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G. G. OQUIST

2,809,838

GOLF CLUB HEAD

Original Filed March 11, 1948

*Fig. 1.*

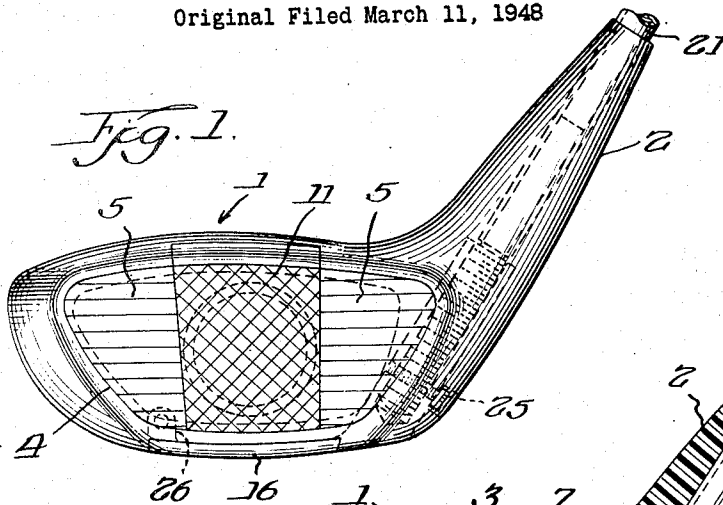


*Fig. 2.*

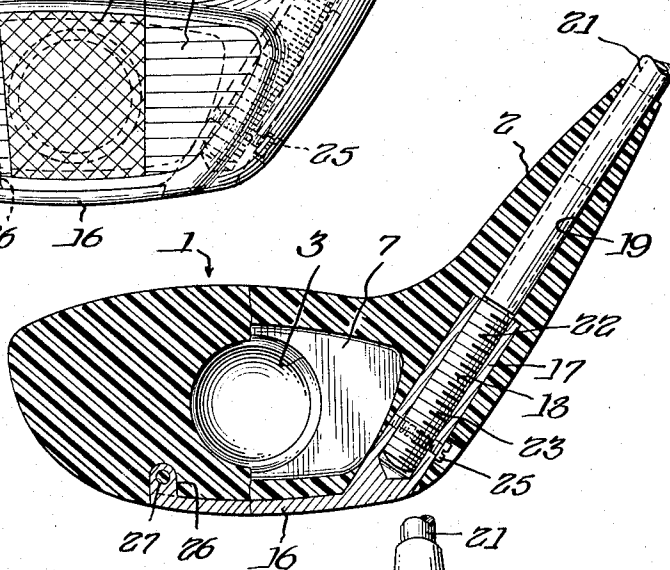


*Fig. 4*

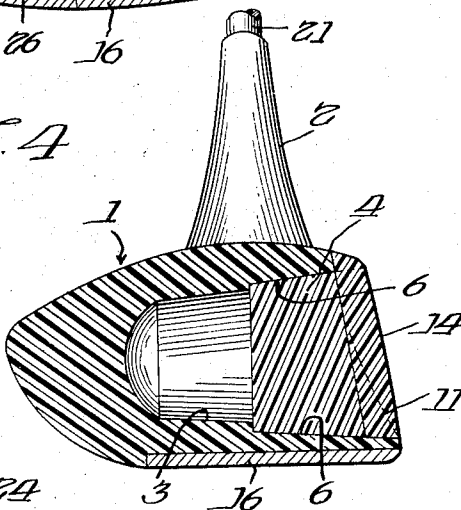
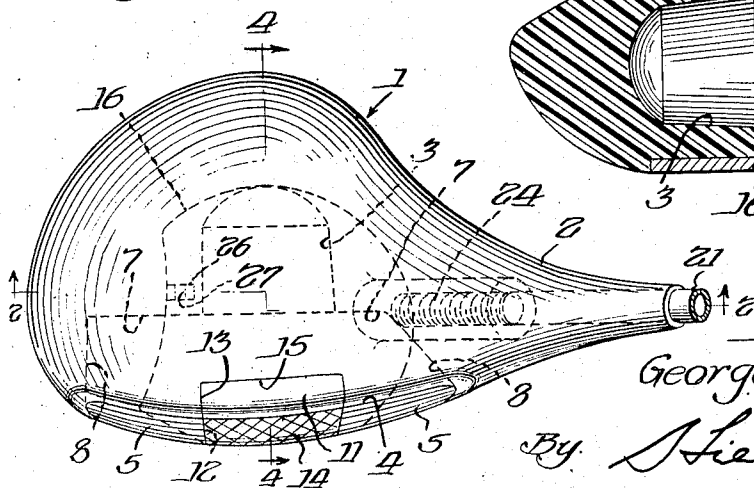


*Fig. 3.*



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## GOLF CLUB HEAD

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Original application March 11, 1948, Serial No. 14,202, now Patent No. 2,686,056, dated August 10, 1954. Divided and this application August 18, 1953, Serial No. 374,956

2 Claims. (Cl. 273-174)

The invention relates generally to golf clubs, and more particularly to a golf club head construction.

This application is a division of my co-pending application, Serial No. 14,202, filed March 11, 1948, for Golf Club Head, which is now U. S. Patent No. 2,686,056, granted August 10, 1954.

The invention has among its objects the production of a golf club head of the type commonly termed "woods" due to their usual wooden construction, which may be constructed of suitable plastics or the like, and at the same time produce a club head having desirable weight, balance and feel characteristics of a club head constructed of wood.

Another object of the invention is the production of a golf club head of the wood type adapted to be constructed of molded materials, which is simple in construction, relatively inexpensive to manufacture and very attractive in appearance.

A further object of the invention is the production such a club head wherein the appearance of the hitting face may be readily varied, at the same time permitting the use of a single or standard club head body, whereby a variety of differently appearing club heads may be produced, all of which employ the same body design.

A further object of the invention is the production of a novel golf club head which in its finished form is substantially an integral unit, eliminating substantially all screws and other possibly removable parts and in which stresses applied to the club face are distributed among portions of the body member of the head.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawings, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a front elevational view of a club head embodying the present invention;

Fig. 2 is a sectional view taken approximately on the line 2-2 of Fig. 3;

Fig. 3 is a top plan view of the club head illustrated in Fig. 1; and

Fig. 4 is a sectional view taken approximately on the line 4-4 of Fig. 3.

The present invention contemplates the use of a "wood" type club head constructed of suitable plastic or other material which may be readily molded, wherein the body portion of the head is provided with a cavity which opens on the face side of the head and is closed by a cover or closure member, the outer face of which forms, in effect, the hitting face of the club head.

Referring to the drawings, 1 indicates generally the body portion of a club head having an upwardly extending shaft receiving hosel 2 integrally formed therewith, the body portion 1 being constructed of suitable plastic

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material or the like which may be readily molded to the desired shape, and as such plastic or molding materials normally have a greater density than that of the wood commonly used in manufacturing such club heads, provision is made for changing and/or equalizing the weight characteristics of the molded head with that of the wooden head. This is accomplished by providing the body 1 with a cavity 3, the latter in the present instance, for the purposes of illustration, being shown as more or less cylindrical in form, the side walls in the present instance tapering outwardly slightly to provide sufficient draft during the molding operation.

The open end of the cavity 3 is closed by a cover or closure member 4, the outer face 5 of which forms a part of the hitting face of the club head. As illustrated in Figs. 1, 3 and 4, the member 4 is positioned in a complementary recess 6 in the body 1 adjacent the open end of the cavity 3. The rear wall 7 of the recess 6 is substantially flat and the side walls thereof flare outwardly as indicated at 8 in Fig. 3. Likewise, the top and bottom walls of the recess 6 may be flared outwardly. It will thus be apparent that compression stresses on the closure member 4 resulting from the hitting of a ball will be transmitted from the member 4 to the top, bottom and side walls of the recess 6 as well as to the rear wall 7 thereof, thereby effectively distributing impact stresses to the various portions of the body 1.

If desired, the face of the club head may also be provided with an insert 11 positioned in a vertically extending channel 12 in the member 4 and an aligned channel 13 in the adjacent upper portion of the body 1. The closure member 4 and the insert 11 may be formed of any suitable material, as for example, molded plastic or the like and are rigidly secured to the body 1 by a plastic solvent, cement, or other suitable means. The face 14 of the insert 11 forms the normal ball engaging portion of the club head, and it will be apparent that, if desired, the insert 11 and grooves 12 and 13 may be omitted, whereby the face of the closure member 4 will form the normal ball engaging surface of the club head. It will be noted that in the construction illustrated, stresses are transmitted from the insert 11 to the member 4 and in addition thereto, some stresses are transmitted directly to the body 1 at the engagement of the insert with the rear wall 15 of the channel 13.

Embedded in the material forming the body 1 of the head is a sole plate 16 formed from suitable metal such as steel or brass as is well known in the art and having a shank 17 extending upwardly therefrom at the heel end of the club head, the shank 17 having a bore 18 therein axially aligned with the bore 19 of the hosel 2. Assuming a hollow metal shaft 21 is employed the latter may be provided with a solid end member 22 rigidly connected by any suitable means to the adjacent end of the shaft 21, the member 22 having its free end thereof threaded as indicated at 23 and engageable with cooperating threads 24 in the bore 18 of the shank 17. The shaft 21 is rigidly locked in the socket thus formed by a screw 25 threaded into the shank 17, and the threaded end 22 of the shaft. The toe end of the sole plate 16 is rigidly secured to the body 1 by a projection 26 extending inwardly from the metallic sole plate 16, integrally formed with the metallic sole plate and embedded into the material forming the body 1. The projection 26 may be provided with a transverse aperture 27 therein adapted to be filled by the material forming the body 1 during the molding operation, or equivalent interlocking means thereby firmly anchoring the projection and sole plate 16 to the body 1. It will be apparent that with the present construction, the finished club head is substantially an integral unit which is very durable in use and

in which attaching screws for the various parts such as the sole plate 16, etc. other than the locking screw 25 are eliminated.

While the closure member 4 may be of any suitable size and shape, I prefer to construct the same of a size to provide substantially the entire hitting face of the club head as this construction provides maximum strength and durability and at the same time enables variations in the club face to be readily and inexpensively made. It will be noted that by the use of this construction, including the use of the insert 11, various scoring designs, etc., may be produced in the club face and the face of the insert without changing the construction or design of the body 1. Thus, the appearance of the club may be readily varied by providing a plurality of closure members and inserts, the faces of which are scored or otherwise designed to provide different ornamental effects, any of the various members being adapted to be assembled with the same body portion. This feature is of particular importance in the manufacture of club heads, as each manufacturer of golf clubs may have his own particular design for the club face, and in manufacturing differently appearing club heads only one mold is required for the body of the head, the various different effects being achieved solely by employing different combinations of closure members and inserts. Obviously, the cost of producing a number of differently designed closure members 4 and inserts 11 particularly with respect to the molds therefor, will be considerably less than the cost of producing several different bodies 1, and the molds therefor.

The size and shape of the cavity 3 may be readily varied as desired, whereby the same sized club head may be produced with different characteristics, resulting from such variations in the shape and size of the cavity 3.

It will be noted from the above description that I have provided a novel golf club head which may be readily constructed by common molding processes, which head may be designed to give predetermined characteristics. Likewise, that I have provided a novel golf club head construction which is relatively simple, very durable in use, and in which various ornamental effects may be readily and inexpensively produced.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence, I do not wish to be understood as limiting myself

to the exact form, construction, arrangement and combination of parts herein shown and described or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. As an article of manufacture, a metallic sole plate for integrally molding with a molded golf club head of the "wood" type comprising a body portion formed of a moldable material, said sole plate including at least one integral apertured projection vertically extending therefrom contiguous to the front edge of the sole plate for molding within the molded golf club head in the molding thereof, said aperture of the projection being transverse thereto, whereby in molding the molded golf club head with said sole plate, said sole plate and projection are molded and affixed to the body portion with the apertured projection integrally molded within the molded golf club head and the sole plate providing the bottom face of the molded golf club head.

2. As an article of manufacture, a metallic sole plate for integrally molding with a molded golf club head of the "wood" type comprising a body portion including a hosel portion and formed of a moldable material, said sole plate including at least one integral transversely apertured projection contiguous to the front edge of the sole plate for molding with the molded golf club head in the molding thereof for affixing to the body portion and a shank for the hosel portion for integrally molding with the body portion therewith whereby in molding the molded golf club head with said sole plate, said sole plate, apertured projection thereof, and shank are integrally molded and affixed to the body portion with the apertured projection integrally molded within the molded golf club head, the sole plate embedded in the body portion and providing the bottom face of the molded golf club head, and the shank molded within the body portion at the heel end of the molded golf club head.

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