May 31, 1955 J. R. BRANDELL 2,709,594

GOLF PUTTING PRACTICE DEVICE

Filed June 9, 1950

2 Sheets-Sheet 1

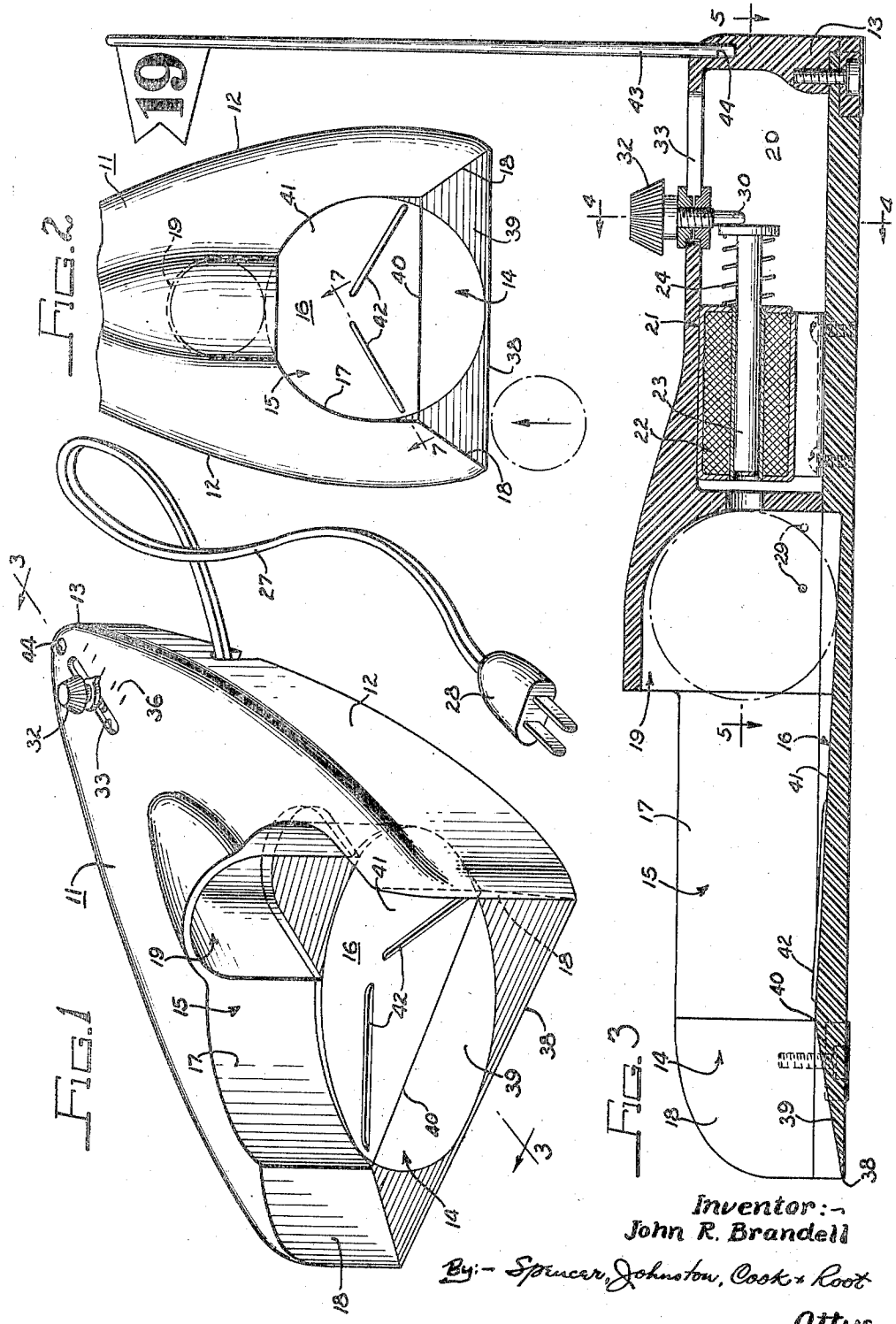


Fig. 1

Fig. 2

Fig. 3

Inventor:-
John R. Brandell

By:- Spencer, Johnston, Cook & Root

Attys.

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FIG. 4

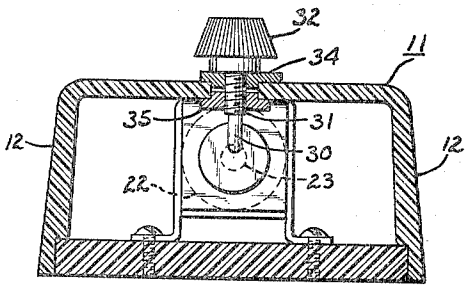


FIG. 5

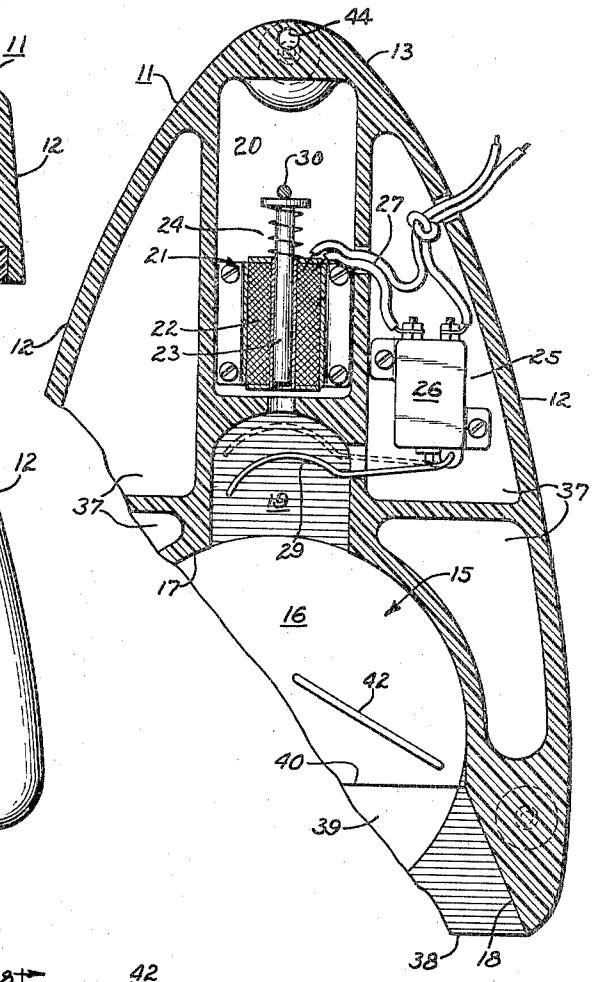


FIG. 6

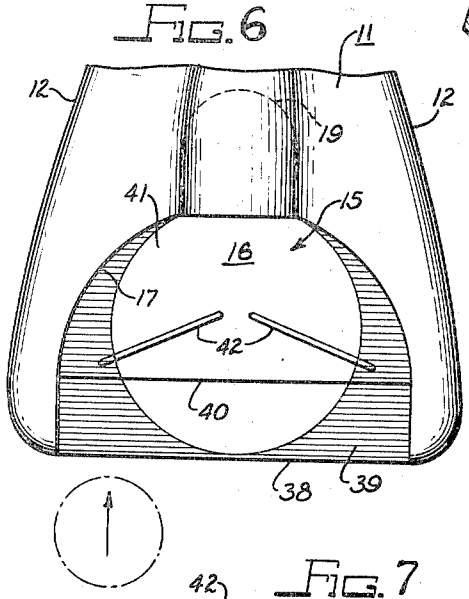


FIG. 7

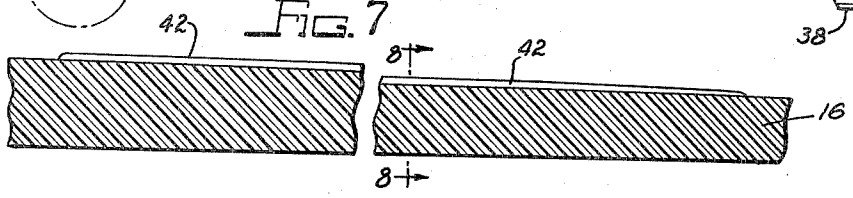
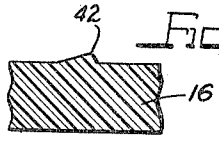


FIG. 8



Inventor:-
John R Brandell

By:- Spencer, Johnston, Cook & Root

Attys.

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GOLF PUTTING PRACTICE DEVICE

John R. Brandell, Evanston, Ill.

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5 Claims. (Cl. 273—179)

The present invention relates in general to games, and has more particular reference to a golf putting practice device.

An important object of the invention is to provide an improved putting device accurately simulating conditions prevailing at the hole of a golf course putting green; a further object being to provide a device toward which a golf ball may be directed and while will receive the ball, if the same be directed toward the device with putting accuracy of the degree required to hole the ball on a standard golf course green, and which otherwise will reject the ball.

Another object of the invention is to provide a device which, after receiving a golf ball, will return the same substantially to the station or place from whence the ball was directed toward the device; a further object being to provide automatic ball return means adjustable to cause the ball to return through any desired distance within the operating limits of the device.

Another object is to provide a device which will reject a ball directed accurately toward the device at a rate of speed such that the ball would jump across a standard golf course hole.

Another important object is to provide an electrically operated ball return device adapted for operation by connection as in the conventional outlet socket of an electrical energy distribution system of the sort commonly provided for domestic power or lighting purposes; a further object being to utilize a solenoid kicker for ball return purposes in a device of the character mentioned; a still further object being to provide micro switch means, operated by the ball when received in the device, for energizing the kicker.

Another important object is to provide exceedingly simple means for adjusting the ball returning force exerted by the kicker.

Another important object is to provide a putting device including means simulating golf hole conditions, for the reception of a ball, including a return station or cavity into which the ball may gravitate, after being received in the device, to position the ball with respect to a ball return kicker so that the ball may be ejected from the device by operation of the kicker, including switch means for actuating the kicker when the ball has entered the return station; a further object being to form the device with ball retarding means operable to reduce the speed of the ball as it enters the return station.

Another important object is to provide a putting device of the character mentioned comprising a frame formed with a cavity, open on one side and simulating the hole of a golf green, the cavity opening being formed by lateral abutments on the device and spaced so that a golf ball directed at said opening will enter therethrough into the cavity, if directed with the degree of accuracy required to hole the ball in a standard golf hole.

Another object of the invention is to define the cavity by means of upstanding portions of the putting device forming inwardly facing cavity walls, and a cavity bottom wall marked in simulation of a conventional golf hole and extending at the lateral ball receiving opening of the cavity; a further object being to form the surface of the bottom wall as an upwardly inclined plane at said opening, to jump the ball over the device in the event that it be directed toward the device at a speed sufficient to jump a conventional golf hole; a still further object being to incline said bottom wall, from said lateral opening, downwardly toward the opposite side of the cavity; a still further object being to form the device with a ball receiving socket sized to receive the ball snugly, but without binding, to form a ball return station at said opposite side of the cavity.

Another important object is to form the downardly inclined portions of the bottom wall with ball retarding ribs adapted to check the speed of a ball passing thereover toward the return station, in order that the ball may enter such station at a relatively slow rate of speed.

The foregoing and numerous other important objects, advantages, and inherent functions of the invention will become apparent as the same is more fully understood from the following description, which, taken in connection with the accompanying drawings, discloses preferred embodiments of the invention.

Referring to the drawings:

Fig. 1 is a perspective view of a putting device embodying the present invention;

Fig. 2 is a top plan view of the forward portions of the device shown in Fig. 1;

Figs. 3, 4, 5, 7, and 8 are sectional views taken substantially along the lines 3—3, 4—4, 5—5, 7—7 and 8—8 in Figs. 1, 2, 3 and 7; and

Fig. 6 is a fragmentary top plan view of a modified form of the device.

To illustrate the invention, the drawings show an automatic ball return putting device comprising a frame **11**, which may be made of any suitable material including wood or molded plastic. The frame preferably is of generally triangular shape, having preferably curved side walls **12** which may meet and merge together to form a nose **13** at one end of the frame. At its opposite end the frame is formed with a ball receiving opening **14**, communicating laterally with a preferably open top cavity **15** formed in the frame, the frame including a panel portion **16** forming a bottom wall for the cavity **15**, said wall extending at the opening **14** and inwardly thereof.

As shown more particularly in Figs. 1 and 2, the cavity **15** is defined by a preferably semi-cylindrical wall **17** having a diameter preferably equal to that of a conventional golf hole, whereby the lateral opening **14** at its narrowest portion is likewise equal to the diameter of a conventional golf hole. The frame may include outwardly inclined abutment walls **18** defining said opening outwardly of its narrowest portion, said abutment walls forming deflecting wings preferably projecting outwardly of the sides of the cavity **15** a distance substantially equal to one-half of the diameter of a conventional golf ball.

Accordingly, when a golf ball is directed toward the opening **14** with sufficient accuracy to drop into a golf hole of standard size, the limit of such accuracy being a so-called "rim shot," the deflecting wings formed by the abutment walls **18** will direct the ball through the opening **14** and into the cavity **15**. If the ball, however, is directed less accurately, so that it impinges upon either of the corners formed at the forward ends of the abutment walls **18**, it will be deflected and will fail to pass into the cavity **15**.

As indicated in the modification shown in Fig. 6, the semi-circular walls **17** may be curved on a radius larger than is the case in the arrangement illustrated in Figs. 1

and 2, to thereby eliminate the abutment walls 18 while preserving the ability of the device to receive balls directed thereto with at least cup rimming accuracy, while rejecting less accurately directed balls.

The frame 11 provides a ball receiving socket 19 which opens upon the cavity 15 at the side thereof opposite from the opening 14. This socket 19 is sized to snugly receive a standard golf ball, with an all-round clearance of the order of 0.02 inch, in order to form a ball returning station. Behind the socket 19 the frame 11 may be formed with an elongated cavity 20 extending between the socket 19 and the nose 13 of the frame.

This cavity 20 preferably opens on the bottom of the frame and is adapted to receive a solenoid kicker 21 therein, the same comprising a coil 22 and a plunger 23 normally held in retracted position with respect to the coil by means of a spring 24. The frame 11 forms a partition wall separating the cavity 20 from the socket 19, which wall is formed with an opening in axial alinement with the plunger 23. The frame 11 also is provided with a cavity 25, preferably opening on the bottom of the frame, and extending alongside of the socket 19 and the cavity 20.

A microswitch 26 is secured in said cavity 25 and is electrically connected with the actuating coil 22 of the kicker, as by means of preferably insulated electrical conductors 27, which extend outwardly of the frame and terminate in a plug 28, by means of which the electrical elements of the device may be connected with any suitable source of actuating power, such as the outlet socket of a domestic power system. The switch 26 has an operating finger 29, which may comprise a preferably light weight, though relatively stiff, length of wire which extends transversely within the socket 19, in position to be engaged and depressed by a golf ball to close the switch when the ball is in ball returning position in the socket. The switch 26 is a normally open switch adapted to be closed upon the depression of the finger 29 by a golf ball in the socket 19. As soon as the switch 26 is thus closed, the solenoid 22 will be energized to project a ball striking end of the plunger 23 abruptly into the socket 19 against the influence of the spring 24, in position to strike the golf ball therein and to project the same outwardly of the device through the cavity 15 and opening 14.

Simple yet effective means is provided for adjusting the kicker 21 in order to regulate the ball returning force thereof. Any suitable or preferred means for accomplishing such adjustment may be employed, including the incorporation of an adjustable resistor or reactor in the power supply conductors 27 for adjusting the operating energy applied to the coil 22 of the kicker upon closure of the switch 26. As shown, however, the adjustment is preferably accomplished by providing an adjustable stop 30 on the frame 11 for limiting the retractive movement of the plunger 23 under the influence of the spring 24. This stop 30 may comprise the end of a preferably threaded pin 31 having a manually operable knob 32, the pin extending in a slot 33 formed in the top of the frame 11 and opening into the cavity 20. The axis of this slot preferably extends in the vertical plane of the axis of the plunger 23, and means, comprising a clamping collar 34 and a clamping nut 35, mounted in the slot, is provided for releasably securing the stem 31 in any adjusted position longitudinally of the slot, by tightening or loosening the stem in the clamping nut by operation of the knob 32. By positioning the stem 31 toward the nose 13 of the frame, the ball returning force of the kicker may be increased, and vice versa. If desired, an indicating scale 36 may be formed on the frame 11 adjacent the slot 33 for showing the adjusted position of the kicker regulating stem.

In order to reduce the weight of the device, the frame 11 may be formed with cavities 37 between the side walls 12 and the walls defining the cavity 15, the socket 19, and the cavity 20, said cavities 37, as well as the cavities 20 and 25, preferably opening on the bottom side of the frame, which, if desired, may be provided with a closure panel of suitable character, such as a pad of felt, rubber, or other suitable material, glued or otherwise attached upon the bottom of the device.

The bottom wall 16 may be formed either integrally as a part of the frame, or may comprise a detachable panel element suitably secured on the frame. This bottom wall, however, forms a rigid floor for the cavity 15 and the socket 19 and extends at the opening 14, where it forms a thin, forwardly facing edge 38. Inwardly of said edge the bottom wall forms an upwardly inclined plane 39 at an angle such that a golf ball, directed thereon toward the cavity 15 at excessive speed, will be deflected upwardly and caused to jump over the walls 17 defining the cavity 15, whereby to reject the ball from the cavity. If the ball is directed upon the plane 39 at speed insufficient to jump over the walls 17, but at speed such as would cause it to jump over a conventional golf hole, it will impinge on the circular walls 17 which will guide it around the cavity 15 past the socket 19 and out through the entrance opening 14, thus rejecting the ball. The inclined plane 39 extends inwardly from the edge 38 and terminates at and along a line of demarcation 40 preferably parallel with respect to the edge 38. Inwardly of said demarcation line, the bottom wall 16 forms an inclined plane 41 extending downwardly from said line 40 toward the opposite side of the cavity 15 and into the socket 19. Accordingly, a ball passing upwardly along the plane 39 past the line 40 will thereafter gravitate along the surface 41 and will be directed into the socket 19, and will be returned thence outwardly of the device, by operation of the kicker 21.

In order to prevent false operation of the kicker, it is desirable that the ball should enter the socket 19 from the cavity 15 at a rate of speed sufficiently slow to prevent the ball from striking and rebounding from the back wall of the socket before the plunger of the kicker has had an opportunity to function. The ball should be at rest in ball returning position in the socket 19 at the instant when it is hit by the plunger. If the ball should enter the socket 19 at a high rate of speed, it may rebound to a greater or lesser degree upon striking the rear wall of the socket and hence be in motion away from such rear wall, and thereby interfere with the proper ball returning impact thereon of the plunger 23.

Accordingly, the present invention, by making the socket 19 very slightly larger than the ball, assures that the same, in striking the walls 17 and then rolling into the socket along the incline 41, will enter the same at slow speed. It is only when the ball is so accurately directed as to enter the socket at speed, without hitting one side or other, or both sides of the socket, that false operation is possible. The invention also contemplates the provision of a ball retarding rib or ribs 42 on the inclined surface 41 of the bottom wall. One or more ribs may thus be provided, the same being preferably inclined diagonally toward the center line of the cavity 15 and socket 19. These ribs will serve to check the speed of motion of a ball traveling downwardly on the surface 41, to thereby cause the ball to enter the socket 19 relatively slowly; but the ribs serve also, and more importantly, to aid in retaining a ball in the cavity once it has passed over the bump 40. In this connection, a ball directed into the cavity 15, on one side thereof, may roll around the same on the walls 17 and out through the opening 14. The ribs serve to hold the balls in the cavity 15, unless directed thereto at excessive speed.

If desired, for decorative purposes, a flag supporting stem 43 may be mounted in a socket 44 formed in the nose portions of the frame 11.

It is thought that the invention and its numerous attendant advantages will be fully understood from the foregoing description, and it is obvious that numerous

changes may be made in the form, construction and arrangement of the several parts without departing from the spirit or scope of the invention, or sacrificing any of its attendant advantages, the form herein disclosed being a preferred embodiment for the purpose of illustrating the invention.

The invention is hereby claimed as follows:

1. A golf ball putting target device comprising a frame providing a floor plate and upstanding wall means forming a target chamber having a lateral ball entrance portal at one side of the chamber, said wall means including spaced apart facing wall portions, defining said portal therebetween, and curved wall portions extending between said facing wall portions and enclosing the side of said chamber opposite said portal, said facing and curved wall portions being symmetrically disposed on opposite sides of a medial plane extending diametrally of said chamber, means on said frame forming a pocket for receiving and supporting a golf ball at the side of the chamber opposite from said entrance portal in position centered substantially on said medial plane, said floor plate providing said chamber with a floor inclined downwardly from said portal toward said pocket and upon which a golf ball may gravitate into said pocket, and kicker means on said frame and operable by a golf ball in said pocket to propel the ball from said pocket in the direction of said medial plane diametrically across the chamber and outwardly of the device through the portal medially thereof.

2. A golf ball putting target device comprising a frame providing a floor plate and upstanding wall means forming a target chamber having a lateral ball entrance portal at one side of the chamber, said wall means including spaced apart facing wall portions, defining said portal therebetween, and arcuately curved wall portions extending between said facing wall portions and enclosing the side of said chamber opposite said portal, said facing and curved wall portions being symmetrically disposed on opposite sides of a medial plane extending diametrally of said chamber, means on said frame forming a pocket for receiving and supporting a golf ball at the side of the chamber opposite from said entrance portal in position centered substantially on said medial plane, said floor plate providing said chamber with a floor inclined downwardly from said portal toward said pocket and upon which a golf ball may gravitate into said pocket, means forming a rib on said inclined floor for controlling the rolling action of a ball thereon, and kicker means on said frame and operable by a golf ball in said pocket to propel the ball from said pocket in the direction of said medial plane diametrically across the chamber and outwardly of the device through the portal medially thereof.

3. A golf ball putting target device comprising a frame providing a floor plate and upstanding wall means forming a target chamber having a lateral ball entrance portal at one side of the chamber, said wall means including spaced apart facing wall portions, defining said portal therebetween, and curved wall portions extending between said facing wall portions and enclosing the side of said chamber opposite said portal, said facing and curved wall portions being symmetrically disposed on opposite sides of a medial plane extending diametrally of said chamber, means on said frame forming a pocket for receiving and supporting a golf ball at the side of the chamber opposite from said entrance portal in position centered substantially on said medial plane, said floor plate providing said chamber with a floor inclined downwardly from said portal toward said pocket and upon which a golf ball may gravitate into said pocket, rib means extending generally transversely of said chamber between said portal and said pocket for controlling the rolling action of a ball on the inclined floor, and kicker means on said frame and operable by a golf ball in said pocket to propel the ball from said pocket in the direction of said medial plane diametrically across the chamber and outwardly of the device through the portal medially thereof.

4. A golf ball putting target device comprising a frame providing a floor plate and upstanding wall means forming a target chamber having a lateral ball entrance portal at one side of the chamber, said wall means including spaced apart facing wall portions, defining said portal therebetween, and curved wall portions extending between said facing wall portions and enclosing the side of said chamber opposite said portal, said facing and curved wall portions being symmetrically disposed on opposite sides of a medial plane extending diametrally of said chamber, means on said frame forming a pocket for receiving and supporting a golf ball at the side of the chamber opposite from said entrance portal in position centered substantially on said medial plane, said floor plate providing said chamber with a floor inclined downwardly from said portal toward said pocket and upon which a golf ball may gravitate into said pocket, means forming a pair of ribs on said inclined floor for controlling the rolling action of a ball thereon, said ribs having adjacent ends spaced apart at the medial portions of the chamber and extending thence respectively outwardly in opposite directions toward the opposite sides of the chamber, and kicker means on said frame and operable by a golf ball in said pocket to propel the ball from said pocket in the direction of said medial plane diametrically across the chamber and outwardly of the device through the portal medially thereof.

5. A golf ball putting target device comprising a frame providing a floor plate and upstanding wall means forming a target chamber having a lateral ball entrance portal at one side of the chamber, said wall means including spaced apart facing wall portions, defining said portal therebetween, and arcuately curved wall portions extending between said facing wall portions and enclosing the side of said chamber opposite said portal, said facing and curved wall portions being symmetrically disposed on opposite sides of a medial plane extending diametrally of said chamber, means on said frame comprising abutments providing parallel spaced and facing wall surfaces forming a pocket therebetween and sized to snugly yet freely receive a golf ball between said surfaces, said pocket being centered on said medial plane and opening, at one end, upon said target chamber diametrically opposite the middle of said portal, for receiving and supporting a golf ball at the side of the chamber opposite from said entrance portal in position centered substantially on said medial plane, said floor plate providing said chamber with a floor inclined downwardly from said portal toward said pocket and upon which a golf ball may gravitate into said pocket, and kicker means on said frame at the other end of said pocket and operable by a golf ball in said pocket to propel the ball from said pocket in the direction of said medial plane diametrically across the chamber and outwardly of the device through the portal medially thereof.

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