

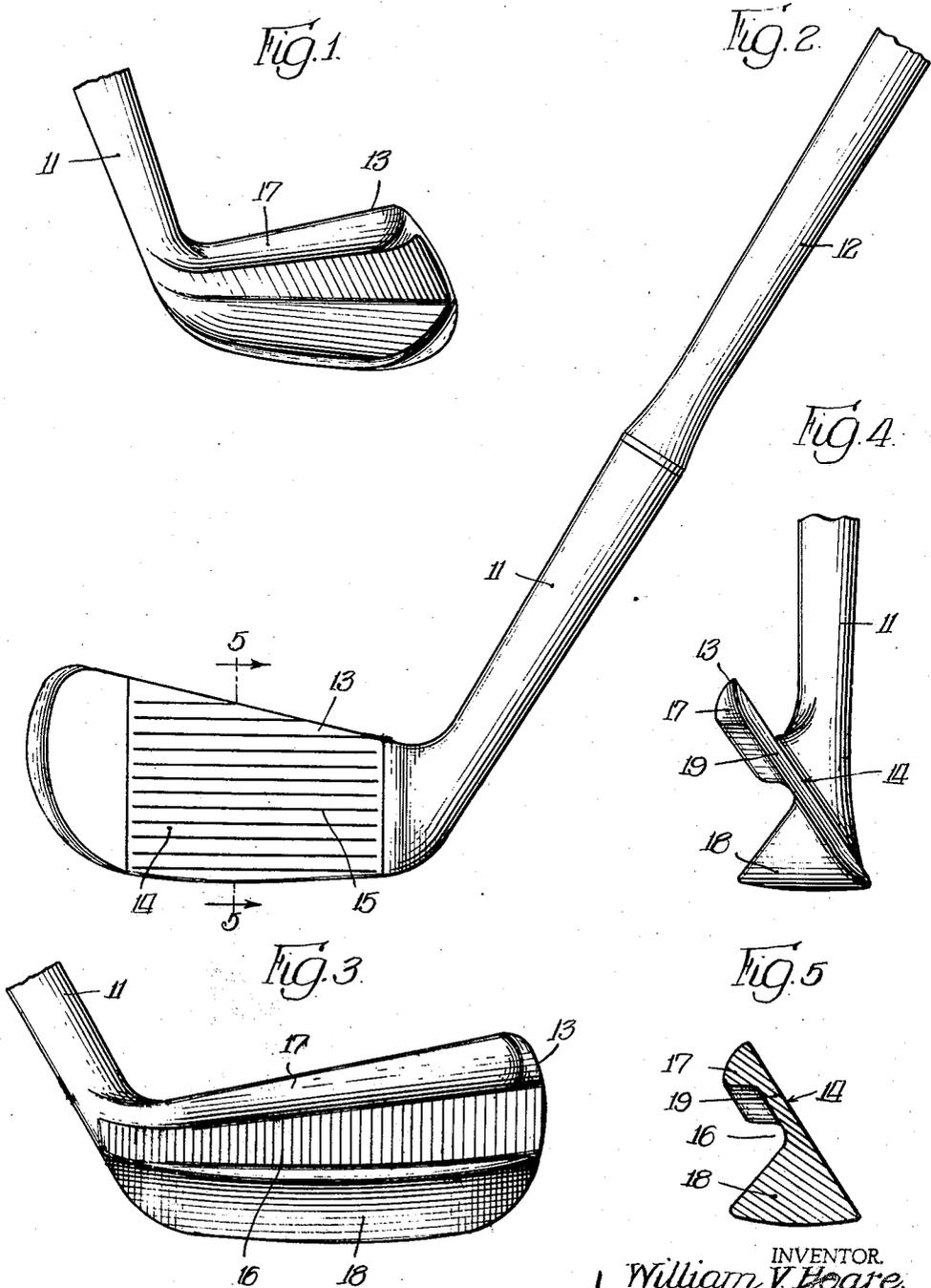
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GOLF CLUB

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GOLF CLUB

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The present invention relates to certain features of structural advantage and resulting functional benefit in golf-clubs whereby to improve the game, the lowering of the score, of the player, and more particularly, but not necessarily exclusively, that of the average player or of the more or less unskilled novice.

As is well known, professional and expert players and some amateurs can perform with remarkable skill and accuracy with the present-day clubs, but an implement which will aid the other players is desirable, whereby to render the game more interesting and competitive.

It is to fulfill such demand that the present novel club has been invented and tested to establish its practical properties.

The invention pertains more especially to the metal, or so-called iron, clubs of varying lofts or inclinations of the active surfaces of their heads.

A set of ordinary or usual iron clubs includes an appropriate number, dependent upon the skill of the player, to take advantage of the differences of such clubs, the faces of which vary as to their slope whereby to cause lifts or elevations of the ball different amounts or degrees when struck with such inclined surfaces.

In using such clubs, it has been common practice to strike somewhat downwardly on the ball and to cut into the turf with the lower or relatively-sharp edge of the club in order to obtain proper contact of the club-head with the ball, and, in so doing, a piece of sod has been cut out of the turf and projected forwardly sometimes a substantial distance. If such divot was not promptly and carefully replaced in its original position, which was more or less frequently not done because of the inconvenience involved, the golf-grounds soon presented an unsightly spotted appearance.

Thus, another aim or purpose of the invention is to provide a club with a metal-head having such characteristics and form as to substantially or practically preclude the production of divots without, however, making the playing of the game more difficult, but quite the opposite, rendering its proper execution easier.

The head of a metal golf-club must be made of suitable metal having the proper degree of resiliency or elasticity and it must have the correct weight, suitably distributed, for the accomplishment of the desired results in playing the game.

The new club, embodying the present invention, has the usual slope or inclination of its

face, but its weight is desirably so distributed that its center-of-gravity is at such a point relative to the center of the ball when the latter is struck that the force applied to the ball through such center-of-gravity of the club acts not only to propel the ball forwardly but also to lift the ball to practically the same degree that the slope of the face of the club does.

With the use of the ordinary golf-club, when the club during its swing engages the ball, the club-head tends to act as a wedge driven partially beneath the ball to impel the latter forwardly at a definite angle of rise corresponding to the inclination of the surface of the front face of the club.

My novel club does this in much the same way, but such action is supplemented or augmented and made more certain by having the center-of-gravity of the club-head blade so located at the moment of contact of the club with the ball that the blow imposed on the ball through such center-of-gravity also tends to propel the ball forwardly at the same upward angle corresponding to that occasioned by the slope of the front active face of the club-head.

Thus, the new club presents an implement for striking and projecting the ball in a manner to take advantage both of the slope of the face of the club-head and of the direction of the blow imposed on the ball through the point of contact of the club and ball in line with which point the center-of-gravity of the club-head blade is present.

The club, to function in the indicated manner, however, must not be so formed, shaped or weighted as to prejudicially modify the required resiliency of the metal-head, otherwise there would be likelihood of the blow being felt in the hands of the user through the shaft of the club.

Such elasticity or spring in the metal is preserved in the new club-head by so proportioning the parts thereof that the blade of the head cannot deform longitudinally, because that action would be likely to produce misdirection of the propelled ball, but it may absorb the imposed shock by slight deflection longitudinally but not sufficiently to cause an improper course of flight of the ball.

If a golf-club had a head which was absolutely rigid, the period of contact of such head with the ball would be relatively short even though the ball itself, due to its elasticity, were flattened during the contact of the two. Accordingly, it is customary to make the head of the club of a

metal having a certain degree of resiliency, such as of mild steel, so that the time of contact of the club-head with the ball may be prolonged thus affording the player a greater control over the direction of the flight of the ball. It is, therefore, an important and outstanding object of the present invention to provide the club-head by its new shape and form with an increased or augmented resiliency, thus giving the player a longer period during which he can govern the direction of the course of the driven ball, without, however, modifying the shape of the club-head in a manner to decrease its capacity for accurate control of the direction of the blow imposed on the ball. That is to say, a paramount aim of the invention is to supply a club-head with greater than normal resiliency but with adequate stiffness and inflexibility to assure maintenance of the other needed physical characteristics in the club-head.

Again, an added purpose of the invention is to supply a golf-club with a metal-head which has a sufficiently wide bottom face so shaped that when the club in the hands of the user rests on the ground to the rear of the ball preliminary to its upward swing, it automatically assumes its correct position, thus aiding the player by a proper and correct initial step in the playing of the game.

A further object of the invention is to provide a golf-club whose head is so shaped as to seemingly glide over and in contact with the turf without undue effort or apparent obstruction thus enabling the player to swing the club readily under a natural rhythm rendering the essential follow-through a more or less normal or spontaneous consequence.

Moreover, the new club possesses such physical properties that the mere "feel" thereof in the hands inspires confidence in its use in the unskilled player, which psychological effect tends to improve the game of the average player.

To the accomplishment of the aforesaid and other purposes and aims of the invention, a present preferred embodiment thereof has been produced and illustrated in the accompanying drawing, to which reference should be had in connection with the following detailed description, and in the views of such drawing like reference numerals have been employed to designate the same parts of the structure.

In this drawing:

Figure 1 is a perspective view of the metal club-head;

Figure 2 is a front view of the club-head and a portion of the shaft of the club;

Figure 3 is a back elevation of the club-head;

Figure 4 is an end view of the club-head; and

Figure 5 is a vertical cross-section through the club-head on line 5-5 of Figure 2.

Referring to this drawing, it will be perceived that the metal club-head has the usual or any suitable shank or hosel 11 to which the handle proper 12 is secured or fastened in any approved fashion, the club-head having a flaring blade portion, characterized as a whole 13, outstanding from such shank in the usual position.

The front or operative flat surface 14 of such blade slopes upwardly rearwardly at the desired angle and such face may be slightly roughened by very-shallow, parallel channels or grooves 15, or otherwise, it being understood, of course, that the club shown represents one only of a set of iron-clubs of different degrees of loft.

As is clearly illustrated, the back of the club-

head blade has a longitudinal tapered groove 16 relatively-deep and open its full length and at both ends, and formed or provided by an upper lengthwise rib 17 extending along the top of the back of the blade and by a lower, longitudinal rib 18 along the lower portion of the back of the blade.

From the drawing, it will be observed that the cross-sectional area of the lower rib 18 is several times that of the companion or complementary upper rib 17, thus bringing the center of gravity of the blade desirably within the lower rib 18.

This pair of correlative or mutually related ribs act conjointly to stiffen the blade longitudinally to preclude any material or detrimental transverse bending or distortion of the blade when the latter strikes the ball.

It will be observed, however, that the portion 19 of the blade at the bottom or base of the groove, that is the part of the blade between the lower and upper ribs, is comparatively thin and desirably, but not necessarily, of uniform thickness, whereby the blade as a whole possesses the needed degree or amount of resiliency to properly perform its ball propelling properties.

If the blade at this point is made so elastic that when it strikes the ball the blade deflects longitudinally in minor degree, no harm results because such slight deformation could produce only a very small change in the loft given to the ball without change in its general direction of flight, which, as indicated above, is prevented by making the blade of such shape as to avoid its transverse bending under any circumstances.

By fashioning the club-head in the shape and form depicted, I am able to increase the resiliency thereof, because of such intermediate thin portion, thereby affording a relatively long contact of the club-head with the ball, hence facilitating the production of the desired direction of flight, and all this is accomplished without any objectionable or detrimental distortion or deformation of the club-head.

The under surface of the blade may be made substantially flat or slightly curved transversely to cause the club-head during its swing to glide over the turf with ease and facility and without likelihood of digging into or cutting into the sod.

This surface is of such width and shape that when it rests on the ground it automatically positions the club-head for correct contact with the ball.

Such initial proper positioning of the club-head combined with its gliding characteristics aids in producing the proper contact of the face of the club with the ball thus assisting the average player in playing a better game.

Furthermore, the blade of the club is so contoured that its center-of-gravity, its point of contact with the ball, and the center of the ball are desirably in substantial alignment when the club-head properly strikes the ball, the force of such blow acting on the ball in a direction to supplement the effect of the loft of the ball imposed thereon by the sloping face of the blade.

Thus, in this manner, are accomplished the several objects of the invention above indicated.

This invention, as defined by the appended claims, is susceptible of different embodiments and hence it is not limited or restricted to the precise and exact details herein set forth and various modifications and changes may be resorted to without departure from the spirit and essence of the invention and without the loss or

sacrifice of any of its material structural and functional advantages.

I claim:

1. A golf-club having a metal-head with an outstanding blade having a transversely, rearwardly, upwardly, inclined, front, operative face adapted to engage the golf-ball when the club is swung in the usual manner during the playing of the game, the back of said club-head blade having a longitudinal groove extending practically the full length of such blade and open in effect the entire length of the back of said blade and also open at its opposite ends, thereby providing the part of such blade below said groove with a lower rib extended substantially the full length of the blade and supplying the part of such blade above said groove with a similar, essentially-full-length upper rib, said two ribs stiffening the blade adequately to preclude transverse distortion thereof during its engagement with the ball, the thin portion of the blade in register with said groove and between said ribs having at least its major portion of substantially-uniform thickness affording the club the required resiliency.

2. The golf-club set forth in claim 1, in which the center-of-gravity of said blade, when the latter engages the ball in the intended manner, the point of contact of the front face of the blade with the ball, and the center of the ball are all three in a relatively-straight, upwardly, forwardly inclined line such that the component of the force applied to the ball by the swinging club acting along said line tends to give the ball a loft substantially the same as that produced by the inclined front face of the blade.

3. The golf-club set forth in claim 1, in which the bottom surface of the blade is shaped trans-

versely to glide over the turf and to provide a sufficiently-dull, front, lower edge on the blade to preclude unintentional cutting into the turf.

4. The golf-club set forth in claim 1, in which the bottom surface of the blade is shaped transversely to glide over the turf and to provide a sufficiently-dull, front, lower edge on the blade to preclude unintentional cutting into the turf and in which the center of gravity of said blade, when the latter engages the ball in the intended manner, the point of contact of the front face of the blade with the ball, and the center of the ball are all three in a relatively-straight, upwardly, forwardly inclined line such that the component of the force applied to the ball by the swinging club acting along said line tends to give the ball a loft substantially the same as that produced by the front inclined face of the blade.

5. A golf-club set forth in claim 1 in which the bottom face of the club-head blade is of such width and shape that when the club is in the hands of the user with its blade resting on the ground, such blade, if allowed to do so, automatically assumes its correct position with relation to the golf-ball it is to propel during the subsequent swinging of the club.

6. The golf-club set forth in claim 1 in which said blade is tapered toward its hosel and in which said groove is longitudinally tapered.

7. The golf-club set forth in claim 1 in which at the middle of the length of the blade the cross-sectional area of said lower rib is at least twice that of said upper rib.

8. The golf-club set forth in claim 1 in which said entire thin portion of the blade in register with said groove is of substantially-uniform thickness.

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