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GOLF PRACTICE CLUB INCLUDING INERTIA CONTROLLED INDICATOR MEANS

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Fig. 1

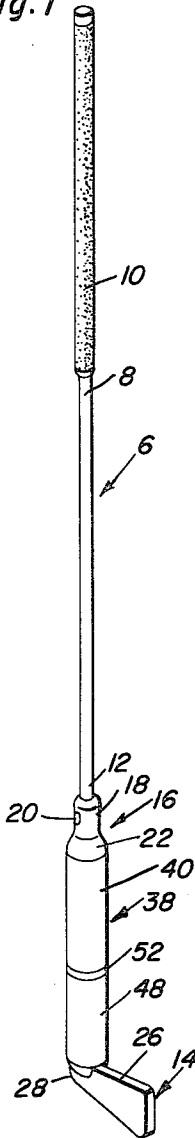


Fig. 2

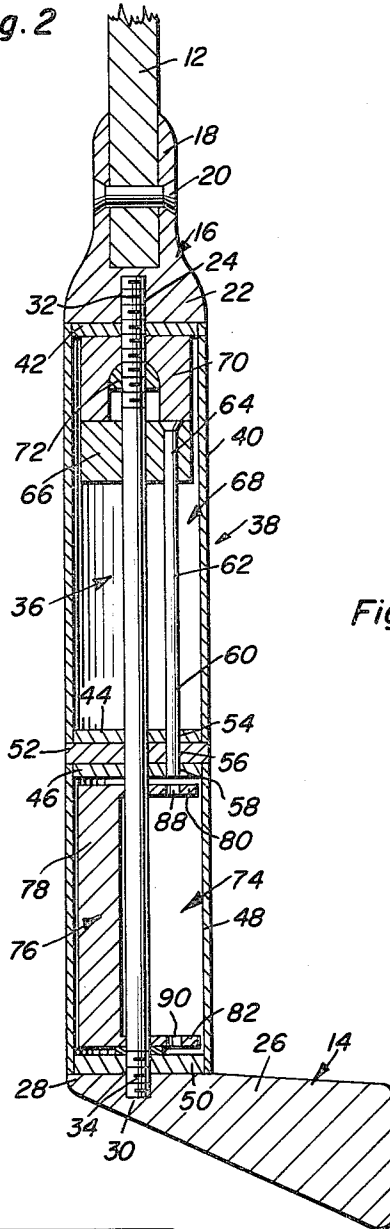


Fig. 3

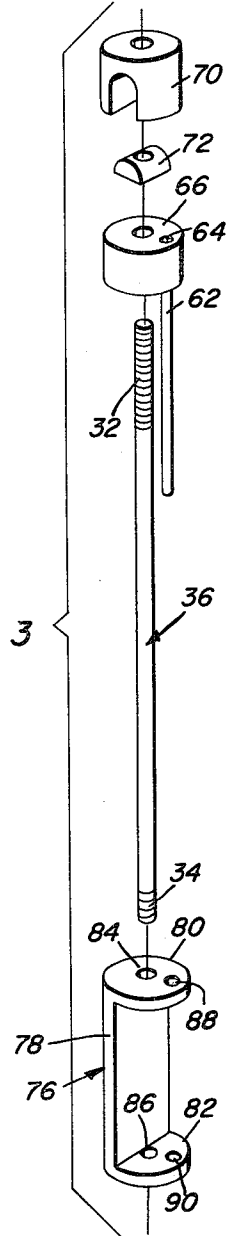
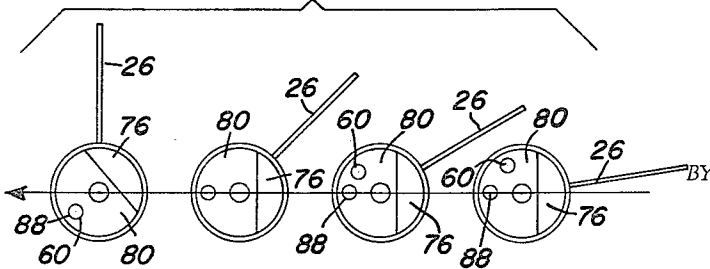


Fig. 4



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**GOLF PRACTICE CLUB INCLUDING INERTIA
CONTROLLED INDICATOR MEANS**

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3 Claims. (Cl. 273-186)

The present invention relates to a structurally and
novelty distinct practice swing golf club which lends it-
self to practical and helpful use when practicing with a
view toward duplicating and perfecting a recommended
professional-type swing, and which is structurally unique
in that it features self-contained mechanical means which
not only emits an audible correct swing signal but, in
addition, transmits the feel of the given signal to the hands
of the user.

The principal purpose of the present invention is to
furnish the golf enthusiast with a reliable means for prac-
ticing the correct swing without the use of a golf ball
and in limited space, and a means for warning him when
he is practicing incorrectly.

The practice swing golf club employs the laws of in-
ertia to effect the alignment or misalignment of a weight
which reacts to lock out sound response when any serious
swing fault is present which adversely affect the swing
results.

In carrying out the principles of the present invention
a practice swing golf club is provided with built-in audible
signalling means which (1) emits or sends out a clearly
discernible signal when the contemplated correct swing is
achieved and (2) prevents emission of the signal if
significant faults are present in the user's swing.

It is an object of the invention to perfect a practice-
type golf club of the character above revealed which will
doubtless be useful to and endorsed by an instructor,
for example, when grading a student in respect to his
mastery of the desirable correct swing.

The invention has to do with a simple, practical and
economical practice swing golf club wherein the signal-
ling means is consolidated in relatively short coupling
means situated between the head and distal end of the
shaft and wherein the component parts are effectually
housed and protected and are such that they respond to
the underlying principles of swing mechanics such as
are employed and relied upon in actual play, whereby
to thus enable the user to practice with enthusiasm and
a feeling of expected accomplishment once he has ac-
quired the knack of executing the swing in such a manner
that the signal can be sounded time and again. With
this end in view the user, particularly if he be a beginner,
can learn from the beginning how to avoid the acquire-
ment of bad habits which result in a faulty swing.

It is also a matter of moment to take into consideration
the fact that the invention herein disclosed is such that
the component parts may be factory-set so that the stu-
dent will be compelled to resort to rely upon required
delayed hand action until the same is acquired (at the
contemplated time during the course of the ball hitting
swing).

The invention also features a practice club wherein a
blade-type head is removably mounted on the distal end
of the shaft by way of the coupling and signalling means
therein and wherein said head of the practice club may
be reorientated for use by lefthanded as well as right-
handed golfers.

Briefly summarized, the invention is characterized by
a club which resembles a conventional type golf club and
which is therefore provided with a shaft having a grip
of a usual type fixed to the upper or proximal end of the
shaft. The club head is not mounted directly on the
lower or distal end of the shaft but is, instead, mounted

on the lower end of a special coupling which unites the
head with the distal end of the shaft and in addition
contains the mechanism desired. The latter is charac-
terized by means embodying swing actuated and con-
trolled signalling means which is designed and constructed
to ascertain, check and otherwise monitor the user's
entire swing and wherein said means is responsive only
when the swing is correct. Hence, it does not come into
play if the stance is wrong or the swing is executed in a
manner regarded as faulty.

These somewhat more explicitly the coupling means
comprises a cylindrical barrel structure, the latter being
centrally partitioned and defining upper and lower cham-
bers. The upper chamber is provided with a longitudi-
nally reciprocable weighted collar which constitutes an
audible signal sounding hammer. To this end the ham-
mer is intended to engage a signalling anvil at the bottom
of the chamber under predetermined operating conditions.
The lower chamber is provided with a rotatably mounted
weight which has its center of gravity offset from its
mounting pivot in a manner which makes it responsive
to the laws of inertia as will be hereinafter more specifi-
cally pointed out.

These together with other objects and advantages which
will become subsequently apparent reside in the details of
construction and operation as more fully hereinafter
described and claimed, reference being had to the accom-
panying drawing forming a part hereof, wherein like
numerals refer to like parts throughout, and in which:

FIGURE 1 is a view in perspective of a practice swing
golf club constructed in accordance with the principles
of the instant invention and showing the same in readiness
for use;

FIGURE 2 is an enlarged view, compared to FIGURE
1, and which details the head and signalling and coupling
means between the head and the shaft, said means appear-
ing in section and elevation and illustrating all of the
essential component parts;

FIGURE 3 is an exploded perspective view wherein
the component parts which go to make up the monitor-
ing and signalling means are each and all clearly shown;
and

FIGURE 4 is a four step progressive plan view illus-
trating the orientation of the components during a down-
swing.

Referring now to the views of the drawing the shaft
is denoted by the numeral 6, the upper or proximal end
portion 8 being provided with a conventional-type fixedly
mounted grip 10. The lower or distal end portion 12
is constructed for mounting thereon of the detachable
head 14. To accomplish this an adapted 16 of the type
illustrated in FIGURE 2 is utilized. This adapter com-
prises a ferrule or the like 18 into the socket of which
the end portion 12 of the shaft is fitted and riveted or
otherwise secured in place as at 20. The enlarged termi-
nal portion of the ferrule denoted at 22 projects beyond
the shaft end where it is axially provided with a screw-
threaded socket 24.

The head comprises a suitably constructed blade 26
the butt or heel end of which, denoted at 28, is provided
with a screw-threaded socket 30 in line with the afore-
mentioned socket 24. These two sockets serve to ac-
commodate the screw-threaded end portions 32 and 34
of the tie rod 36. This means 36 constitutes an im-
portant component or part of the over-all coupling means,
that is the means 38 which serve to join the head 14 to
the shaft 12 by way of the adapter 16. The broad and
functioning aspects of this over-all means 38 have already
been set forth. Consequently and at this point the struc-
ture will be particularized. To this end this structure
comprises a cylinder or barrel construction. More par-

ticularly, an upper cylinder or barrel 40 the upper end of which is lined up with the adapter 16 is secured thereto by a washer or an equivalent shoulder 42. A similar washer 44 is secured in the lower end of the barrel 40 and is opposed to and lined up with a third washer 46 fitting securely in the upper end of the lower barrel or cylinder 48. There is also a fourth washer 50 and this is secured in the bottom of the barrel 48 and all of these washers have aligned centrally disposed holes permitting passage of adjacent portions of the tie rod 36 there-through. A connecting disk or an equivalent element 52 is interposed between washers 44 and 46 and secured thereto. In addition to the axial openings in these parts 44, 46 and 52 it will be noted in FIG. 2 that these several parts have eccentric but aligned holes 54, 56 and 58 for a projectible and retractible end portion 60 of a hammer actuated signal control pin 62. If washers are employed, they must be rigidly affixed to each other so that no shifting could occur which might bind pin 60 and thus prevent reset. The upper end of the pin is eccentrically connected at 64 to a weighted collar 66 which is shiftable or slidable on that portion of the rod 36 in the upper chamber 68. The upper portion of the chamber is provided with a permanent magnet 70 which is held in place by a suitable assembling and retaining nut 72 on a screw-threaded portion 32 of the tie rod 36. The collar 66 in addition to being of a prerequisite weight (so that it will descend when released) is also of magnetizable metal so that it is normally "latched" in place by the complementary permanent magnet 70. In practice spring-loaded or equivalent latch means (not shown) may be employed for retaining the weighted collar and pin, as an assembly, in the ready-to-signal position. The washer 44 constitutes an anvil and when the collar 66 drops it becomes a hammer, strikes the anvil and gives out or emits the desired correct-swing-signal. The lower chamber is denoted at 74 and accommodates the lower half-portion of the rod 36 and, what is more important, serves to shield and house a rotatable weighted element 76 which is characterized by a substantially semi-cylindrical elongated body portion 78 having disk-like abutment heads 80 and 82 (FIG. 3) at its opposite ends. The axial holes 84 and 86 are aligned and serve to mount the weight 76 for free swinging or pendulous motion on the rod 36. The eccentric holes are denoted at 88 and 90, respectively, and these holes are capable, when the weight is in the position shown in FIG. 2, of lining up with the aforementioned holes 54, 56 and 58 and the projectible and retractible hammer release pin 62.

The weighted element 76, rides in the plane of travel of the club while pin 60, and club blade 26, follow the action of the pivot and the hands. If all of the swing mechanics are correct pin 60 will slide through hole 88, or 90, whichever is placed proximal to the pin 60, during assembly, not both holes. Pin 60 is too short to reach through both ends of element 76. One hole is made with a close tolerance to better suit the expert golfer while the other hole is made with a wider tolerance so that the beginner may more quickly experience the feel of the action.

If the grip, stance, address, backswing, pivot, hand action, and timing is such that, within reasonable limits, the club face bears the correct angular relation to the plane of travel of the club at the time of breakaway of collar 66, and this is done with requisite smoothness and rhythm, the club will give out an audible signal. These same actions will almost invariably result in a good drive in actual play. Any serious fault in one or more of the above qualities will almost invariably cause some displacement of weight 76, due to inertia, thereby preventing the desired sound response or signal.

Admittedly, persons conversant with the art to which the invention relates are aware that there are many and varied styles and forms of practice clubs for working out the

needs of students and also experienced golfers. It is old to utilize a club wherein a shiftable latch controlled weight or the like is employed to emit a sound or signal. It should be noted, therefore, as already suggested, that the present invention embodies means 60, 62, 54, 56 and 58 to prevent the emission of the audible signal when the swing is faulty. Also, the hammer 66 in relation to the anvil 44 in the chamber 68 has limited sliding motion only. The release force is factory-set so that the student will be compelled to actually delay hand action until the proper time in the swing. It should be noted that the present invention is equipped with a blade 14 which is functional in that it must bear the correct angular relation to the plane through which it is swung from the point of address to the top and back to the point where the hands uncock. If the grip is incorrect the blade angle is incorrect at the point of address, the hands rolls the shaft and the club head is looped at the top or the blade angle to the plane is changed for any reason it is unlikely that the correct angle can be restored at the exact time the weight or collar 66 is pulled free from the force responsive magnet 70. The force required to pull slide weight 66, free from magnet, is of such magnitude as to require the action of the hands to feed power into the plane of the swing which was initiated by the turning of the hips and shoulders in the pivot. Since good timing has reference to the delaying of hand action to a point in the arc where the most possible club head speed may be generated through the hitting zone, this swing club is designed to effect a sound emission at, or very near the point where the hands uncock. The operator having properly executed the swing action through three fourths of the swing is most likely to completely the swing in an acceptable manner. It is obvious that this device may be used either by a right or a lefthanded golfer.

The device is adjusted for the correct angular relationship of club head or blade to the plane of the swing. The student takes the proper grip, assumes a stance square to an imaginary line, addresses an imaginary ball, and swing the club back to the top of the intended swing. Then after a slight pause he accelerates the club head smoothly back through the plane, delaying hand action to the proper time, he whips the club head through the hitting zone, permitting the energy stored in the swing to carry him into the follow through. At address, the center of gravity of the rotating element 76, being offset from its pivotal points, is at rest below the club shaft.

As the club is swung back to the top the weighted side of element 76, will trail the club shaft in the plane. A slight pause at the top will permit weighted side of 76 to fall below the shaft. Smooth downward acceleration from the top will cause weighted side of said element to again trail the shaft in the intended plane. The club shaft will rotate through approximately ninety degrees from the top to the point of address, due to the body pivot, not the hands.

FIGURE 4 illustrates progressively the relation of the lower end of pin 60 and the hole 88 during the downswing with the second view from the left in FIGURE 4 showing the position of the various parts at a point in the arc somewhat below the waistline where the hands should uncock causing collar 66 to be pulled free from magnet 70, since at this point pin 60 is directly above hole 88, pin 60 will slide down through hole 88 permitting collar 66 to strike stop element 44 emitting a distinct sound. The fourth view from the left in FIGURE 4 illustrates the position of blade 26, relative to the plane, the location of pin 60 and hole 88 after the club head has been started down from the top. Note how, due to the law of inertia the weight has been pulled into a trailing position in the plane and since hole 88 is drilled through the lip of the upper surface of weighted element 76, it rides in a leading position in the plane. The third view from the left in FIGURE 4 shows that club face 26 is closing toward a right angle to the plane, and by so doing pin 60, is approaching hole 88, which, of course is still riding in the

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plane. The direction of club movement during the down-swing is indicated by the arrow in FIGURE 4.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A practice-type golf club comprising a shaft, an indicating device mounted in rigid relation to said shaft, said indicating device including a freely rotatable abutment member having an eccentrically oriented opening therein, an axially movable member supported above the abutment member and including an eccentrically oriented pin, means releasably retaining the pin in a retracted position until a predetermined centrifugal force is exerted on the pin and movable member in response to swinging of said club, means responsive to a predetermined force of inertia acting on said abutment member as a result of the swinging movement of the club to align the opening in the abutment member with the pin whereby only upon the concurrent creation of such predetermined centrifugal

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force and such predetermined force of inertia the pin will move axially through said opening, and means for indicating movement of said axially movable member through said opening.

2. The structure defined in claim 1 wherein said pin retaining means is in the form of a magnet retaining the pin and axially movable member in retracted position.

3. The structure defined in claim 1 wherein said axially movable member is in the form of a weight disk, and said indicating means is an anvil adapted to be engaged by said weight disk whereby when said movable member is released it engages the anvil to emit an audible signal.

References Cited by the Examiner

UNITED STATES PATENTS

443,927	12/90	Weigle	46—174
1,334,189	3/20	Swanson.	
1,541,383	6/25	Pierce	273—138
2,135,648	11/38	Stumpf	273—186
2,592,013	4/52	Curley.	
2,843,076	7/58	Cook et al.	
3,106,403	10/63	Kirkman	273—186
3,136,546	6/64	Connolly	273—186 X

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