

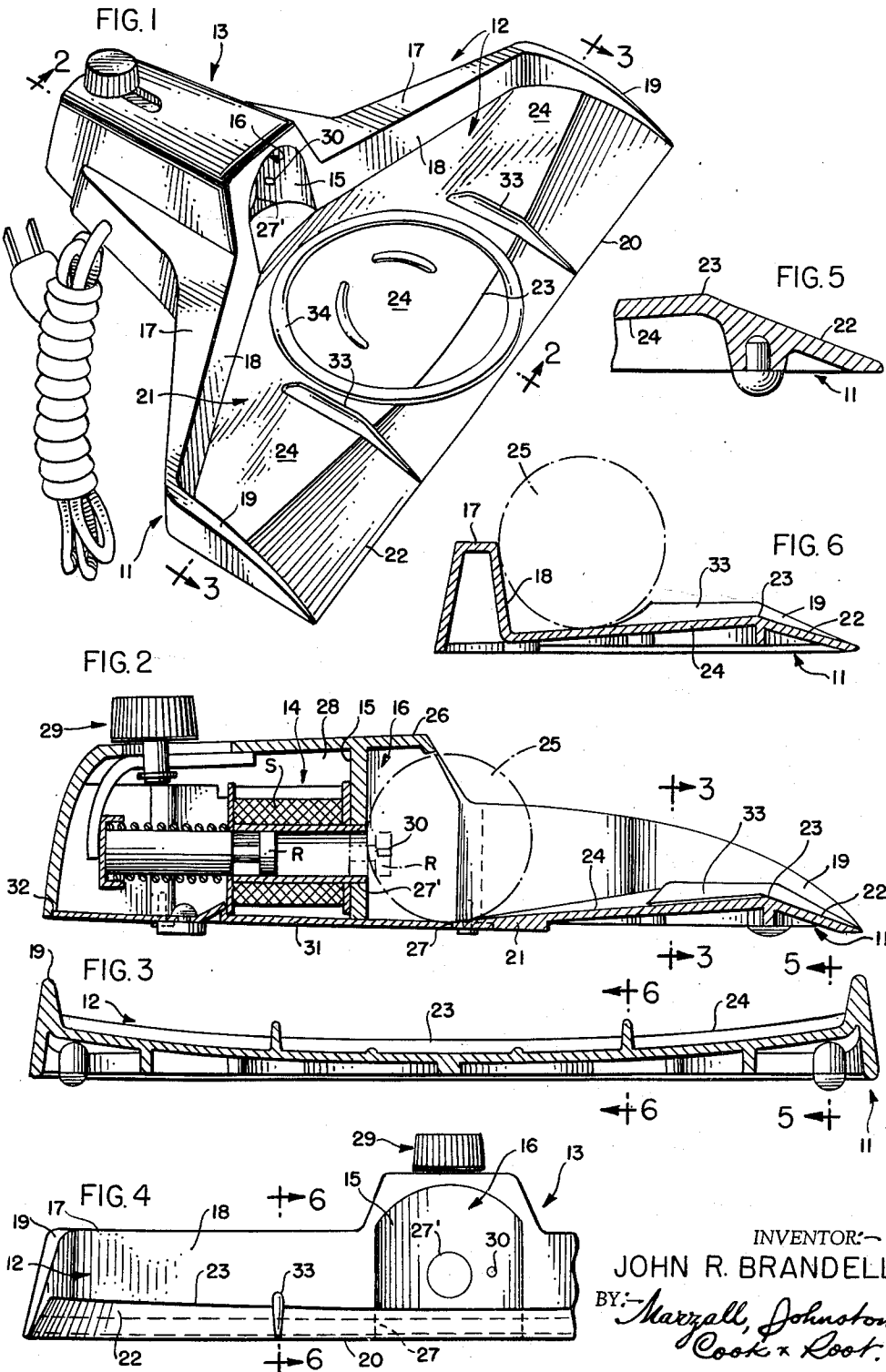
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J. R. BRANDELL

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GAME DEVICE

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INVENTOR:~
JOHN R. BRANDELL
BY:~*Marzall, Johnston
Cook & Root.*
ATTORNEYS

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3,003,769

GAME DEVICE

John Ronlund Brandell, Evanston, Ill.
(915 Appletree Court, Northbrook, Ill.)

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The present invention relates in general to game equipment, and has more particular reference to golf putting practice target devices, the present application relating to improvements upon and betterments in the inventions disclosed in my U.S. Patent No. 2,709,594, of May 31, 1955, and in my copending application for U.S. Letters Patent, Serial No. 510,397, filed May 23, 1955, for Game Device.

My aforesaid U.S. patent and application for U.S. Letters Patent both relate to game devices providing a target chamber or area simulating a golf course hole and formed to receive a golf ball only when the same is directed toward the device from a remote station with putting accuracy such as would be required to hole the ball on a standard golf course green, the device including a ball kicker operable in response to the presence of a ball in kickable position in the device to automatically return the ball to the remote station whence it was initially directed toward the device, no provision being made for the return of balls which miss the target chamber.

An important object of the present invention is to provide a device of the character mentioned embodying means for automatically returning to a remote putting station not only balls accurately directed into the target area, but also inaccurately directed balls which miss the target area on either side thereof.

Another important object of the invention is to provide means, in a device of the character mentioned, whereby perfectly putted balls directed into the target area with dead center accuracy may be visually distinguished from less accurately directed balls entering the area eccentrically.

Another important object of the invention is to provide a game device of the character mentioned including means for visually distinguishing or differentiating balls delivered within the target area from balls which miss the target area on either side thereof, while providing for the return of all balls entering the device to a remote putting station, in a direction medially of the target area.

Another important object of the invention is to provide a frame forming a ball receiving target structure including a chamber having a lateral ball entrance portal at one side, a centrally located ball receiving pocket at the opposite side of the chamber, and a floor having an upwardly and inwardly inclined portion at the entrance portal and a downwardly and rearwardly inclined portion extending from the portal toward the pocket and upon which a golf ball may gravitate into the pocket, said downwardly and rearwardly inclined portion having upwardly facing concave configuration preferably embodying cylindrical curvature, whereby all areas of said rearwardly inclined floor portion are tilted toward the centrally located ball receiving pocket, said ridge having minimum elevation medially of said portal and vertically opposite said ball receiving pocket.

Another important object of the invention is to provide a target device of the character mentioned having a relatively wide lateral portal through which a ball may enter the target device for return thence to a remote station from whence the ball was directed toward the device, including upstanding ribs or vanes disposed in spaced relation on the floor of the device for defining therebetween a central target area sized to simulate a conventional cup of a golf course putting green, said ribs sep-

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arating and differentiating said target area from ball receiving zones disposed on both sides of said area, whereby accurately putted balls delivered into the target area may be distinguished from inaccurately putted balls directed through said portal outwardly of the target area.

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 a preferred embodiment of the invention.

Referring to the drawings:

FIG. 1 is a perspective view of a putting practice target device embodying the features of the present invention;

FIG. 2 is a sectional view taken substantially along the line 2-2 in FIG. 1;

FIG. 3 is a sectional view taken substantially along the line 3-3 in FIG. 2;

FIG. 4 is a partial front view of the device; and

FIGS. 5 and 6 are sectional views taken substantially along the lines 5-5 and 6-6 in FIG. 3.

To illustrate the invention the drawings show an automatic ball return putting practice device comprising a frame 11, which may be made of any suitable material, including molded plastic. The frame provides a ball receiving tray 12 and a preferably integral housing 13 for a ball kicker 14, comprising an electrically operable solenoid S having an axially shiftable ball striking armature formed as a rod or stem R, the tray and housing forming a symmetrical structure on opposite sides of a plane extending medially thereof and containing the axis of the rod R. As shown, the housing 13 may be formed with an open bottom and a semi-cylindrical partition wall 15 defining a ball receiving pocket 16 opening outwardly upon the ball receiving tray 12 at one end of the housing 13, the frame also including mutually inclined wall forming portions 17 extending outwardly of the housing 13 on opposite sides of the pocket, said portions 17 defining upstanding wall surfaces 18 facing upon and defining the rear edge of the ball receiving tray 12. The outer ends of the wall forming portions 17 may be curvingly merged into side wing walls 19 forming abutments along the opposite sides of the ball receiving tray 12.

It will be seen that the ball receiving pocket 16 opens medially upon the ball receiving tray 12, said pocket being preferably sized to snugly yet freely receive a standard golf ball therein, to thereby position the same in alinement with the kicker 14 which is mounted in the frame behind the ball receiving pocket. The kicker is operable in response to the presence of a ball in said pocket to impel the same forcibly outwardly of the device in the direction in alinement with the axis of the stem R. The frame 11 may also provide a preferably integral bottom wall or floor 21 for the ball receiving tray 12, said floor forming a thin, forwardly facing edge 20 along the front of the tray, between the wing walls 19. Inwardly of said edge the floor may form an upwardly inclined hill 22 terminating in a ridge 23, so that a ball reaching the device with sufficient momentum to climb the hill and pass over the ridge would otherwise roll a few inches past the target, and hence would have sufficient momentum to reach and drop into a conventional golf course putting cup. Inwardly of the ridge 23 the floor of the tray may provide an inclined portion 24 extending downwardly and rearwardly from the ridge 23 toward the pocket 16 at the back side of the tray remote from the front edge 20.

As shown more particularly in FIGS. 3 and 4, the floor portion 24 is of upwardly facing concave configuration, symmetrically disposed on opposite sides of the medial

vertical plane through the tray forming frame. While the floor portion 24 may be formed in any preferred shape to roll balls thereon toward the ball receiving pocket 16, the floor may conveniently be of cylindrical or conic curvature with the lowermost portions of the floor being disposed medially between the spaced apart wing walls 19. Accordingly, the ridge 23 will extend along a curved line where the plane of the inclined surface forming the hill 22 intersects with the cylindrically curved and rearwardly inclined floor portion 24. It will be seen that, because of its curvature, all areas of the floor portion 24 are inclined toward the ball receiving pocket 16 so that a ball will tend to roll directly toward said pocket regardless of its location on the floor surface. Accordingly, a ball in passing over the ridge 23 will thereafter gravitate along the inclined and concavely curved surfaces of the portion 24 and will be directed into the pocket 16 for ejection thence outwardly of the device, by operation of the kicker 14.

The pocket 16 is preferably deep enough to receive a substantial portion of a golf ball 25, as clearly shown in FIG. 2 of the drawings, whereby to properly align the ball with the kicker means 14. To this end, the frame may provide a top wall 26 in position overlying a ball in the pocket; and the frame 11 may be formed with an opening 27 through the floor or bottom wall 21, at the pocket 16, thereby permitting the frame 11 to be molded as an integral unit including the floor portion 21 as well as the pocket roof 26.

The pocket defining wall 15 may be formed centrally with an opening 27' communicating the pocket 16 with a kicker receiving cavity 28 formed within the housing 13. As shown more particularly in FIG. 2 of the drawings, the cavity 28 provides for the reception and enclosure of the kicker 14 and also provides for the support of suitable adjustable means 29 for controlling the operation of the kicker. A suitable microswitch may also be mounted on the frame within the cavity 28, a switch operating finger 30 extending through the wall 15 in position to be engaged and depressed by a ball 25 when the same is in the pocket 16 in position to be struck by the kicker 14, the microswitch being operable in response to depression of the finger member 30 to activate the kicker 14.

Any suitable microswitch and kicker structure may, of course, be employed although the same preferably comprise devices of the sort shown in my aforesaid application for U.S. Letters Patent, Serial No. 510,397. The microswitch and kicker may be mounted on the frame 11 in any suitable or preferred fashion, for example, as shown in my aforesaid application for U.S. Letters Patent.

A cover plate 31 may be provided for enclosing the open bottom of the kicker and switch housing chamber 28. The cover plate may be formed of any suitable relatively thin sheet material, such as steel, fiber board, plastic, aluminum and the like, and it may conveniently be extended to underlie and close the opening at the bottom of the ball receiving pocket 16. In this connection, the frame 11 may be formed with a groove 32 shaped to snugly receive the peripheral edge of the cover plate 31.

A pair of spaced apart upstanding ribs 33 are formed upon the floor portions 22 and 24, said ribs extending from and at right angles with respect to the front edge 20 of the tray toward the wall forming portions 17. The forward ends of the ribs 33 preferably merge with the inclined floor portion 22 and terminate at the edge 20. As shown more particularly in FIG. 6 of the drawings, the rear ends of the ribs 33 are circularly curved in conformity with the curvature of a golf ball and are spaced with respect to the walls 18 only just sufficiently to permit a golf ball to roll along the walls 18 past the inner or rear ends of the ribs 33 without engaging the same. The ribs 33 are spaced apart a distance sufficient to define therebetween a target area sized to simulate the ball receiving cup of a conventional outdoor golf course

putting green, a cup indicating target ring 34 of color contrasting with that of the floor 21 being applied upon the floor portions 22 and 24 medially between the ribs 33, with the center of the ring 34 lying in the medial plane of the target device 11, the ribs 33 being equidistant from the plane on opposite sides thereof.

A pair of arcuate ribs 35, concentric with respect to the ring 34 and having adjacent ends spaced apart sufficiently to permit a golf ball to freely roll therebetween upon the inclined surface of the floor portion 24, are formed on said floor portion in position equidistant from and on opposite sides of the medial plane of the device.

It will be seen from the foregoing that a golf ball, when delivered toward the device 11 from a remote putting station, may travel up the hill 22 and pass over the ridge 23 onto the floor portion 24, and may then gravitate into the pocket 16 for return thence, by action of the kicker 14, in the direction of the medial plane of the device to the remote putting station from whence the ball was initially directed toward the target device. In the event that the ball is directed into the target device, as a perfect or dead center putt, it will pass over the lowest portion of the ridge 23 and diametrically through the target area defined by the ring 34, between the ribs 33, the ball passing between the facing ends of the arcuate ribs 35 directly into the pocket 16. Should the ball be delivered into the target area, between the ribs 33, in manner to any extent eccentric with respect to said area, it will either strike one or other of the arcuate ribs 35 and hence be prevented from passing directly into the pocket 16, or the ball will pass outwardly of the ribs 35 and will impinge upon one or other of the wall surfaces 18 adjacent the pocket 16. In either case, the ball will subsequently enter the pocket 16 after a slight delay, thereby visually distinguishing such imperfectly putted ball from one delivered into the target area between the ribs 33 as a perfect, dead center putt.

The device of the present invention also provides means for visually distinguishing or discriminating between balls delivered into the target device with sufficient accuracy to enter the central target area between the ribs 33, as holed putts, and balls inaccurately delivered as missed putts which enter the tray outwardly of the central target area. Such missed putts, after ascending the inclined hill 22, between either of the ribs 33 and its adjacent wing wall 19, will pass over the ridge 23 and gravitate downwardly along the cylindrically curved floor 24, passing between the rear end of the rib 33 and the facing wall 18, and thence into the ball return pocket 16, after an appreciable time delay interval sufficient to clearly distinguish such missed putts from balls delivered accurately into the target area as holed putts.

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 practice device comprising a unitary frame of molded plastic material forming a tray having a floor and mutually facing lateral abutments at the opposite sides of the tray and defining a ball receiving area on the floor between the abutments, said frame forming a ball trapping pocket at the rear of said area medially between the abutments, upstanding walls extending on opposite sides of said pocket along the rear edges of the floor and merging with said abutments, said floor providing an upwardly inclined plane portion extending between said abutments and rearwardly of the front edge of the tray to a ridge, and a downwardly inclined portion extending rearwardly from said ridge to-

ward said ball trapping pocket, a pair of spaced apart, upstanding and floor rigidifying ribs formed on the frame in position defining a target zone of limited width, in centered alinement with said trapping pocket, and a pair of missed putt zones outwardly and on opposite sides of the target zone, said ribs including portions extending forwardly of said ridge toward and terminating at the front edge of the tray, and portions extending rearwardly of said ridge and terminating forwardly of said upstanding walls to permit balls, delivered into either of said missed putt zones, to roll upon the floor and along said walls freely past said ribs and into said trapping pocket, and a ball return kicker operable, in response to the presence of a ball in said pocket, to propel the ball thence medially through the target zone and outwardly of the device across its forward edge.

2. A golf ball putting practice device comprising a unitary frame of molded plastic material forming a tray having a floor and mutually facing lateral abutments at the opposite sides of the tray, said frame forming a ball trapping pocket at the rear of said tray medially between the abutments, upstanding walls extending on opposite sides of said pocket along the rear edges of the floor and merging with said abutments, said floor providing an upwardly inclined plane portion extending between said abutments and rearwardly of the front edge of the tray to a ridge, and a downwardly inclined portion extending rearwardly from said ridge toward said ball trapping pocket, and having upwardly facing concave configura-

tion whereby the medial portions of said ridge are bowed forwardly of its opposite end portions, a pair of spaced apart upstanding ribs formed on and integral with the floor and extending at and on opposite sides of the ridge to strengthen and rigidify the tray between its forward edge and the rearward ends of the ribs, said ribs defining a medial target zone in centered alinement with said trapping pocket and a pair of missed putt zones on opposite sides of the target zone, said ribs including portions of progressively diminishing height extending forwardly of the ridge toward and terminating at the front edge of the tray, and portions extending rearwardly of the ridge toward and terminating forwardly of said upstanding walls a distance permitting balls, delivered into either of said missed putt zones, to roll thence upon the floor and along said walls freely past said ribs and into said trapping pocket, and a ball return kicker operable, in response to the presence of a ball in said pocket, to propel the ball thence medially through the target zone and outwardly of the device across its forward edge.

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