

Mar. 3, 1925.

J. R. GAMMETER

GOLF CLUB

Filed Oct. 10, 1921

1,528,017

Fig. 2

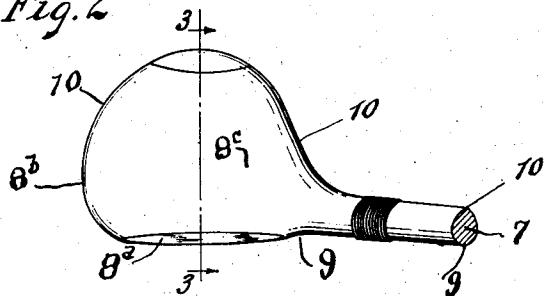


Fig. 3

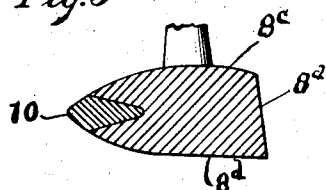


Fig. 5

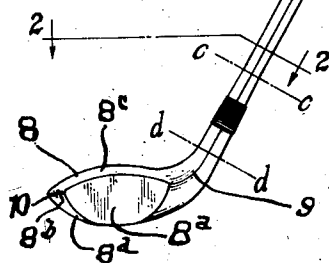
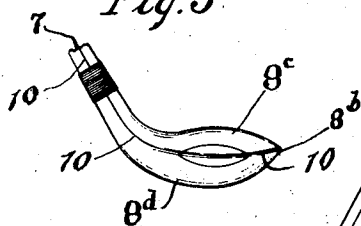


Fig. 1

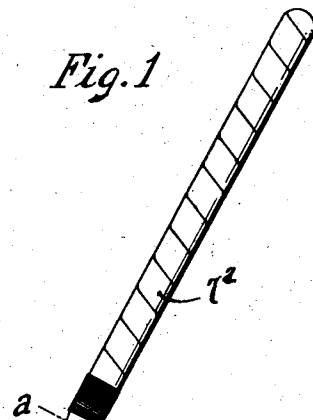


Fig. 6

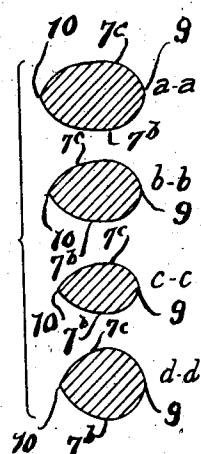
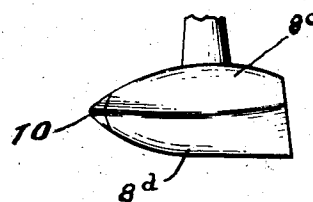


Fig. 4



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UNITED STATES PATENT OFFICE.

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GOLF CLUB.

Application filed October 10, 1921. Serial No. 506,730.

To all whom it may concern:

Be it known that I, JOHN R. GAMMETER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Golf Clubs, of which the following is a specification.

My invention is an improvement in golf clubs and is particularly adapted to be applied to wooden golf clubs such as drivers, brassies, spoons and the like, but it may be applied to advantage to any kind of golf club or analogous playing implement.

Golf clubs are ordinarily constructed with round shafts and, in wooden clubs, the club head is provided with a sole surface, a top surface and a rear surface. In order to secure length in driving the ball, the club must be swung very quickly through the air and is traveling with great rapidity at the moment of impact. During the playing stroke, air is carried forward in the path of travel and is packed in front of the rapidly moving parts of the club and a vacuum or partial vacuum is formed along the trailing edge thereof, retarding the progress of the club and causing it to deviate from the true line of travel.

Objects of this invention are to provide a stream line golf club, or other playing implement, which may be swung through the air with great rapidity and which will overcome the above objections and provide means whereby a golf ball may be driven more accurately and to a greater length than has heretofore been attainable.

Another important object, which may be considered entirely apart from the objects above set forth, is to provide a club shaft of elongated cross section, having its greatest diameter disposed at a right angle to a vertical plane passing through the shaft and club head and to thus provide a shaft which is relatively stronger and possesses greater rigidity along a plane extending longitudinally therethrough and running with the plane of swing so that the shaft will remain firm and present the head solidly to the ball.

A further object which may be considered in connection with the above object is to provide a club shaft which will be relatively springy or whippy, in a vertical plane running at a right angle to the plane of swing and which will bend upwardly

when the club head is brought into contact with the turf and will permit the club head to slide forward to the ball with a minimum loss of force.

The above objections are overcome and the objects hereinbefore set forth are attained by the novel construction hereinafter described and shown in the accompanying drawings wherein I have illustrated an embodiment of my invention, it being understood that the invention is capable of various adaptations and that changes and modifications may be made or substitutions resorted to which come within the scope of the claims hereunto appended.

In the drawings in which similar numerals of reference have been employed to designate like parts as the same may occur in the several views and in which:—

Figure 1 is a front elevation of a golf club constructed in accordance with this invention and showing the same as it is positioned at the moment of impact.

Figure 2 is a top plan view of a club head and also showing a portion of the club shaft.

Figure 3 is a vertical, sectional view taken approximately on the line 3—3 of Figure 2.

Figure 4 is an elevational view of a club head looking toward the toe thereof.

Figure 5 is a rear elevation of same.

Figure 6 illustrates a series of cross sectional views of a club shaft as taken on the lines *a-a*, *b-b*, *c-c* and *d-d* of Figure 1.

For the purpose of clearly describing my invention, the numeral 7 has been used in the drawings to denote the club shaft and the numeral 8 to denote the club head. The numeral 9 is employed to indicate the forward or cleaving edge of the shaft 7. In the adaptation of the invention illustrated, it will be noted that the cleaving edge continues along the forward edge of the club and extends downwardly along the club head terminating at the club face 8^a. The numeral 10 denotes the trailing edge of the shaft and in clubs of the character described in the drawings, the edge 10 continues downwardly along the rear edge of the club shank and curves into a horizontal line running entirely around the trailing edge of the club and extending around the toe 8^b of the club, terminating at the club face 8^a. The sole 8^c of the club head 8 has

a flat horizontally disposed central surface which extends straight back from the lower edge of the club face 8^a and merges into an upwardly curved marginal surface which meets the upper surface 8^c of the club along the lines 9 and 10 and, at the heel of the club, the sole surface 8^d continues upwardly and merges into the under surface of the shank. The upper face 8^c is substantially convex and, except at the club face, intersects the sole surface 8^d at an angle along the lines 9 and 10. For practical purposes I prefer to slightly round the edge formed by the meeting upper and lower faces of the club as will be noted by a careful examination of Figures 3 and 4.

Attention is now called to the several views included in Figure 6 and to the differing cross sectional contours disclosed therein. It will be noted that each of said views discloses an elongated cross section having its greatest diameter disposed transversely to a vertical plane passing through the shaft and club head. The greatest diameter at any instance extends between the edges 9 and 10 and similar portions of the shaft lie on opposite sides of the plane extending with the lines 9 and 10. The inner or under face 7^b of the club shaft 7 and the upper or outer face 7^c thereof are of approximately equal area and each of said surfaces are formed with a stream line curvature. The surfaces 7^c and 7^b intersect along the line 10 at a relatively sharper angle than the angle formed at the intersection of said surface along the line 9 and the shaft is thus formed so that a vertical plane passing through the center thereof divides the club into a relatively blunt forward portion and a tapering rear portion. The grip portion 7^a of the shaft is preferably cylindrical and the shaft tapers downwardly therefrom, with a constantly changing cross sectional contour, to its juncture with the head 8.

In the adaption of the invention disclosed in the drawing, the upper surface 8^c of the club head and the upper surface 7^c of the shaft are alined at a point of juncture. Each of said surfaces constituting a continuation of the other. The lower surface 7^b of the shaft and the lower surface 8^d of the club head are likewise alined, thus forming a club having a smooth continuous upper and lower surface.

When properly used, both the forward edge 9 and the trailing edge 10 of my improved shaft will lie in the plane of swing during the playing stroke. The edge 9 will cleave the air and the surfaces 7^b and 7^c are of a contour which will permit the air, displaced by the forward motion of the shaft to flow smoothly around the shaft so that no air will be carried forward thereby to be packed along the forward edge thereof.

During the forward stroke, the air displaced by the movement of the shaft or club head will flow smoothly therearound to the trailing edge 10 thereof, thus preventing the formation of a vacuum or partial vacuum along the trailing edge of any part of the club.

While my improved shaft is intended to present the head solidly to the ball, it is constructed so that it will give or bend in a vertical plane at the moment of impact, the shaft 7 is relatively thin adjacent the bottom thereof and constantly increases in cross sectional area to the grip portion thereof. If during the playing stroke, the club head is brought into contact with the turf, the shaft 9 will bend upwardly adjacent the bottom thereof and the club may be forced along the turf to the point of impact without seriously retarding its motion.

In carrying out my invention, I prefer to conform substantially to the contour disclosed by the several instances illustrated in Figure 6. The shape of the shaft at any point depending upon its distance from the center of swing, but it is to be understood that I am not confined to the exact contour therein shown.

In some forms of clubs, it may be found impracticable to construct a club head in accordance with this invention and in some instances individual preference may require that the principles herein disclosed be applied to the club head only and it is therefore understood that the invention is applicable to any part of the club. As this invention is of commanding importance in the art of constructing golf clubs or similar implements, protection thereon is claimed in its broadest possible scope.

Having thus illustrated my invention and described the same in detail, what I claim as new and desire to secure by Letters-Patent is:—

1. In a golf club, a head having a striking face, a sole surface and a top surface, said surfaces converging from said striking face and meeting at an angle along a horizontal line extending around the rear edge of the toe and head.

2. In a golf club, a head having a striking face, a sole surface and a top surface, the said surfaces converging in a streamline curvature and intersecting along a horizontal line extending continuously around the trailing edge and toe of the head and along the rear edge of the neck.

3. In a golf club, a head having a striking face and upper and lower surfaces which intersect around the entire marginal edges thereof.

4. In a golf club, a head having a striking face and upper and lower surfaces, the marginal portions of which intersect to

form a knife-like edge extending centrally of the club head from the toe end of the striking face, around the toe and trailing edge of the head and neck.

5 5. In a golf club, a head having a striking face and intersecting upper and lower surfaces, the line of intersection running along the trailing edge of the neck, the trailing edge of the head and around the toe
10 thereof.

6. In a golf club, a head having a striking face and intersecting upper and lower surfaces, the line of intersection being disposed along the rear edge of the neck,
15 around the trailing edge of the head and extending around the toe of the club to the striking face thereof.

7. In a golf club, a club head having a striking face and intersecting upper and
20 lower surfaces, the said surfaces intersecting in a line disposed along the trailing edge of the neck and head and extending around the toe to the striking face and also intersecting in a line running along the forward
25 edge of the neck and extending along the head to the striking face.

3. In a golf club, a club head having a striking face and intersecting upper and lower surfaces and having a shaft of elongated cross section provided with intersecting upper and lower surfaces, one of the lines
30

of intersection extending from the striking face around the toe, the trailing edge of the head and neck and along the trailing edge of the shaft; the other line of intersection
35 extending from the opposite end of the striking face along the forward edge of the head, neck and shaft.

9. In a golf club, a club head having a striking face and intersecting upper and
40 lower surfaces, with the line of intersection extending from the striking face around the toe and trailing edge of the head and along the trailing edge of the neck and provided with a shaft having intersecting upper and
45 lower surfaces with the line of intersection disposed along the trailing edge of the shaft and constituting a continuation of the first named line of intersection.

10. A club head having a striking face
50 and intersecting upper and lower surfaces, one line of intersection running from the heel end of the striking face along the forward edge of the club and shaft, the other line of intersection running from the toe
55 end of the striking face around the toe and along the trailing edge of the head and shaft.

In testimony whereof I have hereunto set my hand.

JOHN R. GAMMETER.