PORTABLE GOLF DRIVING RANGE

Inventor: Michael C. DOWDY, Lanham, MD (US)

Appl. No.: 13/225,391

Filed: Sep. 2, 2011

Related U.S. Application Data

Provisional application No. 61/379,462, filed on Sep. 2, 2010.

Publication Classification

Int. Cl. A63B 69/36 (2006.01)
U.S. Cl. 473/140; 473/142

ABSTRACT

An apparatus and method for practicing golf shot where a ball is tethered to a storage and winding device for ball deployment. The tether feeds out of the storage and winding element guiding the A selectively operable motor rewinds the tether into the storage and winding device. A board onto which the practicing apparatus is removably mounted includes multiple surface materials to simulate various terrain conditions. A laser reader and bar coded tether is provided to measure the distance traveled by the ball.
PORTABLE GOLF DRIVING RANGE

BACKGROUND OF THE INVENTION

[0001] Field of the Invention

[0002] The present invention claims priority to U.S. application No. 61/379,462; filed Sep. 10, 2010, a portable golf driving range apparatus and method of using the portable driving range.

[0003] Those who play golf and wish to improve their game or wish to maintain their level of proficiency, often practice various aspects of golf, such as driving, putting, chipping, etc. In order to practice driving, golfers must go to driving ranges. Otherwise, if adequate space is available, a golfer can practice driving by hitting practice shots in a field, across a lawn, or across or into some other unobstructed area. The problem with practicing driving at areas other than driving ranges is that after practicing his or her driving, the golfer must find and recover hit golf balls. This ball retrieval can take a considerable amount of time.

[0004] The portable golf driving range of the present invention and the method of use permit a user the opportunity to improve hand eye coordination, ball striking consistency, alignment, exercise, and overall golf game performance. The apparatus accommodates anyone who can swing a golf club, from a novice to professional. The portable driving range provides an apparatus for practicing golf that allows a tethered golf ball to experience the flight characteristics of a non-tethered golf ball.

[0005] The portable driving range is ready to use after a user positions the portable driving range in the desired location. The user engages a release button, which allows the ball that is tethered to a storage and winding device, to drop to a practice mat. The user then drags the ball to a strike area located on the practice mat. The user strikes the ball toward a desired target area. After ball flight is complete, the user then engages a return button. A motor engages the storage and winding device to return the ball via a bar coded tether that is read by a laser device to measure the distance traveled by the ball. Once the line has completely returned to the storage and winding device the process is repeated.

SUMMARY OF THE INVENTION

[0006] Accordingly, the present invention is directed to a portable golf driving range that substantially obviates one or more of the problems due to limitations and disadvantages of the related art.

[0007] An advantage of the present invention is to provide an apparatus that may be used inside with a soft ball or outside with a hard ball. With the portable driving range, the ball is tethered to the apparatus thus, the ball is never lost. The user can practice anytime and anywhere, with several ball type options. The portable driving range also accommodates both left and right handed players. The apparatus is easy to carry with a handle and is lightweight. No assembly is required by the user. The user is able to see ball flight while the portable driving range calculates distance of the ball.

[0008] Another advantage of the present invention is to provide an apparatus where the user can practice any time and can even use the apparatus to warm up before a round of golf. The present invention saves money and time where less time is spent at the driving range. Several users can practice together and balls are confined to each unit. The user never has to bend over to touch the half A physically challenged person can use the portable driving range.

[0009] Additional features and advantages of the invention will be set forth in the description which follows, and in part will be apparent from the description, or may be learned by practice of the invention. The objectives and other advantages of the invention will be realized and attained by the structure particularly pointed out in the written description and claims hereof as well as the appended drawings.

[0010] To achieve these and other advantages and in accordance with the purpose of the present invention, as embodied and broadly described, a portable golf driving range apparatus including an automatic ball retriever comprising: a board, a mat attached to the board and a motor mounted on the board, a power source for actuating the motor, a storage and winding device connected to the motor; a ball; a tether including a first end and a second end, wherein the first end is connected to the ball and the second end is connected to the storage and winding device; and a strike area on the mat.

[0011] It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and together with the description serve to explain the principles of the invention.

[0013] In the drawings:

[0014] FIG. 1 is a plan view of a portable golf driving range according to the present invention.

[0015] FIG. 1A is a plan view of the underside of a portable golf driving range according to the present invention.

[0016] FIG. 2 is a cross sectional view of a ball of the present invention.

[0017] FIG. 3 is a plan view of the portable golf driving range including a bar coded tether and laser reader according to the present invention.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

[0018] Reference will now be made in detail to an embodiment of the present invention, example of which is illustrated in the accompanying drawings:

[0019] The apparatus of the present invention is directed to a portable golf driving range for practicing hitting golf balls, which automatically retrieve a golf ball after a practice shot. The device includes a tethered golf ball, a storage and winding device, a practice mat and a strike area. The tethered golf ball comprises a swivel. A tether is attached to the swivel, which prevents the tether from becoming twisted. The tether can be a line, cord, string, wire, etc. which has a suitable tensile strength to withstand the impact force applied to a golf ball as it is struck by a golf club. Commercial fishing line has been found to be particularly useful for purposes of the present invention.

[0020] The storage and winding device holds, feeds-out, and reeles-in the tether. In this regard, the storage and winding device includes a spool upon which the tether can be wound, stored and released. The tether can be freely pulled off the reel by the force of a golf ball during its trajectory. Thereafter, a
motor can be activated and used to drive the storage and winding device so that the tether is wound back on the reel.

[0021] As shown in FIG. 1, the portable driving range is illustrated at 10. A golf ball 70 is attached at one end to a tether 80 by a swivel 73. The tether 80 passes through an opening in a storage and winding device 60. The second end of the tether 80 is attached to a reel 61 of the storage and winding device 60. The tether 80 is wound about the reel 61. Winding of the tether 80 is accomplished by rotation of the reel 61 by a return mechanism 100 connected to the motor 40. A shaft 41 of the motor 40 is connected to the storage and winding device 60. The motor 40 is electrically connected to a battery 50.

[0022] The storage and winding device 60 is driven by the electric motor 40, which causes the spool 62 of the reel 61 to rotate and thereby wind the tether 80 onto the spool 62. According to an embodiment of the present invention, the motor 40 can include a lithium cordless motor. The motor 40 is coupled to the storage and winding device and used to wind the tether 80 onto reel 61.

[0023] The motor 40 is provided with a return mechanism 100. Such return mechanism 100 can be operated by hand or activated by a user's foot or by pressing the return mechanism 100 with an end of a golf club. A release mechanism 110 is provided on the storage and winding device 60. Actuation of the release mechanism 110 allows the user to place the golf ball 70 in a desired location.

[0024] As illustrated in FIG. 1, the motor 40 and the storage and winding device 60 are both removably mounted to a board 20. The motor 40 and the storage and winding device 60 can be mounted to the board 20 using, for example, bolts or a loop and fastener material. Board 20 includes a flexible mat 130 attached thereto. The flexible mat 130 include, for example, a flexible steel belted rubber tire underside. A first flexible material 131 and a second flexible material 132 are removably mounted to the flexible mat 130. A strike area 90 is also provided on the flexible mat 130 where the strike area 90 can be located distal to the storage and winding device 60. First flexible material 131 includes, for example, a light-grade material and second flexible material 132 includes, for example, a heavy-duty grade material. The flexible material simulates various terrain conditions such as a short, medium or tall grassy field, areas of brush or a body of water. The flexible mat 130 also includes a tee 91 mounted thereon. Board 20 also includes pre-drilled holes on both sides such that the orientation of the motor 40 and the storage and winding device 60 can be changed to accommodate both left-handed and right-handed users.

[0025] The tether 80 can be a line, cord, string, wire, etc., which has a suitable tensile strength to withstand the impact force applied to the golf ball 70 as it is struck by a golf club. Commercial fishing line has been found to be particularly useful for purposes of the present invention. In particular, fishing line, which does not have a memory, has been found to be preferred, since it pays out straight and stays level when retrieved. Monofilament, pure strand or woven fishing lines can be used.

[0026] FIG. 2 is a cross-sectional view of the tethered golf ball 70 according to an embodiment of the present invention. The golf ball 70 can comprise a hard, soft, reflective, or glow in the dark material. The standard golf ball 70 is provided with a small diameter bore 71, which is wide enough to receive a movable eyelet 73. The movable eyelet 73 can be mounted within the bore 71 by a compression fit or with glue so that the movable eyelet 73 extends beyond the surface 74 of the golf ball 70 as depicted in FIG. 2. Ideally, a portion of the movable eyelet 73 extends from the bore 71 as illustrated. This ensures that the golf ball 70 is allowed to freely rotate with respect to the tether 80, particularly during retrieval.

[0027] As shown in FIG. 3, board 20 includes a handle 21 for ease of handling when transporting the board to different locations. An extension rod 22 is mounted on the board. Extension rod 22 is used to assist with ball retrieval.

[0028] As illustrated in FIG. 3, a laser reader 140 can be provided on the portable golf driving range 10. The laser reader 140 reads information contained in a bar code 150 located on tether 80. Output from the laser reader 140 is shown on display 160, which also includes a ready light 170. Ready light 170 indicates that the ball 70 is set to be struck.

[0029] It will be apparent to those skilled in the art that various modifications and variation can be made in the present without departing from the spirit or scope of the invention. Thus, it is intended that the present invention cover the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.

What is claimed is:

1. A portable golf driving range apparatus including an automatic ball retriever comprising:
   - a flexible surface base;
   - a board attached to the flexible surface base;
   - a motor mounted on the board;
   - a power source for actuating the motor;
   - a storage and winding device connected to the motor;
   - a ball;
   - a tether including a first end and a second end, wherein the first end is connected to the ball and the second end is connected to the storage and winding device; and
   - a strike area on the mat.

2. The portable golf driving range apparatus as claimed in claim 1 wherein the storage and winding device includes a release mechanism.

3. The portable golf driving range apparatus as claimed in claim 1 wherein the motor includes a return mechanism.

4. The portable golf driving range apparatus as claimed in claim 1 further comprising a rubber tee.

5. The portable golf driving range apparatus as claimed in claim 1 wherein the board comprises a stiff surface.

6. The portable golf driving range apparatus as claimed in claim 1 wherein the flexible surface base comprises a steel belted rubber material including a first material and a second material, wherein the first and the second material are bonded to the flexible steel belted rubber material.

7. The portable golf driving range apparatus as claimed in claim 1 further comprising a tee mounted on the flexible surface including a first material.

8. The portable golf driving range apparatus as claimed in claim 1 wherein the storage and winding device is a tension control reel.

9. The portable golf range driving apparatus as claimed in claim 1 further comprising a metal insert mounted within the ball,
10. The portable golf driving range apparatus as claimed in claim 9 wherein the first end of the line is attached to the metal insert.

11. The portable golf driving range apparatus as claimed in claim 2 wherein the release mechanism is actuated by using a golf club head, hand, or foot.

12. The portable golf driving range apparatus as claimed in claim 3 wherein the return mechanism is actuated by using a golf club head, hand, or foot.

13. The portable golf driving range apparatus as claimed in claim 1 further comprising has a light to indicate ball is set to be strip

14. The portable golf driving range apparatus as claimed in claim 9 wherein the metal insert includes a quick-change mechanism to allow balls to be quickly interchanged.

15. The portable golf driving range apparatus as claimed in claim 1 further comprising a spare battery on the board.

16. The portable golf driving range apparatus as claimed in claim 1 further comprising an extension rod to assist in retrieving the ball.

17. The portable golf driving range apparatus as claimed in claim 1 wherein the strike area is located distal to the storage and winding device.

* * * * *