprises a tongue portion indicated by the numeral 9, which has straight substantially parallel side edges 10 at which the other or rear edges of the semi-elliptical portions 8 terminate, as clearly shown in Figure 1 of the drawings. The contour of the straight edge portion 7 and

the forward edges of the substantially semi-elliptical end portions 8 of the sole plate conforms to the contour of the forward edge of the sole 3 of the club head, as will be evident by reference to Figures 1 and 2 of the drawings. The sole plate 5 is seated in a shallow recess 11 machined in the sole of the head and the plate corresponds in surface contour to the surface of the sole so that, inasmuch as the plate completely fills the recess, the entire surface of the sole is smooth. The walls of the recess are of such contour that the rear edges of the substantially semi-elliptical end portions 8 of the body of the sole plate and the side edges 10 of the tongue 9 of said plate snugly contact wall portions indicated respectively by the numerals 12 and 13, which define the recess 11. The plate is secured in place by screws 14 fitted through the body portion 6 of the plate and other screws 15 which are fitted through the tongue 9 of the plate, and these screws have their heads countersunk so that they are flush with the under surface of the plate. As it is common practice to provide an insert at the forward side of the head of a golf club of the types referred to and at the lower side of the driving face 4, such an insert, indicated by the numeral 16, may be employed in carrying out the present invention, although it constitutes no essential part thereof, but if the insert is employed, it will be recessed or cut away at its under side to conform to and constitute an extension of the recess 11 in the sole of the head, as clearly shown in Figures 1, 2 and 3 of the drawings. The rear edge of the tongue 9 of the sole plate registers with the rear edge of the sole of the club head, as clearly shown in Figures 1 and 2, and this edge, as well as the forward edge of the plate, is preferably slightly beveled to prevent any injury to the golf balls.

At this point it will be evident that inasmuch as the rear edges of the end portions of the body of the sole plate abut against the wall portions 12 of the recess 11, the plate will be firmly braced so that if its forward edge should impact the ball to be driven, the securing screws 14 will be relieved of the strain and there will be no tendency for the plate to become displaced or loosened. It will likewise be evident that if the ball should be hit with a slice or a hook stroke and the forward edge of the sole plate should impact the ball near either end of the plate, the torsional or twisting strain which would otherwise be imposed upon the plate is effectually counteracted by the engagement of the lateral edges of the tongue portion 9 of the plate against the side walls of the portion of the recess in which the tongue portion of the plate is received.

It will also be evident that inasmuch as the sole plate is housed flush within the re-

cess formed in the sole of the club head, the plate may be thinner than the sole plate usually employed and, therefore, permit of an increased mass of lead weighting being embedded in the head in rear of the driving face 4 to increase the driving force of the club. The golf club head, in the embodiment of the invention shown in the drawings, is provided with a preferably cylindrical recess or socket 17 in rear of the driving face 4, and approximately in the line of the longitudinal axis of the head, and a weighting plug 18 of lead is housed within this recess and has its lower end flush with the bottom wall of the recess 11 which is formed in the sole of the head 1, and by reference to Figures 1 and 2 of the drawings, it will be observed that the tongue portion 9 of the sole plate extends over this end of the recess and the flush end of the plug and, therefore, prevents any dislodgement of the plug. Consequently, the tongue portion 9 of the sole plate serves not only to prevent any torsional or twisting displacement of the plate but likewise serves to retain the weighting element of the club head in place and permits of the location of this weighting element at a point to provide for balancing of the head with respect to the shaft of the club.

It will be understood that while a plate of the marginal contour shown in the drawings is to be preferred, the contour may be slightly varied without departing from the spirit of the invention, the invention residing primarily in the idea of providing a recess in the sole of the golf club head opening through the forward side of the head at the lower edge of the driving face as well as at portions at opposite sides of this edge and which recess has walls such as the walls 12 which are spaced rearwardly from and located opposite the open side of the recess and the lateral wall portions 13 which extend rearwardly from the inner ends of the walls 12, and the mounting of a sole plate within such recess so that the laterally disposed rear edges of the body of the plate will abut the first mentioned walls of the recess and the lateral edges of the tongue of the plate will abut the last mentioned walls of the recess. Therefore, the forward edge of the sole plate will conform to the contour of the forward side of the club head and the rear edges of the end portions 8 of the body of the plate may be curved to a greater or less degree than illustrated in the drawings and, likewise, the tongue 9 of the plate may be of greater or less length than as illustrated.

Having thus described the invention, what I claim is:

A golf club head having a shallow recess in its sole opening through the forward edge of said sole and having curvilinear

walls located opposite its open side, the recess having a rearward extension defined by rearwardly extending substantially parallel walls meeting the inner ends of the first mentioned walls of the recess, the said extension opening through the rear side of the head, a sole plate disposed within the recess and including a body portion having a forward edge substantially flush with the forward side of the head and having rear edge portions abutting the first mentioned walls of the recess, the said plate further including a tongue portion occupying the extension of the recess and having lateral edges abutting the walls of the said extension, and means securing the said plate within the recess. 15

In testimony whereof I affix my signature.

CUTHBERT S. BUTCHART.