A. E. LARD.

GOLF CLUB HEAD.

APPLICATION FILED APR. 3, 1917.

1,249,127.

Patented Dec. 4, 1917.

Fig. 2.

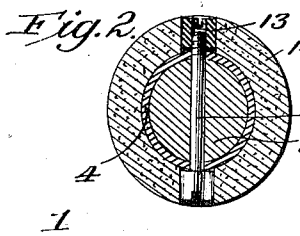


Fig. 1.

Fig. 3.

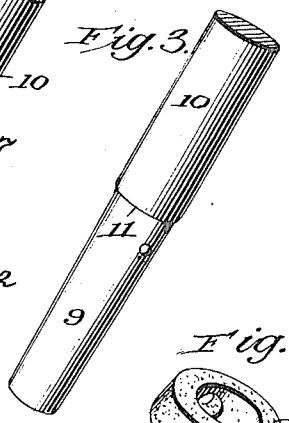


Fig. 4.

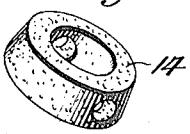




Fig. 5.



Fig. 6.

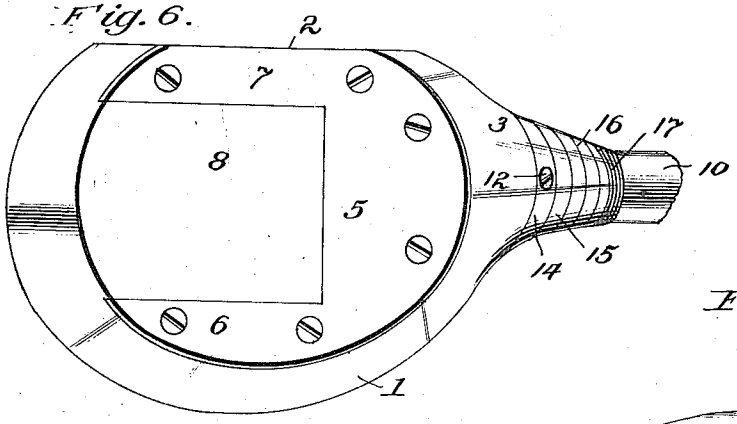


Fig. 7.

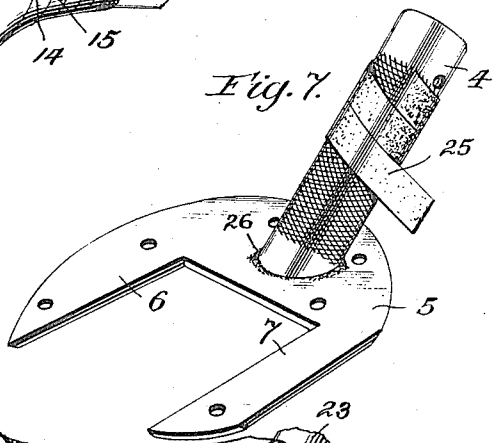


Fig. 8.

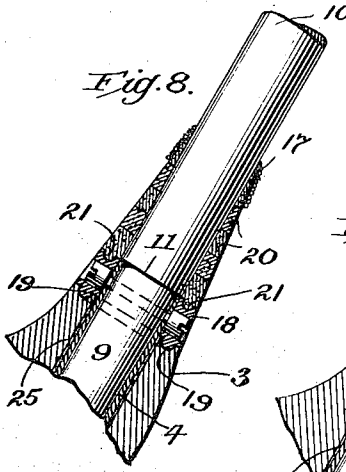


Fig. 9.

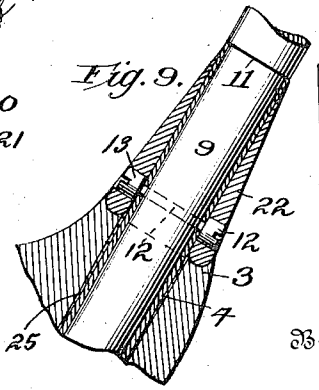


Fig. 10.

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UNITED STATES PATENT OFFICE.

ALLAN E. LARD, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO THE METALLIC SHAFT COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

GOLF-CLUB HEAD.

1,249,127. Specification of Letters Patent. Patented Dec. 4, 1917.

Application filed April 3, 1917. Serial No. 159,460.

To all whom it may concern:

Be it known that I, ALLAN E. LARD, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a certain new and useful Improvement in Golf-Club Heads, of which the following is a specification.

My present invention pertains to golf clubs, and has reference more particularly to the heads of wooden clubs wherein the grain of the head runs at substantially right angles to the striking face of the club.

Club-heads formed of wood and having the grain disposed in the manner just stated have heretofore been devised, but so far as I am aware such clubs have not come into any extended use, by reason of the weakness of their construction.

End-grain heads cushion the impact more than cross-grain heads, and likewise contribute some driving power. They have not, however, so far, proven practicable, for the reason that the neck as variously constructed, could not be made to stand the stress of the blow and the effect of atmospheric conditions.

The present improvement relates to means for securing the shaft in the head and more particularly to a metal sole-plate and socket member so anchored and constructed that all of the stress of the blow, usually sustained by the wooden neck, is confined to the aforesaid parts and their anchorings. Being of metal, said parts are unaffected by atmospheric or climatic conditions. The tapered extension (or that part which may be said to constitute the neck) may be constructed of various materials or compositions, such as cork, leather or other suitable substances. Strength in the neck is not of prime importance, as the stress is almost entirely confined to the metal plate and socket member, these being rigidly and immovably secured to and supported by the head. While the extension-neck, hereinafter set forth in detail, does, in a measure, contribute to the strength of the club it may be entirely dispensed with, though its presence adds materially to the customary appearance of the club.

Where the tubular socket is anchored in the manner hereinafter set forth, the effectiveness of the head is not impaired to any extent if the wood surrounding the metal socket should crack or split. Should such crack or cracks appear, however, it would be desirable to seal the same, as with ground leather and glue, or any other suitable filler.

The structure hereinafter set forth admits of the ready placement of the shaft in the head, and also the ready removal and replacement of the shaft, or a new one when for one reason or another it is deemed essential or desirable so to do.

Several embodiments of the invention are illustrated in the annexed drawings, wherein:

Figure 1 is a sectional elevation of a club-head and a portion of the shaft;

Fig. 2 a transverse section on the line 2—2 of Fig. 1;

Fig. 3 a perspective view of the lower end of the shaft;

Figs. 4 and 5 like views of one of the washers and the fastening pin or bolt for the shaft;

Fig. 6 a face view of the club as viewed from the under side;

Fig. 7 a perspective view of the sole or attaching plate and the tubular socket member for receiving the shaft-end;

Figs. 8 and 9 detail sectional views illustrating modifications of the finishing elements; and

Fig. 10 a sectional perspective view of a modified form of attachment of the tubular socket to the club head.

In the drawings, 1 denotes the head proper, in which the grain of the wood from which it is formed runs at right angles to the striking face 2 of the head; in other words, the grain is end-on in the striking face. There is not, as in the usual wooden head, any neck, as such, but the body is carried up only to a slight extent, as at 3, at the heel of the head. The head at such portion is bored through at the proper angle to receive the tubular socket member 4, said member being brazed, welded or otherwise rigidly secured or affixed to the sole plate 5. Said plate in the form illustrated is cut away at its center, forming two arms 6 and 7, and the bottom or sole of the club is recessed to receive and make a close fit with said parts, lying flush with the exposed sole portion 8 of the club.

The tube or socket member 4 is made tapering preferably upon its inner face, the diameter gradually increasing toward the upper end. Said member also extends up-

wardly, preferably beyond the upper face of the member 3, and the lower tapering end 9 of the shaft 10 is driven downwardly into the socket, a shoulder 11 on the shaft abutting the upper end of the tubular socket.

The shaft is pinned or bolted to the tube, and in order to facilitate the removal of the shaft I preferably employ a bolt 12, such as shown in Fig. 5, the head being provided with a cross slot. The nut 13 is also provided with a similar slot to facilitate its placement and removal. Prior to the positioning of the bolt, a washer 14, of leather or other suitable material, is placed over the tube, said washer being provided with opposite openings, for the reception of the bolt and its head. The outer face of the washer is made tapering, or it may be dressed off after being positioned, the portion conforming to the contour of the projection 3, and its upper end merging into the washer 15 next above. Other washers, 16, are employed, said washers tapering inwardly toward the shaft. The washers simulate the usual neck of the wooden club, and a wrapping 17 may be present.

A club constructed in accordance with the foregoing description has proved efficient and durable, and the qualities and "feel" which ensue from the end-on grain are present therein.

In Fig. 8 a metal washer 18 is present in place of the washer 14, said washer 18 being preferably formed from aluminum and provided on its under face with an annular bead 19, which fits in a corresponding channel formed in the upper face of the member 3. Other washers 20 are placed above, as under the former construction, the one next the metal washer 18 having a bead 21, fitting in a groove or channel formed in the upper face of said washer.

In Fig. 9 a ferrule or sleeve 22, made of aluminum, takes the place of the washers, the lower end of the ferrule being rounded in cross-section and fitting into a channel formed in the section 3.

Under both these constructions (Figs. 8 and 9) there is formed an interlock between the slight extension 3 of the head and the adjacent washer or ferrule, as the case may be, which tends to hold the wood in place in case it should split at this point.

In Fig. 10 the tubular socket, indicated by 23, has its lower end out-turned, forming a series of flanges or projections 24 which are fitted into recesses formed in the bottom or sole of the head and are attached thereto by screws. These lugs or projections secure the socket member to the club-head and in effect form an anchoring plate or element, as does the member 5, together with its extensions 6 and 7. In order to effect a practical union between the tubular socket member and the interior face of the bore through which it extends I preferably knurl the outer face of the socket or tubular member 4, and wind thereabout a very thin strip of leather 25, the leather being impregnated with glue, which goes entirely through the leather and forms a cementitious union between the head and the metallic socket member. Again, when welding the socket member to the sole-plate a fillet, as 26, is preferably formed or produced at the junction of the tubular member and the sole plate to insure additional strength at this point.

The presence of the washers or ferrule as above set forth is not, of course, absolutely essential, but by employing them the club is given the usual appearance, and all sharp angles or projections are done away with. A neck constructed by the use of washers or the like absorbs, to a certain extent, or degree, any tendency for the shaft to break at its point of entrance into the tubular socket member. Furthermore, such washers tend in a great measure, to prevent moisture from getting into and around the socket. When rubbed down and shellacked the leather washers become substantially waterproof, and in fact they may be waterproofed before being positioned. In positioning the washers, they will preferably be treated with some suitable cementitious material to cause the adherence of the lowermost washer to the adjacent portion of the club, and likewise of the washers to each other and to the shaft.

While I have described the combined sole plate and tubular socket as especially adapted for use in connection with an "end-on grain" head, it is conceivable that this combined member may be employed in conjunction with a head having the grain running in the usual direction.

The material employed for the sole-plate and socket member will preferably be moderately high carbon, heat-treated steel.

Having thus described my invention, what I claim is:

1. In a golf club, the combination of a wooden head, the grain whereof runs at substantially right angles to the striking face of the head; an anchoring plate secured to the head of the club; a tubular socket member secured to said plate and seated in the head; and a shaft secured in said socket member.

2. In a golf-club, the combination of a wooden head, the grain whereof runs at substantially right angles to the striking face of the head; an anchoring plate secured to the sole of the club; a tubular socket member secured to said plate and extending upwardly therefrom through a bore in the head; and a shaft secured in said socket member.

3. In a golf-club, the combination of a wooden head, the grain whereof is presented

end on at the striking face of the head; a metallic anchoring plate secured to the under side of the head; a tubular metallic socket member secured to the upper face of the plate and extending upwardly through a bore in the head and to a point above the head; a shaft the lower end of which makes a driving fit within the tubular socket member; and a fastening element extending through said socket member and the shaft.

4. In a golf-club, the combination of a wooden head, the grain whereof is presented end-on at the striking face of the head, a metallic anchoring plate secured to the under side of the head; a tubular metallic socket member secured to the upper face of the plate and extending upwardly through a bore in the head and projecting above the head; a shaft, the lower end of which makes a driving fit within the tubular socket member; a tubular or ring-shaped member surrounding the upper end of the socket; and a fastening element extending through the shaft and the socket above the head, the ends of said fastening element being housed within said ring-shaped member.

5. In a golf-club, the combination of a wooden head, the grain whereof is presented end-on at the striking face of the club; a metallic anchoring plate having a plurality of outwardly-extending arms, the under side of the head being recessed to receive said plate and arms; screws passing through said plate and arms into the head; a tubular metallic socket secured to the plate and extending upwardly therefrom through a bore in the head and to a point above the upper portion thereof; a shaft, the lower end of which makes a driving fit with the socket; a washer surrounding the upper end of the socket member and making a close fit with the adjacent portion of the head; and a fastening element passing through the walls of the socket and the shaft, the ends of said element being housed in the washer.

6. In a golf-club, the combination of a wooden head, the grain whereof is presented end on at the striking face of the head; an anchor plate secured to the under side of the head; a tubular socket member extending from said plate through a bore in the head and to a point above the same; a washer surrounding the exposed end of the socket; a fastening device passing through the socket and shaft end, the washer housing the ends of the fastening device; and a plurality of washers located above said first-named washer, said washers gradually tapering into the shaft.

7. In a golf-club, the combination of a wooden head, the grain whereof is presented end-on at the striking face of the head; a tubular metallic socket mounted in a bore therein; means for securing said socket in place; and a shaft secured in the socket.

8. In a golf-club, the combination of a wooden head, the grain whereof is presented end-on at the striking face of the head; a tubular metallic socket extending through a bore therein, the outer face of the socket member being knurled; a strip of leather wound about the socket member, said strip being cemented thereto and to the wall of the bore in the head; and a shaft secured in the socket.

9. In a golf-club, the combination of a wooden head, the grain whereof is presented end-on at the striking face of the head; a tubular metallic socket member extending through a bore formed in the head and extending to a point above the upper portion thereof; a shaft the lower end of which makes a driving fit within the socket; a washer surrounding the upper end of the socket; a fastening device passing through said washer, socket and shaft; and a series of leather washers surrounding the shaft and imposed one upon another and on the first-named washer, the outer faces of the washers successively tapering inwardly to the shaft.

10. In a golf-club, the combination of a wooden head, the grain whereof is presented end-on at the striking face of the head; a tubular metallic socket member extending through a bore formed in the head and extending to a point above the upper portion thereof; a shaft the lower end of which makes a driving fit within the socket; a washer surrounding the upper end of the socket and having an inter-engagement with the adjacent face of the club; a fastening device passing through said washer, socket and shaft; and a series of leather washers surrounding the shaft and imposed one upon another and on the first named washer, the outer faces of the washers successively tapering inwardly to the shaft.

11. In a golf-club, the combination of a wooden head, the grain whereof is presented end-on at the striking face of the head; a tubular metallic socket member extending through a bore formed in the head and extending to a point above the upper portion thereof; a shaft the lower end of which makes a driving fit within the socket; a washer surrounding the upper end of the socket and having an inter-engagement with the adjacent face of the club; a fastening device passing through said washer, socket and shaft; and a series of leather washers surrounding the shaft and imposed one upon another and on the first-named washer, the outer faces of the washers successively tapering inwardly to the shaft, the lowermost washer of the series likewise having an inter-engagement with the washer which surrounds the upper end of the socket member.

12. In a golf-club, the combination of a wooden head the grain whereof is presented

end-on at the striking face of the head; a shaft mounted and secured in said head; and a neck formed of a plurality of leather washers surrounding the lower end of the shaft and secured thereto.

13. In a golf-club, the combination of a wooden head the grain whereof is presented end-on at the striking face of the head; a shaft extending into and secured to said head; and a neck located exteriorly of the head and formed of material different from that employed in the head, said neck tapering inwardly toward its upper end and surrounding the shaft as it emerges from the head.

14. In a golf-club, the combination of a wooden head the grain whereof is presented end-on at the striking face of the head; a shaft mounted and secured in said head; and a neck formed of a plurality of washers surrounding the lower end of the shaft and secured thereto.

In testimony whereof I have signed my name to this specification.

ALLAN E. LARD.