

[54] **GOLF PUTTING PRACTICE DEVICE**

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[51] **Int. Cl.**..... **A63b 57/00**, A63b 69/36

[58] **Field of Search** 273/177, 178, 179, 180, 273/127, 14, 184, 185

[56] **References Cited**

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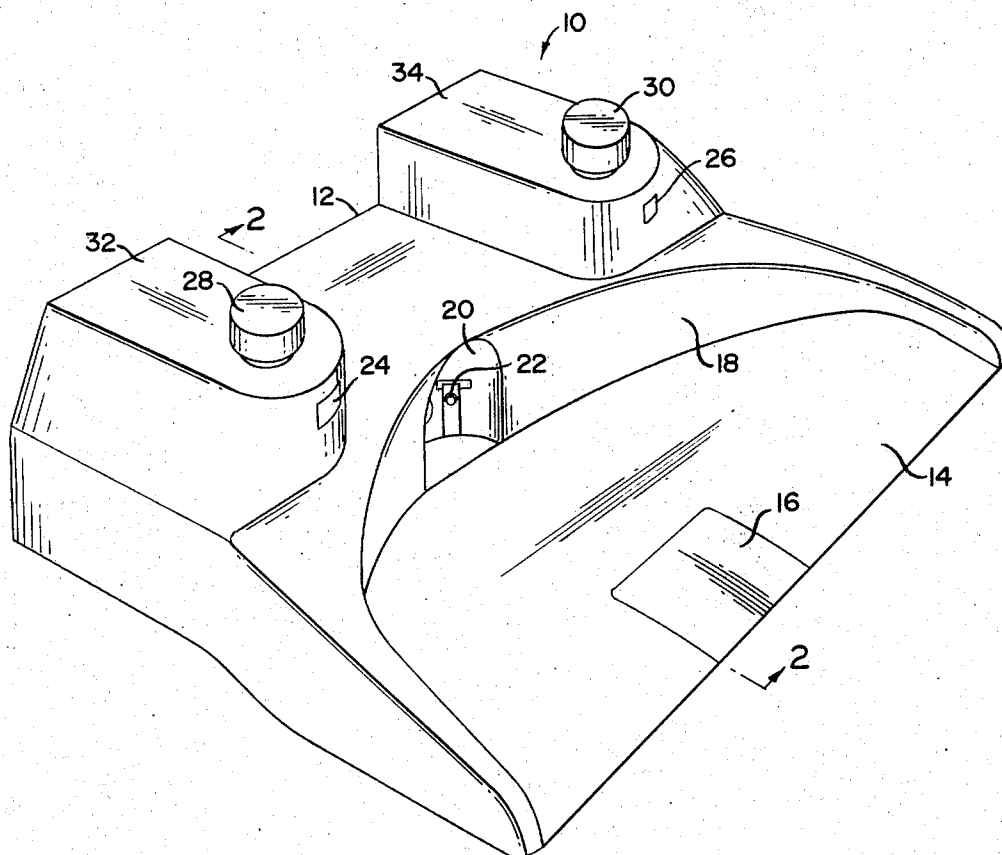
Attorney, Agent, or Firm—Oldham & Oldham Co.

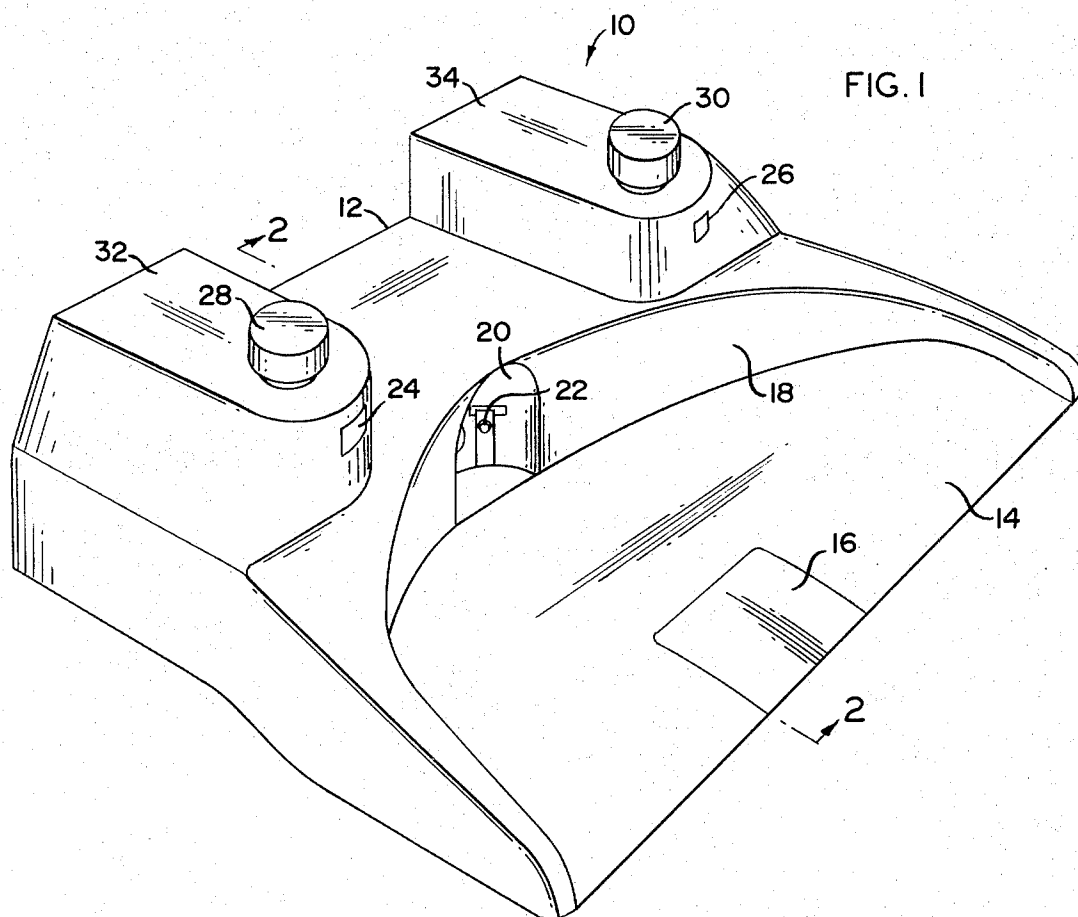
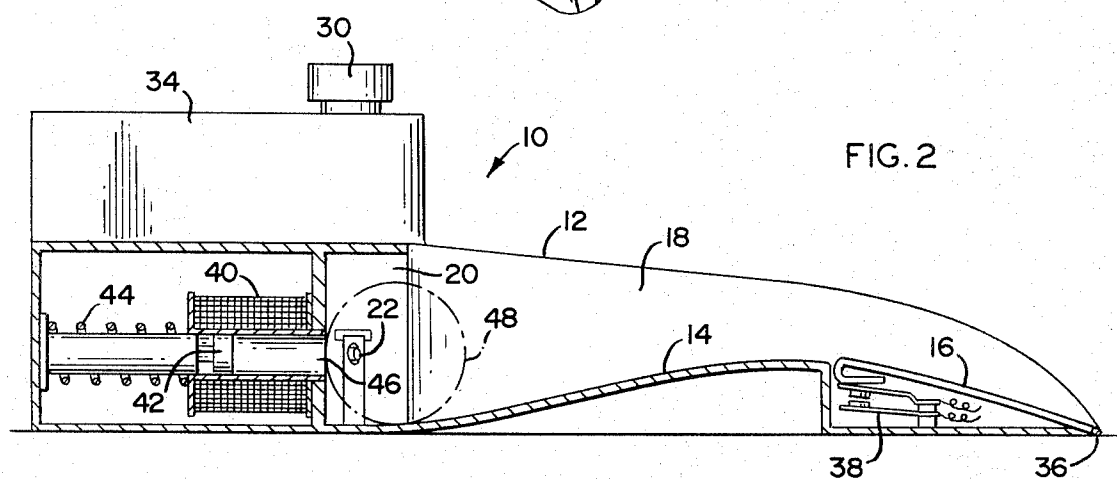
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ABSTRACT

Disclosed is a unique game device whereby a golfer may improve his putting skill. Fundamentally, the device comprises an arcuate shaped surface partially enclosed by a vertical wall, the wall having therein a ball receptacle. The arcuate surface has thereon a tongue which, when a ball passes thereover, energizes a solenoid actuated ratchet counter indicating that a hole has been made. The ball receptacle has contained therein a second switch which, when actuated by the balls passing across the arcuate surface, energizes a second solenoid actuated ratchet counter indicating that a stroke has been taken. The switch within the ball receptacle further actuates a plunger which kicks the ball out of the receptacle and back to the golfer. The two ratchet counters provide a means whereby a golfer may readily determine his putting accuracy on the basis of the ratio of holes made to strokes taken.

10 Claims, 3 Drawing Figures





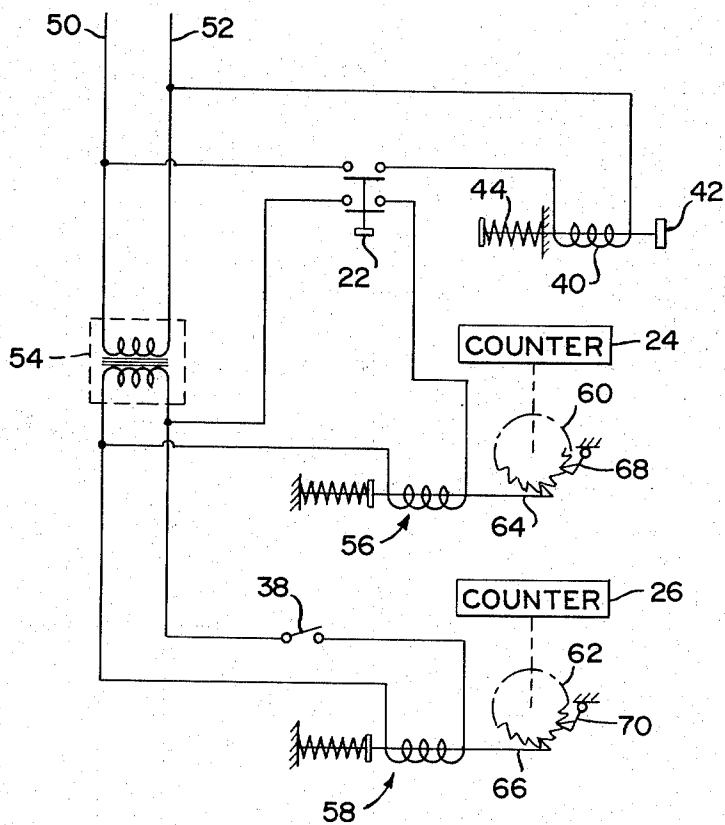


FIG. 3

GOLF PUTTING PRACTICE DEVICE

BACKGROUND OF THE INVENTION

Heretofore various types of game devices have been known whereby a golfer may improve his putting skill. Typical devices are shown in U. S. Pat. Nos. 3,003,769; 3,134,597; and 3,365,199. In general, such devices utilize a tray having thereon a particular area designated as the cup on a putting green. As the golfer putts the balls towards this particular area he must, with most such devices, determine for himself whether or not the ball passed over the cup. Further, if the golfer desires to keep track of his number of holes made for the number of strokes taken he must record this data for himself. There are no known putting devices providing means whereby a running total of such statistics may be automatically maintained.

Consequently, it is an object of the instant invention to present a golf putter practice and return device having means associated therewith for automatically determining the accuracy of a putt.

A further object of the invention is to present such a device wherein means are provided for automatically monitoring the number of strokes taken and the number of holes made.

These objects and other objects which will become apparent as the detailed description proceeds are achieved by a putter practice and return device, comprising: a wall partially encompassing a bottom surface defining a pocket thereby, the wall being discontinuous at a portion thereof to define a receptacle therein; a tongue pivotally mounted adjacent the bottom surface; a first counter connected to the tongue and actuated by the pivotal movement thereof; and a second counter operatively positioned within the receptacle, the counter being actuated by entry into the receptacle of a ball-type object.

For an appreciation of the structure and operation of the apparatus comprising the invention reference should be had to the detailed description and accompanying drawings wherein:

FIG. 1 is a perspective view of the preferred embodiment of the invention;

FIG. 2 is a fragmentary sectional view of the apparatus of the invention taken along the line 2—2 of FIG. 1; and

FIG. 3 is a schematic diagram of the electro-mechanical structure of the invention.

With reference now to the drawings, an appreciation of the preferred embodiment of the invention may be had. As can be seen, a preferably plastic housing 12 contains therein the electro-mechanical structure of the invention and is formed such that a wall 18 encircles an arcuate ramp 14 so as to define a ball receiving pocket therebetween. The arcuate ramp 14 is characterized by the presence of a tongue 16 along the front edge portion thereof, the tongue 16 being of the same general angle and contour as the front edge of the arcuate ramp 14. The wall 18 has a void therein at the back thereof so as to present a ball receptacle 20 of such nature and size that a golf ball 48 might readily enter therein.

It will be appreciated that in use the device 10 is placed upon a floor or other flat surface and golf balls are stroked toward the pocket defined by the intersection of the wall 18 and the arcuate ramp 14. The balls

pass up over the front inclined edge of the ramp 14 and downward along the back declining edge thereof and gravitate toward the ball receptacle 20. The tongue 16 is provided as a central target toward which the ball 48 is to be putted, the tongue 16 being of substantially the same width as the diameter of the cup on a putting green. When the ball 48 falls into the ball receptacle 20 the ball actuates a momentary switch 22 which energizes a solenoid 40 which causes a plunger 42 restrained by a spring 44 to actuate and eject the ball from the receptacle 20. The force of the plunger 42 causes the ball to leave the arcuate ramp 14 at the peak thereof such that the ball 48 will pass through the air above the tongue 16 and will not come in contact therewith when being ejected from the receptacle 20. Of course, the solenoid mechanism may be provided with an adjustment whereby the force exerted by the plunger upon the ball 48 may be varied, this being well known and understood by those skilled in the art.

As can be best seen from FIG. 2, below the tongue 16 is a momentary switch 38 which becomes depressed by the weight of the ball 48 passing over the tongue 16. The tongue 16 is attached to the arcuate surface 14 in a hinged manner at the edge 36. Thus the tongue 16 may pivot about the edge 36 and cause actuation of the momentary switch 38.

As will be discussed more thoroughly hereinafter, the momentary switch 38 is operatively engaged with the hole counter dial indicator 26. Upon actuation of the switch 38 the dial indicator 26 advances one count to indicate that a hole has been made. As will further be discussed, a stroke counter dial indicator 24 is operatively engaged with the momentary switch 22 such that actuation of the switch 22 will advance the counter 24 to indicate that a stroke has been taken. Every ball that enters the pocket defined by the wall 18 in the arcuate ramp 14 will actuate the switch 22 and advance the stroke counter 24. Every ball that passes over the pivotal tongue 16 will actuate the switch 38 and advance the hole counter 26. Thus, a running total of the number of holes made for strokes taken can be maintained. A stroke reset dial 28 and a hole reset dial 30 are respectively provided on the elevated portions 32, 34 and provide means whereby the respective dial indicators 24, 26 may be reset. It should at this time again be noted that the arcuate shape of the ramp 14 guarantees that when the plunger 42 passes through the hole 46 so as to make contact with the ball 48, the ball 48 will be motivated with sufficient force that, at the peak of the ramp 14 the ball will leave the ramp so as to pass over and not make contact with the pivotal tongue 16. Thus, no false actuations of the switch 38 will be experienced and an accurate count may be maintained.

Referring now to FIG. 3, a preferred embodiment of the electro-mechanical structure of the invention may be seen. Here it can be seen that AC power lines 50, 52 which may be connected to any suitable wall outlet, feed a low voltage transformer 54 and the coil of the solenoid 40. Continuity between the power lines 50, 52 and the solenoid 40 is provided by means of the momentary switch 22. The low voltage output of the transformer 54 is applied through the switch 22 to a solenoid assembly 56 and through the momentary switch 38 to the solenoid assembly 58. The solenoid assembly 56 has associated therewith a reciprocating ratchet pawl 64 which engages with the teeth of the ratchet wheel 60. Upon actuation of the solenoid assembly 56 the

pawl 64 reciprocates and advances the wheel 60 in a clockwise manner so as to advance by one digit the dial indicator 24. A fixed pawl 68 is provided in engagement with the teeth of the wheel 60 to prevent reverse or counterclockwise movement of the wheel 60 either manually or by the reciprocating movement of the pawl 64. Thus with each actuation of the switch 22 the solenoid assembly 56 advances through the pawl and ratchet counter assembly the dial indicator 24. A similar arrangement is provided with the solenoid assembly 58 wherein a reciprocating ratchet pawl 66 engages the ratchet wheel 62 associated with the dial indicator 26. Again, a fixed pawl 70 is provided to prevent reverse or counterclockwise movement of the wheel 62. The counter or dial indicator 26 is thus advanced one digit each time the switch 38 is closed thus actuating the solenoid 58. As can be seen, the solenoid assemblies 56, 58 are preferably of the spring biased type and the counters of the invention are preferably of the pawl and ratchet type. The dials 28 and 30 are mechanically attached to the wheels 60 and 62 respectively so that manual turning of those wheels may be achieved thus resetting the counters 24, 26.

It should be appreciated then that each time a ball enters the pocket 20 of the device 10 the switch 22 is actuated thus advancing the counter 24 and simultaneously actuating the solenoid 40 and ejecting the ball 48 by means of the plunger 42. The ramp 14 is contoured to lead balls into the pocket 20. It should be specifically appreciated that the counter 24 and the ball ejecting plunger 42 are simultaneously actuated so that a ball may not be ejected without being counted and thus no false counts by the counter 24 will be experienced. Each time a ball 48 passes over the pivotal tongue 16 the momentary switch 38 is closed so as to actuate the solenoid 58 and advance through the pawl and ratchet counter the dial indicator 26. Thus a highly accurate running total of strokes taken and holes made may be maintained.

As was mentioned hereinabove, an adjusting means or knob may be provided with the device 10 such that the spring 44 associated with the solenoid 40 may be adjusted so as to regulate the force imparted upon the ball 48 by the plunger 42. This adjustment will allow the user of the device 10 to regulate the distance to which the ball 48 will be returned and thus the distance from which the putt must be made.

The switch 38 is of a conventional type and will be closed momentarily by a ball rolling up the front portion of the ramp by slight downward movement of the tongue or flap 16 about any suitable pivotal support for the front edge thereof.

The switches, solenoids, ratchets and counters used may be of any conventional construction.

While in accordance with the Patent Statutes only the best known and preferred embodiment of the invention has been presented and described in detail, it is to be understood that the invention is not limited thereto or thereby. For an appreciation of the true breadth and scope of the invention reference should therefore be had to the accompanying claims.

What is claimed is:

1. In a putting practice device including means for returning golf balls puttred thereinto:
 - a wall partially encompassing a bottom surface and

defining a pocket thereby, the wall being discontinuous at a portion thereof to define a receptacle therein;

a tongue pivotally mounted adjacent a front portion of the bottom surface to be depressed by a ball rolling thereover; and

a first counter in operative engagement with the tongue and actuated by downward pivotal movement thereof.

2. The putter practice and return device as recited in claim 1 wherein a second counter is operatively positioned within the receptacle, the counter being actuated by entry into the receptacle of a ball-type object, and said tongue being centrally located at the front edge of the bottom surface.

3. The putter practice and return device as recited in claim 2 wherein the counters are of the solenoid actuated pawl and ratchet type, the first counter having a switch positioned beneath the tongue and the second counter having a switch positioned within the receptacle, the switches respectively actuating the associated solenoids of the counters.

4. The putter practice and return device as recited in claim 1 wherein the bottom surface is a semicircular arcuate shaped surface, the wall and receptacle being located about the curved periphery thereof and the tongue being positioned along the linear periphery thereof.

5. The putter and return device as recited in claim 2 wherein a solenoid actuated plunger and a single switch are positioned within the receptacle, the switch being actuated by entry into the receptacle of a ball-type object and, upon such actuation, simultaneously advancing the second counter and engaging the plunger to eject the object.

6. A device for exercising one's skill in putting, comprising:

a wall and a base surface intersecting the wall and defining a ball receiving pocket thereby;

a flap hingedly connected to the surface;

a first counter operatively connected to and actuated by the hinged movement of the flap; and

a second counter operatively positioned along the wall and actuated by balls received within the pocket.

7. The device as recited in claim 6 wherein the surface is arcuate in shape, the flap being positioned along a front inclined portion of the surface and remote from the wall.

8. The device as recited in claim 7 wherein the wall has a ball receiving receptacle therein, the receptacle having a ball ejecting plunger and a switch positioned therein, the switch being actuated by the presence of a ball within the receptacle to simultaneously actuate both the second counter and the plunger.

9. The device as recited in claim 6 wherein the counters are solenoid actuated pawl and ratchet type counters having associated therewith knobs for the resetting thereof.

10. The device as recited in claim 6 wherein the counters have associated therewith dial indicators on elevated portions of the device such that the count of each counter may be readily viewed by one using the device and standing a distance therefrom.

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