GOLF TEACHING APPARATUS

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ABSTRACT

Apparatus for assisting in the teaching of the game of golf comprising a substantially rigid, ovately curved track lying substantially in a single plane and preferably supported in a frame which is adjustable so that the plane of the track to the vertical is adjustable, a runner mounted on the track so as to be freely slideable along the track and an extensible shaft pivotally attached to the runner preferably by a ball and socket joint so as to give universal pivotal and rotational movement of the shaft relative to the runner. In use, the outer end of the shaft is grasped by the user and the shaft is swung in the manner of a golf club so as to move the runner along the track on a plane similar to that taken by the head of a golf club during the swing. If the user by incorrect use of his wrists, arms or body moves the runner out of the plane of the track, friction is set up between the runner and the track and the runner stops, indicating to the user the point at which his swing has started to deviate from the plane of the track. An important feature of the apparatus is the provision of a flat portion at the lowermost point of the track in the hitting area of the swing which imparts to the user a correct follow through in the impact area.

6 Claims, 6 Drawing Figures
1 GOLF TEACHING APPARATUS

BACKGROUND TO THE INVENTION

The present invention relates to apparatus for use in teaching the game of golf and more particularly for use in assisting a pupil to acquire a correct and consistent golf swing, particularly in that part of the swing which is generally referred to as the 'hitting area', i.e. that part of the swing which occurs below the level of the players shoulders.

In order to strike a golf ball accurately and consistently it is important that the head of the golf club should remain in substantially the same plane throughout the player's swing and it is an object of the present invention to provide apparatus which enables a player to feel, by the resistance set up against his swing, when he is taking the head of the club out of the correct plane of the swing.

STATEMENT OF THE INVENTION

According to the present invention, there is provided apparatus for teaching the game of golf comprising a substantially rigid, ovately curved track lying substantially in a single plane, means for supporting the track in a plane inclined to the vertical, a runner adapted to run freely along the track and an extensible shaft pivotally attached to the runner, whereby the outer end of the shaft can be grasped and the shaft swung in the manner of a golf club so as to move the runner along the track in a path similar to that taken by the head of a golf club during the swing.

Preferably the track extends continuously through at least 270° and has a substantially linear portion of approximately 18 inches in length at its lowermost point.

The track can comprise a flat strip of material having its major surfaces facing inwardly and outwardly and the runner advantageously comprises a housing with a plurality of rollers journalled in the housing and running along the track.

A preferred form of the invention will now be more particularly described with reference to the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevation of apparatus for teaching the game of golf in accordance with the present invention, FIG. 2 is a side view of the apparatus in FIG. 1, FIG. 3 is a section through the sliding runner and track of the apparatus of FIGS. 1 and 2, FIG. 4 is a section, taken along the line IV — IV of FIG. 3, and FIG. 5 is a view of a part of the apparatus shown in FIGS. 1 to 4 with a further optional attachment and FIG. 6 is an elevation of an alternative track and roller arrangement.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In FIGS. 1 and 2 apparatus for teaching a correct golf swing is indicated generally at 10 and comprises a substantially rigid rectangular frame 11 which is supported by legs 12 and 13. The legs 12 and 13 enable the frame 11 to be inclined at any desired angle to the vertical. The frame 11 can be locked in the desired angle by means of curved rack members 14 and 15, which interengage with the legs 12 and 13. The frame 11 is preferably made from box-section aluminium.

Mounted within the frame 11 and across the four corners are four diagonal struts 16, 17, 18, 19 which are welded or otherwise rigidly attached to the frame 11. Rigidly mounted from the struts 16 to 19 and the frame 11 by supporting bolts 20 is a track 21 comprising a substantially flat strip of metal preferably aluminium having its major faces 21a, 21b (see FIG. 3) lying in a plane perpendicular to the plane of the frame 11.

The track 21 is symmetrical about a median line parallel to the shorter sides of the rectangular frame 11 and has two end stops 22 and 23. As can be seen from FIG. 1, the track 21 extends through approximately 270° and is approximately ovate in shape.

A bottom portion 25 of the track 21 is linear and extends approximately horizontally for about 18 inches. The linear portion 25 is approximately 1 to 2 inches above the ground.

Slidably mounted on the track 21 is a runner 24, which is shown in detail in FIGS. 3 and 4. The runner 24 comprises a housing formed from a single sheet of relatively strong rigid material such as steel, aluminium or a rigid synthetic plastics formed to comprise three elongate channels 26, 27 and 28. The open mouths of the channels 26, 27 and 28 are spaced and face one another and the track 21 is positioned between the channels 26 and 28 with the inner major face 21a of the track 21 facing the channel 27.

Two spaced rollers 29 and 30 are mounted freely in the channel 27 and run on the face 21a of the track. Both of the rollers 29 and 30 are formed with concave rolling surfaces 32 which provide a clearance for the hands of the bolts 20. The channel 27 is also provided externally with a mounting 33 for a ball joint 34 on which a telescopically extensible golf club shaft 35 is pivotally mounted. The shaft is preferably formed from steel and preferably comprises an inner shaft portion 35a slider within an outer sleeve portion 35b to give an extension of approximately 12 inches.

A pair of spaced rollers 36 and 37 are freely mounted in the channel 26 and a single roller 38 is freely mounted in the channel 28 at a position intermediate the rollers 36 and 37.

As can be seen from FIG. 3, the concave roller surfaces of the rollers 36 and 37 engage one side edge of the track 21 and the concave roller surface of the single roller 38 engages the opposite side edge of the track 21 at a point intermediate the two rollers 36 and 37.

In use, the player grasps the handle of the shaft 35 in the manner in which he would grasp a golf club shaft and swings the shaft 35 upwardly and towards the stop 22 of the track 21. As the shaft 35 is swung upwardly the runner 24 moves along the track 21 up to the stop 22. If the players swing moves out of the general plane of the frame 11 in either sense, either the rollers 36, 37 or the roller 38 presses against a side edge of the track and frictional resistance is set up through the rollers against the action of the swing. If the swing deviates substantially from this plane, the player will be forced to stop his swing at the point of deviation. When the runner 24 reaches the stop 22, the player starts his downward swing. Because the downward swing brings the club head in a tighter arc than the upward swing, the shaft 35 will be telescopically contracted during the downward swing. As with the upward swing, if any deviation out of the plane of the track 21 occurs during
the downward swing this sets up a frictional resistance through the action of the rollers 36, 37, 38 on one or other side edge of the track 21 to indicate to the player that he is moving out of the correct plane. Exactly the same consideration apply during the follow through in a direction towards the stop 23.

By using the apparatus 10 a golfer can acquire the feel for a correct and consistent swing in which the head of the club i.e. the runner 24, remains in the same plane throughout the back swing, the down swing and the follow through. By providing a telescopically extensible shaft 35 allowance is made for the tighter arc of the down swing than the back swing.

The linear portion 25 of the track 21 serves to ensure that the golfer learns to keep the club head down in the region of impact with the ball so as to ensure a correct stroke through the ball and follow through.

In order to demonstrate the extent to which the wrists and forearms of the user have rolled over during the stroke to cause draw, or opened to cause fade a blade 40 can be attached to the outer or bottom end of the shaft 35, as shown in FIG. 5. The blade 40 represents the face of the head of the club and at the start of the swing the user holds the shaft 35 with the blade 40 aligned as the head of the club would be, that is across the direction of swing. When the swing is completed the position of the blade will indicate the position and extent of movement of the users wrists and forearms during the swing.

The blade 40 can be attached to the shaft 35 by a spring clip 41 so that it is readily removable or it can be welded to the shaft.

The blade 40 or an optional feature which adds to the scope of the machine in teaching the user the correct use of the hands, wrists and forearms in the swing.

In order to adjust for the height of the player using the apparatus 10, the angle of inclination of the frame 11 to the vertical is adjusted by means of the legs 12, 13 and rack members 14, 15. The smaller the player the shallower the angle of inclination of the frame 11 to the ground.

Since the track is symmetrical it can be used equally by a right handed or left handed player.

In an alternative modification of my invention, which is shown in FIG. 6, a track 50 is provided with straight edges 51 and 52 and each roller is provided with a wedge shaped roller surface 53 which runs on an edge face 51 or 52 of the track. In all other respects however the track and rollers of the embodiment shown in FIG. 6 are similar to those shown in FIGS. 3 and 4.

It will be appreciated that any suitable alternative means for guiding the runner slidably round the track can be provided, for instance the track may be in the form of a split tube with a guiding member attached to the end of the shaft 35 located within the split tube. Alternatively, the track may comprise a solid cylindrical rod and the head on the end of the shaft would then comprise a short split sleeve which partially surrounds the track and slides over the track.

The end of the shaft 35 adjacent the runner 24 is preferably attached to the runner by a ball and socket joint but any other form of universal joint can be provided.

The frame 11 and track 21 are preferably made from a metal or metal alloy, fibre-glass or a tough synthetic plastic. The housing of the runner 24 can be made either of a tough synthetic plastic material or a metal alloy and the rollers within the housing are preferably formed from a synthetic plastic material which is light in weight and has a good co-efficient of friction.

Use of the apparatus 10 enables the player to acquire, by direct physical sensation, the feeling of a correct swing which will give maximum efficiency in the lower part of the swing action, generally recognised as the most important area of the swing. Furthermore, because the faulty use of the hands or body can cause the sliding runner to stop, it serves to illustrate to the player the exact point at which the fault in his swing occurs. It also serves as a means of developing the correct muscles of the hands, forearms and body to increase the power and efficiency of the swing.

The extensible shaft has the dual purpose of automatically adjusting to permit users of the apparatus, whose length of limb, especially in the arms, may vary, to efficiently operate the apparatus on an unvarying width of arc of the track and secondly, it automatically compensates for the fact that in a true golf swing the club head normally travels in the down swing in a narrower arc than in the up swing.

Further minor modifications can be made to the above described embodiment without departing from the spirit and scope of the invention which is best described in the following claims.

What I claim is:

1. Apparatus for teaching the game of golf comprising a substantially rigid ovally curved track extending continuously through an angle of at least 270° and lying substantially in a single plane, a substantially rigid frame for supporting the track substantially rigidly in a plane inclined to the vertical at an angle which is adjustable, a runner adapted to run freely and smoothly along the track and a freely and continuously extensible shaft pivotally attached at the inner end thereof to the runner, whereby the outer end of the shaft can be grasped and the shaft swung in the manner of a golf club so as to move the runner along the track on a path similar to that desirable taken by the head of a golf club during a proper swing and wherein the downward swing brings the club head in a tighter arc than the upward swing, said track having a substantially linear portion approximately 18 inches long at its lowest most point adjacent the ground, said track comprising a flat strip of material, the major surfaces of which face inwardly and outwardly respectively of the track, said runner comprising a rigid light weight, open ended housing which partially surrounds the track and a plurality of free running rollers mounted on the housing and adapted to bear against the two edges and at least the inner major surface of the track, said runner further comprising a pair of spaced rollers which bear against one edge of the track and a single roller which bears against the other edge of the track at a position intermediate the said pair of spaced rollers.

2. Apparatus as claimed in claim 1, wherein the rolling surface of each of the rollers is concave and generally V-shaped.

3. Apparatus as claimed in claim 2, wherein the shaft is telescopically extensible and is pivoted to the runner by a joint giving universal movement between the shaft and the runner.

4. Apparatus as claimed in claim 3 and further including a flat blade attached to the end of the shaft adjacent the runner.
5. Apparatus as claimed in claim 1, wherein a flat blade, simulating the head of a golf club shaft is attached to the shaft adjacent the runner, whereby the rotation of the shaft as a result of the user's wrist movement during the swing can be readily gauged.

6. Apparatus as claimed in claim 5, wherein the shaft is attached to the runner by a ball and socket joint giving universal pivotal and rotational movement of the shaft relative to the runner.

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