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GOLF CLUB HAVING ADJUSTABLE WEIGHTS

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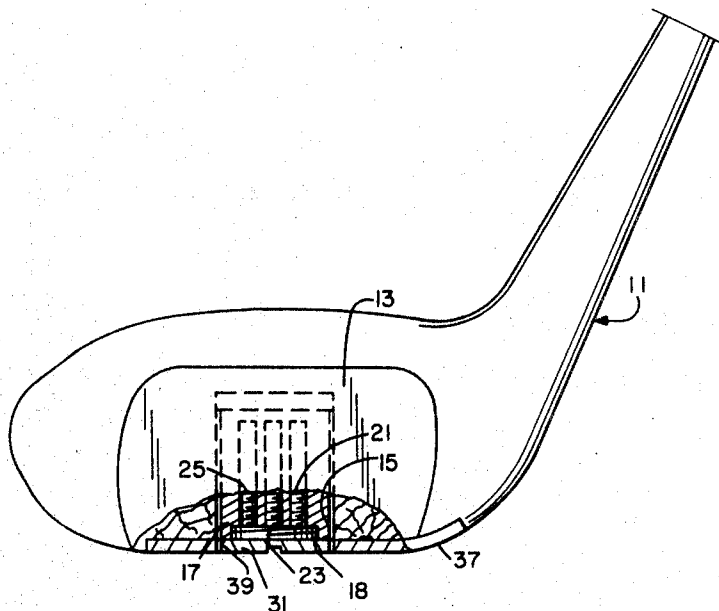


FIG. 1

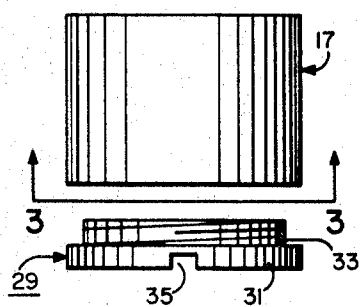


FIG. 2

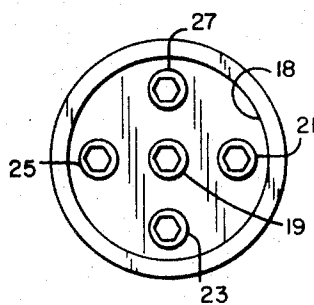


FIG. 3

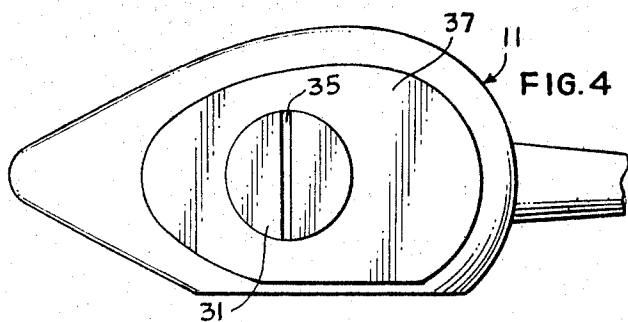


FIG. 4

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GOLF CLUB HAVING ADJUSTABLE WEIGHTS
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5 Claims

ABSTRACT OF THE DISCLOSURE

A golf club head having a weight plug with a threaded, recessed bottom surface, which bottom surface has threaded openings for receiving threaded adjusting weights that are selectively inserted into the openings to adjust the swing weight of the club, and a cap member that is threaded into the recess.

BACKGROUND OF THE INVENTION

It is well known that the optimum swing weight and balance of golf clubs, particularly those known as the "woods," is different for golfers of different stature and physical characteristics. The word "woods" is used herein to define the type of club and is not limited to the material wood.

It is very difficult for anyone other than the manufacturer to change the weight of the club head. Normally the club head contains a lead weight which is deposited in a pocket in the club head. The pocket is closed with the sole plate. The sole plate is affixed to the bottom of the club head with screws. The lower surface of the club head is then coated with an epoxy material. It is extremely difficult to remove the screws. Even after the screws are removed, the lead insert must be chipped to reduce its weight. If weight is to be added, lead must be melted and inserted into the pocket.

Manufacturers lose considerable sums of money because of having to change the lead inserts in the golf club heads. Further, distributors and retailers must keep substantial inventories of inserts of various weights.

Previous attempts to solve this problem have included inserts which fit into the top of the club head with specially contoured plates to enclose the same. This involves substantial rework of the club and also detracts from its appearance. Further, the weight is disposed near the top of the club head instead of near the bottom where it is most effective. The cover plate on the top of the club head is distracting to the golfer when he swings.

It is an object of the present invention to provide an improved golf club head construction wherein the weight and balance of the club head can be quickly, easily and effectively adjusted in a simple arrangement without substantially modifying the club head.

It is a further object of the present invention to provide such a golf club head construction wherein a plurality of separate adjusting weights are positioned near the sole of the club head.

It is another object to provide such a club head construction wherein there is minimum alteration of a standard club head, and appearance of the club head is not changed.

Other objects and many attended advantages of my invention will become more apparent in reading the following detailed description and examining the drawing in which:

FIG. 1 is a front elevation of a golf club head of the woods type constructed in accordance with the present invention, and with a portion broken away to reveal the internal arrangement.

FIG. 2 is an enlarged elevation of the weight plug which fits into the club head, and the cap for the weight plug.

FIG. 3 is a bottom view of the weight plug shown in FIG. 2.

FIG. 4 is a bottom view of the club head shown in FIG. 1.

Referring to the drawings, a wood type golf club head is shown at 11. The club head is provided with a striking surface 13 which engages the ball when the golfer swings. A single hole 15 is drilled into the bottom of the club head. This hole seats a weight plug 17. The weight plug is affixed to the club head by suitable means such as an epoxy adhesive. A threaded cap seat 18 is formed at the outer end of the plug weight 17. A plurality of substantially parallel threaded openings are formed into the weight plug. In the present instance five are shown, but a different number of openings can be used.

Adjusting weights in the form of Allen screws are screwed into the openings in the weight plug. Five such Allen screws are shown at 19, 21, 23, 25 and 27. Each Allen screw has a weight of two grams, or one logarithmic or standard swing weight scale. The weight and balance of the club head can be changed by inserting or removing some or all of the Allen screws. This simple arrangement of closely controlling the weight and balance is extremely effective. In the arrangement shown, one Allen screw is disposed along the axis of the cylindrical weight plug and the other Allen screws are parallel.

A threaded cap 29 having a flange 31 and a threaded shank 33 is screwed into engagement with the cap seat 18 in the plug weight 17. The cap has a slot 34 in the top thereof so that the cap can be quickly and easily removed or affixed with a simple tool or even a coin.

A sole plate 37 is fixed to the bottom surface of the club head and has a round opening 39 therein which accommodates the cap flange 31. The sole plate is affixed to the club head with suitable means such as screws for example. It is only necessary to remove the cap, and not the entire sole plate, to adjust the weight and balance of the club head.

It will be apparent that the contour of the club head is not changed with the construction disclosed herein. There is but a single opening formed into the bottom of the club head. The cap can be quickly and easily removed and affixed, and it is a simple matter to remove or insert the Allen screw adjusting weights. This can readily be accomplished by the golfer without taking the club to a club repair establishment.

While many features and applications of our invention have been disclosed in the specific embodiment, it should be recognized that other possible adaptations and uses of applicants invention are possible by those skilled in the art and we wish to only be limited in our invention to that specifically described in the following claims.

Having thus described our invention, we claim:

1. A golf club head construction of the woods type wherein the weight and balance of the club head can be quickly and easily altered without changing the external configuration of the club head, comprising:

a golf club head having a single opening in the bottom thereof and extending upward into said head;

a weight plug disposed in said opening, said weight plug having a plurality of threaded, elongated, adjusting weight receiving holes therein;

at least one removable threaded adjusting weight, said adjusting weight seated in threaded engagement with the weight plug in one of said adjusting weight receiving holes;

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- a threaded cap seat in said weight plug adjacent the entries to said adjusting weight receiving holes, said cap seat having a flange seating shoulder therearound; and
- a removable cap having a flange and a threaded shank extending therefrom, said shank in threaded engagement with said cap seat, and said flange lying in engagement with said flange seating shoulder.
2. A golf club head construction according to claim 1 wherein the adjusting weights are in the configuration of Allen screws.
3. A golf club head construction according to claim 1 wherein the outer surface of said cap is provided with a slot to facilitate affixing of the cap to and removal of the cap from the weight plug.
4. A golf club head construction according to claim 1 wherein the weight plug is cylindrical with one adjusting weight receiving hole located along the axis of the cylinder, and the other adjusting weight receiving holes are substantially parallel to the axial adjusting weight receiving hole.

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5. A golf club head construction according to claim 4 wherein the adjusting weights are in the configuration of Allen screws, the outer surface of the cap is provided with a slot to facilitate affixing of the cap to and removal of the cap from the plug weight, and a sole plate is affixed to the bottom of the club head surrounding said cap flange and forming a substantially even outer surface therewith.

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