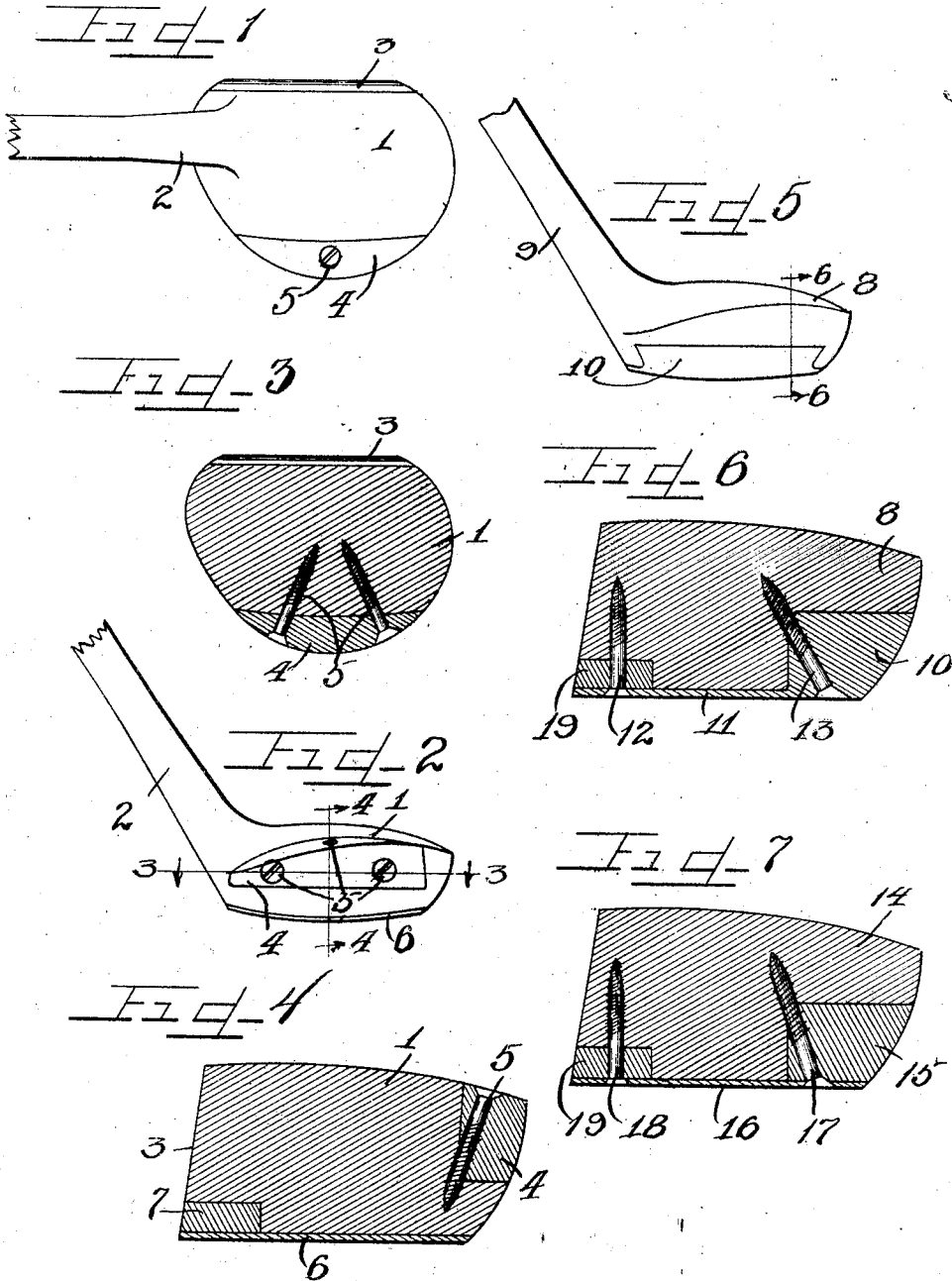


M. D. KLIN.
GOLF CLUB.

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1,289,192.

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WITNESSES

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GOLF-CLUB.

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To all whom it may concern:

Be it known that I, MARTIN D. KLIN, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Golf-Clubs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an improved type of golf club, particularly a wooden club in which a new and efficient disposition of the balancing weight or weights used in the head of the club imparts a spin to the ball which regulates the action of the ball in a predetermined manner upon alighting. This result is obtained by arranging the weight eccentrically with reference to what I have herein designated the "normal axis of impact", which is to be understood herein to refer to a line through the head in the direction of its impelling force, and passing through the center of impact, when the ball is properly struck by the head, and may be represented either by a line tangential to the curved line of movement of the head, and passing through the center of impact, or by a line projected perpendicularly to the radius of movement of the head and at the center of impact. Of course, in playing, the point at which the head contacts with the ball will vary according to the ability of the player, and the shot which he wishes to make. For example, a poor player will occasionally top or slice the ball or a player may undercut somewhat to loft the ball, but there is a substantially definite point contemplated in designing the club, and approximately at the center of the striking face, at which the head is designed to strike the ball when properly played, and the axis of impact passing through such point is contemplated and considered herein as the "normal axis of impact."

It is an object therefore of this invention to construct a golf club wherein the balancing weight in the head of the club is positioned so as to impart a predetermined spin or rotary movement to the ball.

It is furthermore an important object of this invention to provide a golf club with

a weight positioned eccentrically above the "normal axis of impact" so as to give the ball, when hit, a forward spin to cause the ball to roll a long distance after alighting.

It is also an object of this invention to provide a golf club with a weight positioned eccentrically below the "normal axis of impact" so as to give the ball, when hit, a backward spin, which causes the ball to rise quickly and minimizes the roll of the ball when it alights.

In the drawings:

Figure 1 is a top plan view of a head of a club embodying the principles of my invention.

Fig. 2 is a rear elevation thereof.

Fig. 3 is a detail section on line 3—3 of Fig. 2.

Fig. 4 is a detail section on line 4—4 of Fig. 2.

Fig. 5 is a rear elevation of the head of another form of club.

Fig. 6 is a section on line 6—6 of Fig. 5.

Fig. 7 is a view similar to Fig. 6, of a modified form of device.

As shown on the drawings:

The reference numeral 1, indicates as a whole the head of a club having a shaft extension 2, which shaft, as in golf clubs of the ordinary construction, is thin and somewhat flexible, and one surface of the head 1 of the club is beveled off with a slight inclination to afford a striking face 3. Recessed into the upper portion of the rear surface of the head 1, is a balancing weight 4, of any metal or metal composition, arranged so that the heft of the head is above the "normal axis of impact"; and this weight is rounded off to conform to the contour or shape of the club head, and held secured therein by obliquely directed attaching screws 5. A sole plate 6, may or may not, as desired, be attached on the under surface of the head 1, of the club, and the usual fiber or composition insert 7, is provided extending for a short distance along the bottom of the club at the lower edge of the striking edge thereof, as shown in Fig. 4. This is, however, a usual and well known construction, and forms no part of the present invention, and hence is not illustrated in further detail.

In the form of device illustrated in Figs. 5 and 6, the head of the club is denoted as

a whole by the reference numeral 8, and the shaft extension by the reference numeral 9, and recessed into the rear surface of the club at the lower portion thereof, so that the heft of the head of the club is below the "normal axis of impact", is a balancing weight 10. Said balancing weight 10, preferably of brass or alloy, although, of course, any suitable metal may be used, is integral with a sole plate extension 11, extending over the entire lower surface of the head 8, of the club, and upwardly extending substantially vertically disposed attaching screws 12, are provided for holding said balancing weight and sole plate extension attached to the head of the club. Obliquely arranged screws 13, are also provided, as shown in Fig. 6, to aid further in holding the balancing weight 10, and its sole plate extension attached to the head of the club.

In the form of device illustrated in Fig. 7, I have shown the head of the club in section, denoted by the reference numeral 14, provided with a balancing weight 15, disposed similarly to the weight 10, of the prior construction, but separate from a sole plate 16. The balancing weight 15, is held attached by attaching screws 17, and any desired number of attaching screws 18, may be utilized to retain the sole plate 16, attached upon the club.

In both Figs. 6 and 7, of the different constructions shown, the usual fiber insert at the lower end of the striking face denoted by the reference numeral 19, is shown, corresponding to the fiber insert shown in Fig. 4.

The operation is as follows:

The weights herein provided are arranged so as to serve the purpose of the weights with which golf clubs have been heretofore provided, namely, to give the club the desired balance and swing to facilitate its use, and in addition are adapted by reason of their disposition eccentrically or at one side of the "normal axis of impact" to give to the ball, when hit, a predetermined spin, the direction of which depends on the side of the "normal axis of impact" at which the weight is located, which spinning movement thus imparted to the ball is effective to control the action of the ball upon alighting.

In a golf club constructed with the weight disposed as illustrated in Figs. 1 to 4 inclusive, so that the heft or greater weight of the head of the club is above the "normal axis of impact" the unequal distribution of weight above and below such axis, gives to the head at the moment of striking the ball a tendency to override the ball, which has the effect of imparting to the ball, a forward spin, which, when the ball alights, causes it to roll a longer distance than it would other-

wise, and where length of drive or distance is desired, this is a feature of considerable value.

On the other hand, when the weight is disposed so that the heft or greater weight of the club is below the "normal axis of impact", as illustrated in Figs. 5 to 7 inclusive, the head of the club, as it strikes the ball, has a tendency to underide the ball and thereby not only tends to cause the ball to rise quickly, but gives to the ball a backward spin, which, when the ball alights, prevents the ball from rolling and enables the player to place the ball with greater accuracy.

The former construction, with the weight at the top of the head, is preferably used in the club known as the "driver", as this is the one with which long shots are usually made, and the latter construction, with the weight at the base of the head, is adapted for use with the club known as the "brassie", or with any club with which it is desired to cause the ball to rise quickly and drop dead or nearly so. However, the disposition of the weight to secure either the forward or backward spin as desired, may be employed in connection with any club without departing from the spirit of my invention.

The weight need not necessarily be located entirely at one side of the "normal axis of impact", but is arranged so that the preponderance of weight, to the extent to secure the desired effect, is at one side thereof, and in referring to the location of the weight as eccentric with reference to the "normal axis of impact", it is to be understood that I have reference to the placing of the weight in such a manner that the preponderance of the weight is at one side of the "normal axis of impact". Also in the appended claims where I refer to the location of the weight eccentrically at a vertical side of the "normal axis of impact" I have reference to the placing of the weight either above or below such axis.

While I have shown and described my invention in a preferred form, I am aware that various changes and modifications may be made therein without departing from the principles of my invention, and I therefore do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

I claim as my invention:

1. In a golf club the combination of a head having a striking face, said head comprising a body having a weight attached thereto so that the center of gravity of the head is at the rear thereof and disposed eccentrically of the normal axis of impact of the head and substantially in a vertical plane through said axis so as to impart to a ball driven by the head, a predetermined

rotary motion on a substantially horizontal axis.

2. In a golf club the combination of a head having a flexible handle, said head comprising a body having a striking face at the front thereof, and a weight attached to the body at the rear thereof, so that the center of gravity of the head is at the rear thereof and disposed eccentrically of the normal axis of impact and substantially in a vertical plane through said axis so as to flex the stem and actuate the head upon impact with a ball and thereby impart a rotary motion to the ball on a substantially horizontal axis.

3. In a golf club the combination of a head comprising a body having a striking face at the front thereof, a flexible shaft to which the head is secured, and a weight secured to the head above the normal axis of impact so as to impart to a ball driven thereby, a predetermined overhead spin on a substantially horizontal axis.

In testimony whereof, I have hereunto subscribed my name in the presence of two subscribing witnesses.

MARTIN D. KLIN.

Witnesses:

CHARLES W. HILLS, Jr.,
EARL M. HARDINE.