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Hightower

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[54] **GOLF PRACTICE DEVICE**

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[51] **Int. Cl.**..... **A63b 69/36**

[58] **Field of Search**..... 273/183, 186, 191, 273/192, 190

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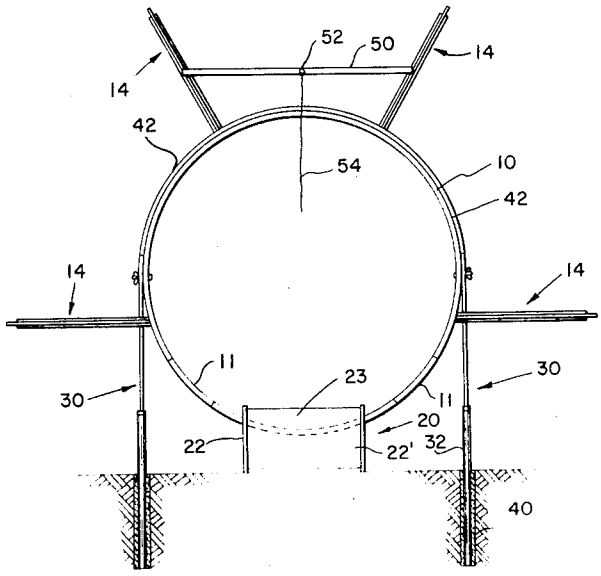
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[57] **ABSTRACT**

A device is disclosed and claimed herein for practice and instructional use in the proper technique for swinging a golf club. A pair of spaced apart, circular guide rails are provided and maintained in a particular relationship so as to define a complete circular swing path therebetween. The guide rails are maintained in the proper relationship by a plurality of spacer or connector elements secured thereto and positioned around the circle. Further, the guide rails are supported by a plurality of elements from the ground or other surface. A first support element may be provided that defines a starting point for the golf swing where a ball rests and may be properly addressed. Further, a shield may be provided on the first support element as a safety factor and also for display of instructional indicia. Further support is provided by a pair of adjustable rods that are received on the ground or other surface, the length of which may be varied so as to adjust the plane of the swing arc. Further embodiments of the present invention include a head movement indicator cord, variable size guide rails, and shock absorbing coverings around the upper portion of the swing arc.

15 Claims, 6 Drawing Figures



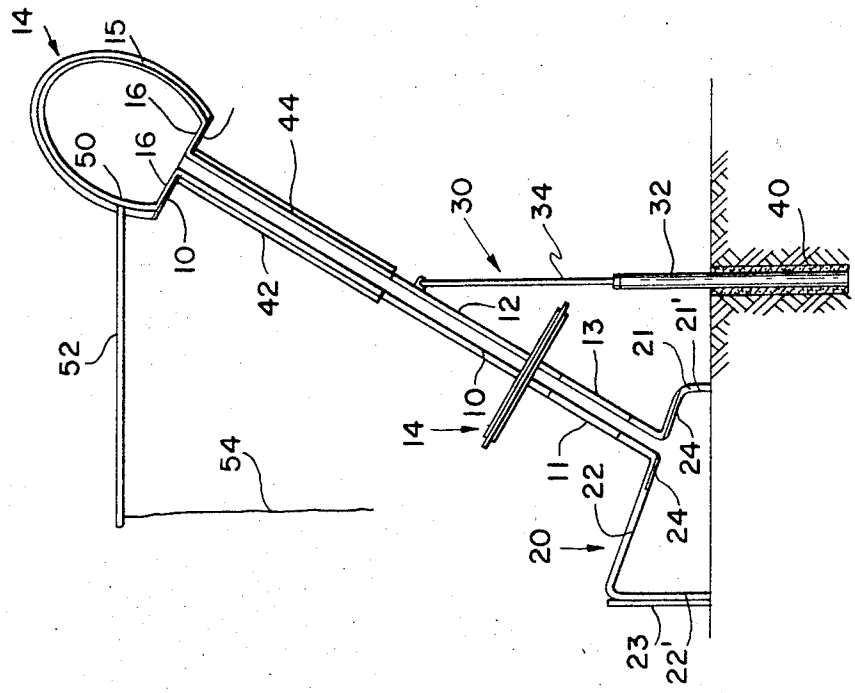

14
15
16
16
50
10
44
42
30
34
32
40
52
12
13
21
21'
14
10
11
22
24
24
20
54
23
22'

FIG. 2

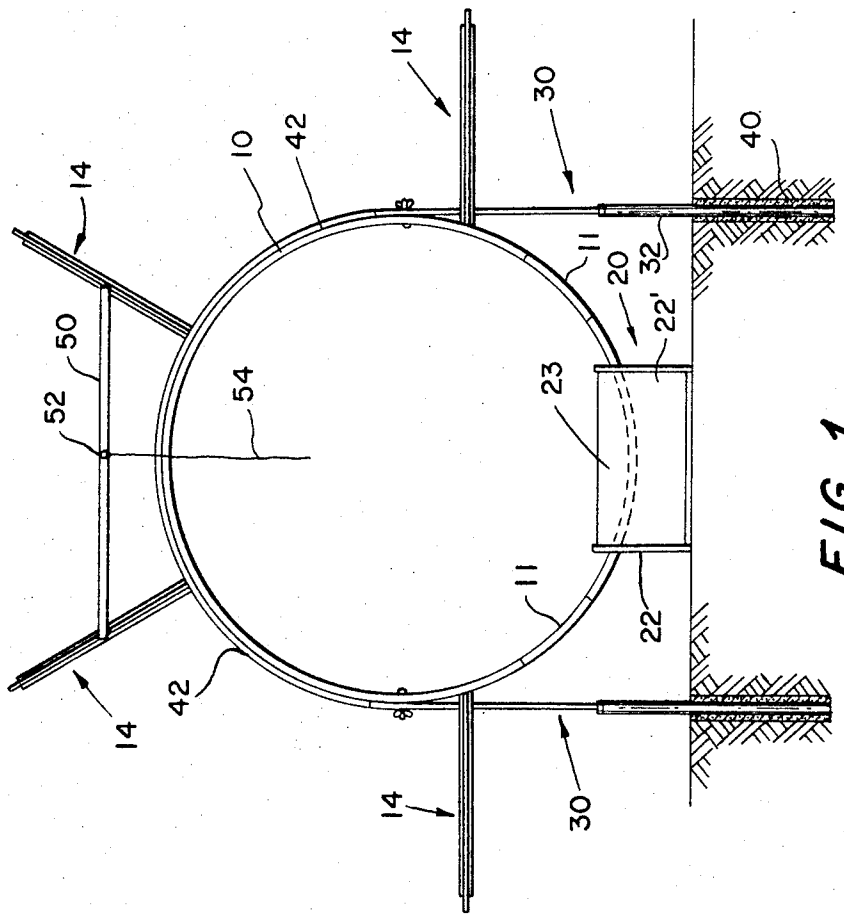

14
10
42
14
30
40
11
20
32
22'
50
52
54
23
11
22
42
14
14
30

FIG. 1

FIG. 3

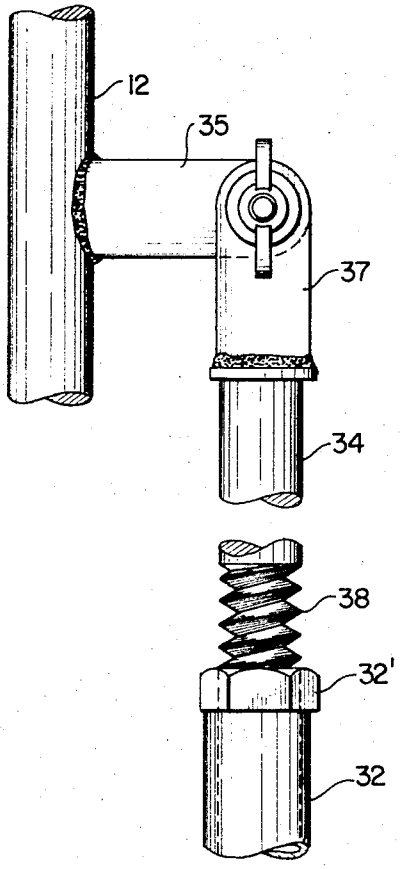
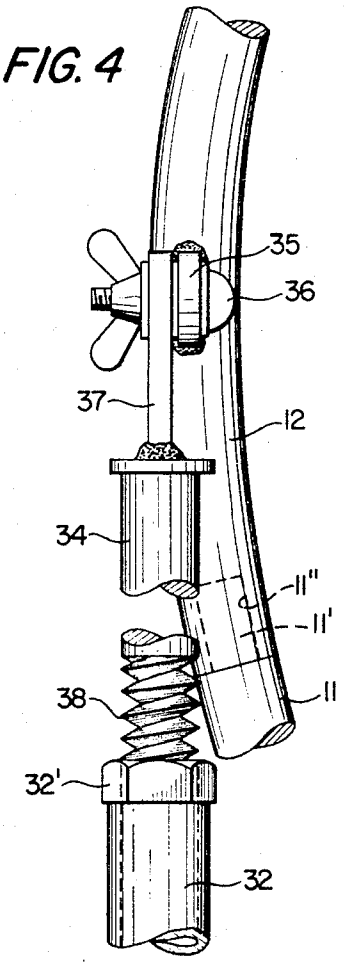


FIG. 4



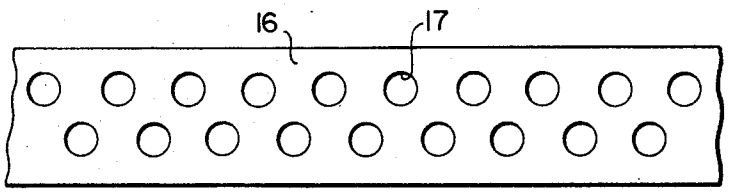


FIG. 5

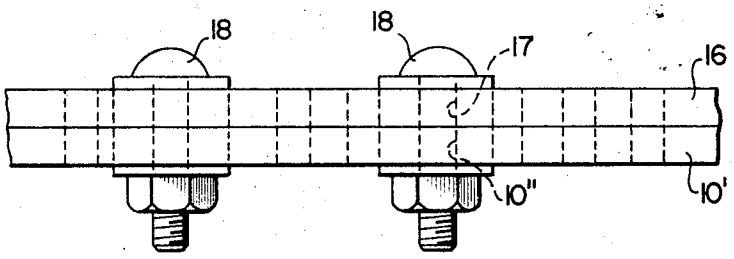


FIG. 6

GOLF PRACTICE DEVICE

BACKGROUND OF THE INVENTION

Proper striking of a golf ball with a golf club requires more than a simple swinging motion of the golf club. Numerous factors come into play, any one of which, if improperly executed can cause a poor golf shot. A proper address of the ball by the player, proper grip of the club, proper body position and proper swing of the golf club are four of the key variables that must be correctly executed to achieve a good shot. If, however, the player properly addresses the ball, properly grips the club and assumes the correct body position, an erroneous shot can still result due to improper swing of the golf club. Further in this regard, if one does not swing the golf club properly, the golfer's head can be forced into movement, the club head can be pulled out of proper alignment with the golf ball, the body can be forced into an incorrect position, and the like. Any one of these errors could spell disaster to the shot. It is therefore, quite essential that the player properly swing the golf club. In fact, a properly swung club can force one to meet other criteria that are necessary for the successful golf shot. The correct swing of the golf club is therefore very important to a successful execution of the golf shot whether off the tee, on the fairway, out of a sand trap, or the like.

The ranks of golf professionals, and low handicap amateurs are said to have "grooved" their swings. This statement, of course, refers to the fact that these individuals have mastered a correct swing of the golf club according to their individual physical makeup, so that swinging of the club in the proper manner is a natural reaction. Hence the proper address is made, the club head is smoothly carried away from the ball in the proper arc, properly brought down into engagement with the ball and guided into a proper follow through after striking the ball. Each of these steps are accompanied by proper body action and reaction. In the "grooved" swing, one continually executes these functions as a natural event with a close degree of accuracy whereby a large majority of shots are consistent and predictable.

Throughout golf history, numerous items have been devised to facilitate education or instruction of a golfer in the art of stance, club grip, body movement, swing of the club and the like. In fact, numerous teaching aids have heretofore been devised for instructing one in the proper swing of a golf club. Such devices provide means to compel the individual to swing the club along a predetermined arc or plane. In general, these devices have utilized varying geometric swing paths for both back swing and follow through. A majority of these devices provide a slide or the like, secured to the apparatus and designed to receive a real or simulated club and follow the particular predetermined swing path. Numerous shaped swing paths have been shown in the prior art and in some instances, provisions have been made to avoid contact between the club and the apparatus that would normally lie in the swing path.

Certain disadvantages accompany the devices of the prior art. For example, with an asymmetric swing path, the device is restricted to either a right handed golfer or a left handed golfer and cannot be universally used by both. Further, many of the devices lack adjustment capability for varying the plane of swing arc, or are constructed in a fashion that the back swing and/or follow through of the club are restricted by the shape or dimensions of the device. The large majority of the prior art thus does not take into consideration use by both right and left handed golfers; difference in swing arcs according to the golfer's height, and the particular golf club being swung.

Furthermore, one using the prior art devices is often endangered by protrusions of portions of the swing guides, support or the like. An important facet in the development of a proper golf swing is development of the proper "feel" of the club during swinging. Utilization of a movable slide, guide or the like around an intended swing path thus prevents one from developing the "feel" for the club. In fact, changing from a swing on an instructional device where the golf club is affixed to a movable object, to a normal golf swing on the course, per se, would be difficult. Practice on a device having a movable guide with club attached will introduce a false "feel" into the swing. Thereafter, under actual conditions, it would be probable for the golfer to modify his swing from the proper arc or plane and seek the "feel" of the club developed while the club was attached to the movable guide.

A further disadvantage of the prior art is bulkiness and lack of mobility. The majority of the prior art devices are quite cumbersome and complicated insofar as the structure per se is concerned. As such, it would be difficult for one having ordinary skill to properly arrange the device for practice or to receive instruction in the proper swing sequence. Likewise, excess hardware and space limitations encountered during the use of prior art devices would be inclined to promote a feeling of claustrophobia. All of the aforementioned disadvantages have been sufficient to negate significant commercialization of the devices, as is evidenced by their absence in the marketplace today. It is well known that golfers are eager to seek and utilize any available technique for improvement. Hence, a proper instructional device is a saleable commodity if the device is, in fact, effective.

The device of the present invention overcomes all of the aforementioned disadvantages. The present invention thus presents a simplified, improved device for use by golfers of all sizes; for the right handed and left handed golfers; and for instruction for both woods and irons to develop and perfect proper swing patterns. The device of the present invention furthermore is economical, compact, and mobile and requires very little expertise for set up and operation.

The prior art is devoid of any teaching or suggestion of the golf swing instructional device of the present invention. Exemplary of the prior art are the following U.S. Pat. Nos.: 1,399,761 to Garland; 1,567,530 to Macnaughton et al.; 1,670,409 to Hansen; 1,944,942 to MacDonald; 1,960,787 to MacStocker; 2,520,287 to Plunkett et al.; 2,653,025 to Zega; 2,756,056 to Zega; 2,813,721 to Zega; and 2,868,543 to Zega.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an improved golf swing practice and instructional device.

Another object of the present invention is to provide an improved golf swing practice and instructional device that may be used by either right handed or left handed golfers.

Still another object of the present invention is to provide an improved golf swing practice and instructional

device that is simple in construction yet adjustable to vary the plane of the swing arc to suit the particular individual using same.

Generally speaking, the golf swing practice and instructional device of the present invention comprises a first circular guide rail; a second circular guide rail positioned apart from said first guide rail in a plane substantially parallel thereto, said guide rails defining a complete circular swing path therebetween; a plurality of connector means secured to said first and second guide rails at spaced apart locations around said circle, said connector means maintaining said guide rails at a predetermined relation with respect to each other, and support means positioning said guide rails at a predetermined angle.

More specifically, the device of the present invention is constructed of a pair of circular guide rails positioned one above the other in parallel planes so as to define a proper golf club swing path therebetween. The guide rails are maintained at a proper relationship by a plurality of connector means secured thereto and extending outwardly a sufficient distance therefrom so as to permit the golf club to pass unobstructedly therethrough. A circular swing path is thus provided in which a golfer may freely swing a club during back swing, down swing, and follow through. Support means are provided for the connected guide rails which position the device for use and preferably permit adjustability thereof so as to vary the angle of the swing plane with respect to using same. The device may thus be used equally well by a short or tall person and will provide the proper swing plane for either. In addition to adjustability of the angle of the swing plane, each guide rail is preferably constructed in part of mating links of a flexible material whereby one or more links may be omitted so as to reduce the radius of the guide rail circle. Again, the adjustability of the radius of the swing path renders the device quite adaptable for all golfers.

A further preferred embodiment of the present invention incorporates the coating of the guide rails with a friction reducing substance, whereby contact between the club shaft and the guide rails will not substantially distort movement of the club through the proper swing arc. Additionally, the upper arc of the guide rails is preferably covered with shock absorbing material which will prevent damage to a club or the guide rails upon contact therebetween during back swing and follow through.

The device of the present invention may also be equipped with a member to monitor head movement during swinging. A member extending outwardly from the guide rails having an element depending therefrom accomplishes this purpose.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a frontal elevation of the golf swing practice and instructional device according to the teachings of the present invention.

FIG. 2 is a side elevational view of the device as shown in FIG. 1.

FIG. 3 is an enlarged cut away frontal view of a portion of one of the guide rails showing an adjustable support associated therewith.

FIG. 4 is an enlarged cut away side view of FIG. 3.

FIG. 5 is a partial top view of a connector plate.

FIG. 6 is a partial side view showing the connector plate of FIG. 5 connected to a guide rail.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to the figures, preferred embodiments of the present invention will now be described in detail. In FIGS. 1 and 2, there is shown a pair of circular guide rails 10 and 12 that are held in a spaced apart relation by a plurality of connector means generally indicated as 14. These rails may be made of lightweight steel, fiberglass, or any other suitable material. Connector means 14 are positioned around the periphery of a circle defined by the guide rails 10 and 12 and rigidify the structure while extending outwardly therefrom a sufficient distance to permit unobstructed passage of a golf club therethrough.

Connector means 14 may be of integral construction, permanently secured to guide rails 10 and 12 by welding or some other suitable method, or as shown in FIGS. 1, 2, 5 and 6 may comprise an arcuate member 15 that is secured to a pair of connector plates 16 with plates 16 being adjustably secured by bolts or other means to guide rails 10 and 12. As shown in FIG. 5, plate 16 may comprise a flat member having a plurality of fastening member receiving openings 17 disposed therealong. When using a connector means of this construction, a similar plate 10' is secured to the respective guide rail and has matching openings 10'' for receiving fastening members to secure same to plate 16. In this fashion, the spacing between guide rails 10 and 12 may be adjusted as desired by movement of plate 16 with respect to plates 10'.

A stabilizer or support means generally indicated as 20 is positioned at the bottom of the circle and secured to guide rails 10 and 12. Support means 20 may conveniently comprise a pair of rods 21 and 22 secured to guide rails 12 and 10, respectively, to support the swing practice and instructional device of the present invention at a proper altitude. Preferably a pair of rods 22 and a pair of rods 21 are used so as to further stabilize the structure, with the space between the pairs of rods 21 and 22 defining an area for placement of a ball and a starting position for the swing instruction. Rods 21 and 22 are bent so as to assume a proper angle with respect to the plane of the golf swing with outer ends 21' and 22' respectively being adapted for engagement with the ground, or other planar surface on which the device rests.

Additionally, a shield 23 may be secured between the pair of rods 22. Shield 23 prevents balls from hitting the support means and may have instructional indicia presented thereon for one using the device. Rods 21 and 22 which make up support means 20 may be welded or otherwise rigidly secured to guide rails 10 and 12.

A further embodiment, however, envisions the securement of support means 20 to guide rails 10 and 12 in similar fashion to connector means 14 described above. In other words, a flat member 24 having a plurality of openings therein and associated with rods 20 and 21 may be connectable to a member 10' by bolts or other means as shown in FIG. 4. Support means 20 may also be secured to guide rails 10 and 12 by a conventional swivel connection (not shown) to automatically compensate if the device is placed on an uneven surface.

Adjustability of the plane of the swing arc is provided by a second support means generally indicated as 30. As shown in FIGS. 1 and 2, support means 30 com-

prises a first member **32** into which telescopes a second member **34** having an outer end **37** for securement to guide rail **12.** Member **32** may be received in an opening **40** designed therefor; may be adapted for securement to a base; or may be adapted for simple positioning on a base so as to support the instructional device of the present invention. Telescoping member **34** is adjustable with respect to member **32** and extends outwardly from member **32** by a predetermined distance to support guide rails **10** and **12** at a predetermined angle.

In this regard, referring more specifically to FIGS. **3** and **4,** guide rail **12** may be provided with a member **35** secured thereto as by welding or the like. Member **35** receives a fastening member such as a bolt and wing nut **36** at its outer end which is also used to secure end **37** of member **34** to guide rail **12.** When it is desired to change the angle of guide rails **10** and **12,** wing nut **36** may be loosened and member **34** moved in or out of member **32** so as to achieve the particular angle desired. Thereafter, retightening of wing nut **36** will again rigidify the structure.

Movement of member **34** in and out of member **32** can be accomplished by any conventional means. As shown in FIGS. **3** and **4,** it is preferred that member **34** have a threaded section **38** that is threadedly received by a nut **32'** secured to the upper end of member **32.** Turning of member **34** or member **32** will lengthen or shorten support means **30** so as to support guide rails **10** and **12** at the desired angle.

Insofar as a base or planar surface on which the instructional device of the present invention is to rest, various and sundry surfaces may be used. Support means **20** and **30** may thus be adapted for resting on or securement to any particular base employed. They may fit into slots provided in the floor or ground, be bolted or otherwise fastened to the floor, or even driven into the ground by spikes or the like.

It is also desirable according to a preferred embodiment of the present invention that the size of guide rails **10** and **12** be variable. As such, guide rails **10** and **12** may comprise a plurality of links **11** and **13,** respectively around at least a portion thereof so that one or more of these links may be removed to reduce the radius of guide rails **10** and **12.** Links **11** and **13** may suitably have male couplings **11'** on one end thereof and female couplings **11''** at opposite ends thereof so as to permit assembly into the circular guide rails. Likewise, where links **11** and **13** are employed, guide rails **10** and **12** should be manufactured of a resilient material such that they may be bent to complete the circle when links are removed.

A further embodiment of the present invention prevents damage to the device and club during swinging. Shock absorbing members **42** and **44** may be secured to guide rails **10** and **12** around a portion of the circle. While any type of shock absorbing material may be employed, a foam rubber or synthetic polymer foam is preferably employed and adhesively adhered or otherwise affixed to guide rails **10** and **12.** Shock absorbing members are preferably employed on opposite sides of the device (See FIG. **1**) to protect the club being swung by a right handed or a left handed golfer and in both back swing and follow through.

Likewise a friction reducing coating such as an epoxy, polytetrafluoroethylene, or the like may be used on guide rails **10** and **12.** Should the club make contact with one of the guide rails, there will be less chance of impeding the swing of the club.

Referring again to FIG. **1,** a preferred embodiment of the invention is illustrated wherein a cross member **50** is secured between two upper adjacent connector means **14.** Cross member **50** has a rod **52** extending outwardly therefrom which, in turn, has a member **54** suspended therefrom. Member **54** may be a flexible member such as a length of cord or the like and is used to properly align one's head during swinging of a golf club, and as a reference point to detect head movement during swinging.

The golf swing practice and instructional device according to the teachings of the present invention has been described in detail above. As can be seen from the description and figures, the device may be employed by either right handed or left handed golfers of various heights. Moreover, the device may be used for determining, practicing and achieving a proper swing for any of the range of golfer and golf clubs. It should also be noted that the circular configuration of the guide rails and the circular path produced therebetween enables one to freely swing a golf club in back swing, down swing, and follow through without the danger of striking a portion of the device so as to interrupt the swing, cause damage to the golf club or the like. The device allows a free swing in which the user can develop proper feel in his "grooved swing." Furthermore, the device is quite portable and may be easily assembled and disassembled for movement from one location to another. It can be used indoors or out of doors and is easily adaptable for permanent installation if desired.

Having described the present invention in detail, it is obvious that one skilled in the art will be able to make variations and modifications thereto without departing from the scope of the invention. Accordingly, the scope of the present invention should be determined only by the claims appended hereto.

What is claimed is:

1. A golf swing practice and instructional device comprising:

a. a first circular guide rail;

b. a second circular guide rail positioned apart from said first guide rail a sufficient distance therefrom to receive a shaft of a golf club therebetween and in a plane substantially parallel thereto, said guide rails defining an unobstructed, endless circular swing path therebetween;

c. a plurality of connector means secured to said first and second guide rails at spaced apart locations, said connector means maintaining said guide rails at a predetermined relation with respect to each other; and

d. support means positioning said guide rails at a predetermined angle.

2. A golf swing practice and instructional device as defined in claim **1** wherein said guide rails are coated with a friction reducing substance.

3. A golf swing practice and instructional device as defined in claim **1** wherein each of said guide rails is comprised of at least two flexible sections whereby removal of one section reduces the radius thereof.

4. A golf swing practice and instructional device as defined in claim **1** wherein said guide rails are provided around a portion of the circle with a shock absorbent material to prevent damage to a golf club making contact therewith.

5. A golf swing practice and instructional device as defined in claim 1 wherein said support means is pivotally secured to one of said guide rails, said support means being adjustable in length to vary the plane of the swing path.

6. A golf swing practice and instructional device as defined in claim 5 wherein said support means comprises a first member, a second member telescopingly received in said first member and means to secure said second member to said guide rail.

7. A golf swing practice and instructional device as defined in claim 6 where said second member is threadedly associated with said first member.

8. A golf swing practice and instructional device as defined in claim 5 wherein said support means further comprises a pair of legs separately secured in spaced relation to said guide rails adjacent the bottom of the circle.

9. A golf swing practice and instructional device as defined in claim 8 wherein said legs are joined by a plate connected thereto.

10. A golf swing practice and instructional device comprising:

a. a pair of spaced apart, circular guide rails, said guide rails being spaced apart a sufficient distance to receive a shaft of a golf club freely therebetween and defining an unobstructed, endless swing path in a single plane therearound;

b. a plurality of connector means secured to said guide rails around the periphery thereof, said connector means permitting unobstructed passage of a golf club therethrough;

c. a first support means rigidly secured to said guide rails at a lower end thereof, said first support means defining a swing starting point and permitting unobstructed passage of a golf club therethrough; and

d. a second support means adjustably secured to one of said guide rails, at opposite sides of said device, said second support means each comprising a first member and a second member threadedly received within said first member and extending outwardly therefrom, said second member being threadedly movable with respect to said first member to vary the length of said second support means, said second member further being pivotally secured to said one of said guide rails, whereby the plane of the swing arc may be varied.

11. A golf swing practice and instructional device as defined in claim 10 wherein said guide rails are coated with a friction reducing substance.

12. A golf swing practice and instructional device as defined in claim 10 wherein said guide rails have a shock absorbing material secured thereto along a portion of their lengths adjacent an upper portion thereof.

13. A golf swing practice and instructional device as defined in claim 10 comprising further:

e. a head position indicator means associated with said guide rails and extending outwardly and downwardly therefrom.

14. A golf swing practice and instructional device as defined in claim 13 wherein said first support means comprises a plurality of rods secured to said guide rails and a plate secured between at least two of said rods.

15. A golf swing practice and instructional device as defined in claim 14 wherein said guide rails comprise a plurality of connected links, said links each having male and female couplings at opposite ends thereof.

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