July 28, 1964 J. G. PORTTEUS 3,142,488

PUTTING MAT WITH GOLF BALL DISPENSING MEANS

Filed March 23, 1961 3 Sheets-Sheet 1

FIG. 1

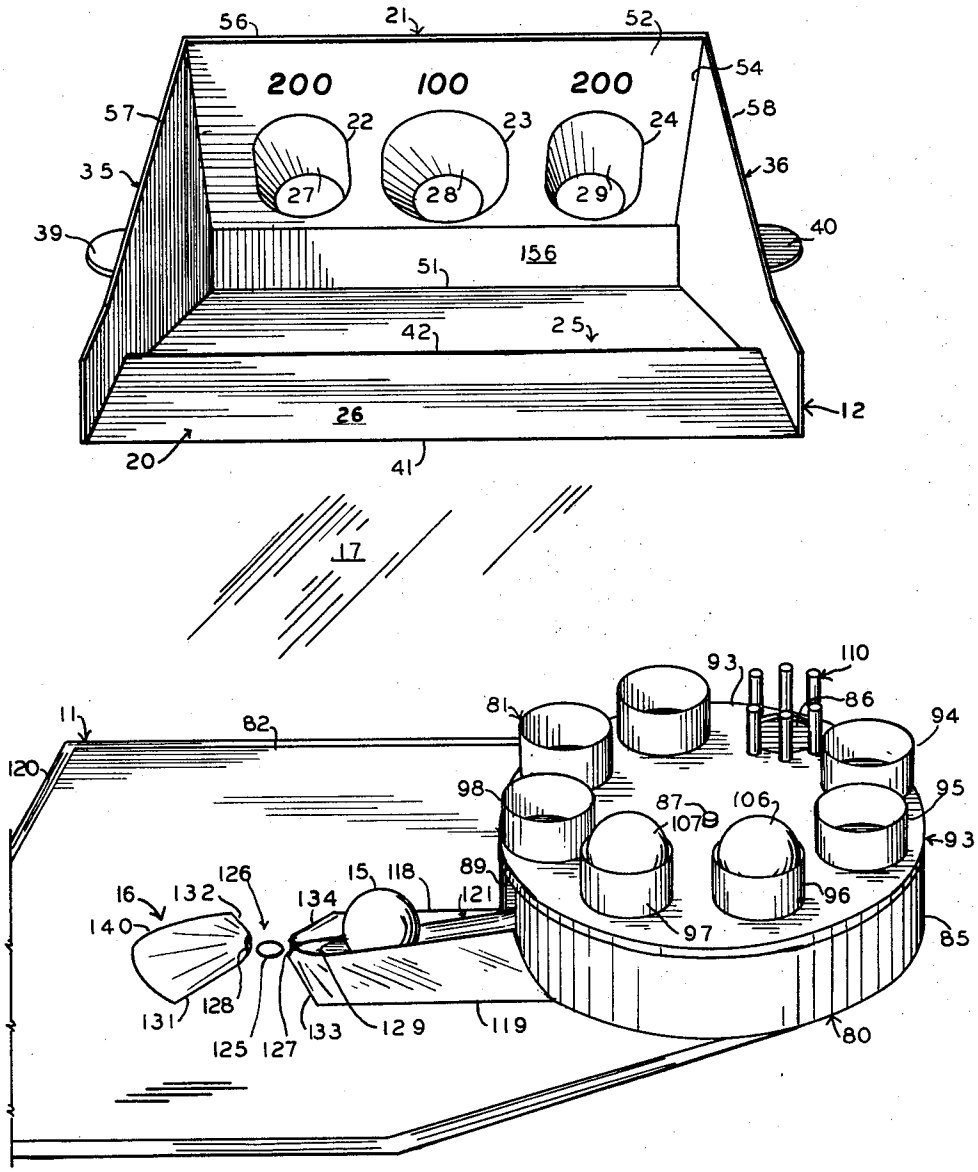

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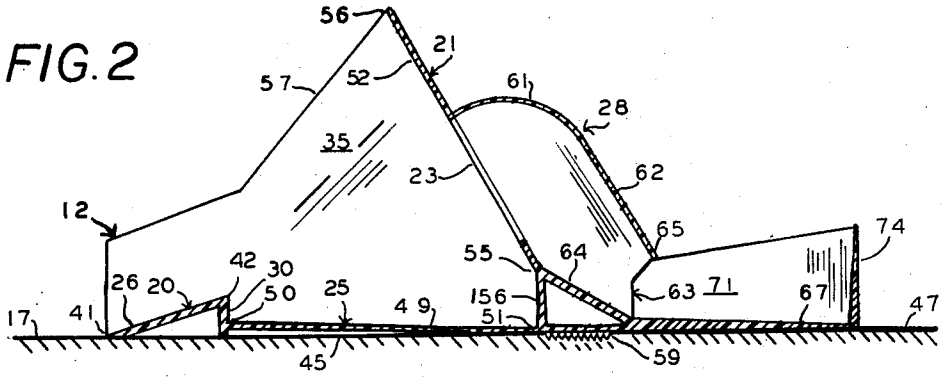
FIG. 2



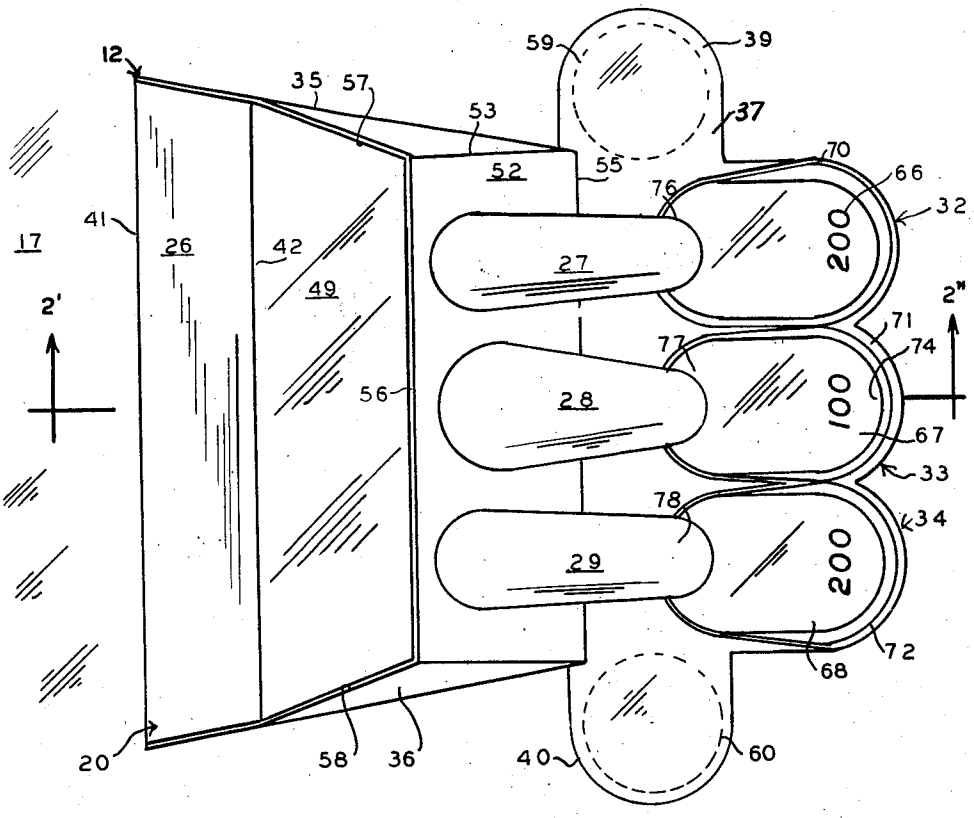


FIG. 3

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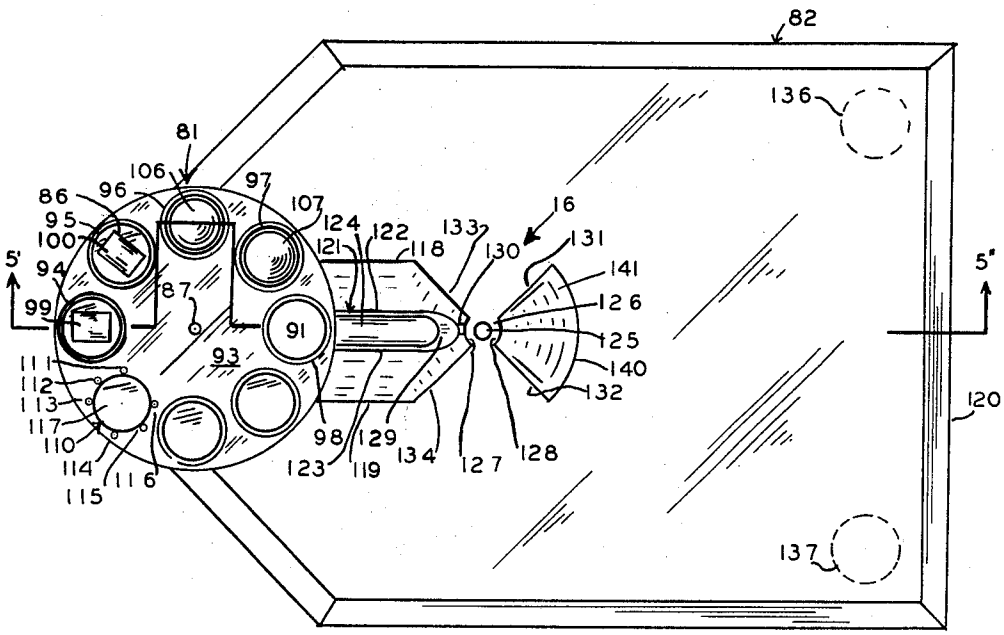
FIG. 4



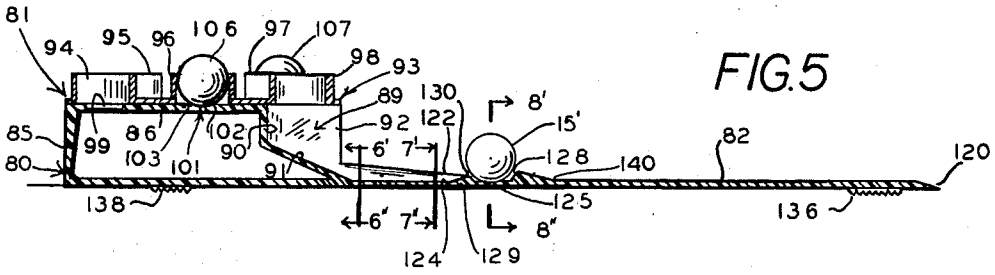


FIG. 5

FIG. 8

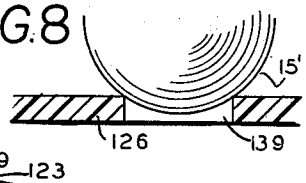


FIG. 6

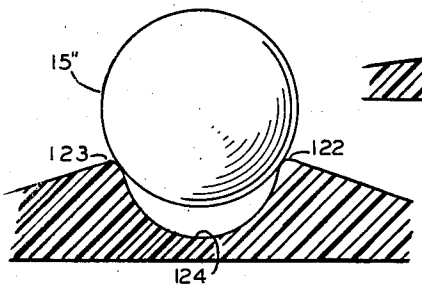
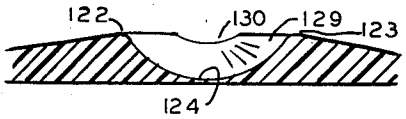


FIG. 7



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PUTTING MAT WITH GOLF BALL DISPENSING MEANS

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Filed Mar. 23, 1961, Ser. No. 97,887
3 Claims. (Cl. 273—201)

This invention relates to games or amusement devices of the type which are generally characterized in that each player tries to make a ball reach a scoring area which has a certain value. More particularly, the invention relates to a simulated golf game.

One object of the present invention is to provide a game apparatus which affords practice, sport, recreation and amusement for persons of all ages desirous of developing or exercising their skill in hitting or rolling balls in an accurate manner towards fixed targets or receptacles and having the results of such activities registered automatically.

Another object of this invention is to provide a ball dispensing and positioning apparatus convenient, positive and reliable in action and sturdy in construction.

A further object of this invention is to provide a novel game apparatus which simulates the game of golf and provides practice therefor conveniently and reliably.

A still further object is to provide a game simulating golf that permits a 30 foot putt to be simulated in a 10 foot space.

Other objects and features of the invention will be apparent from the following description which refers to the accompanying drawings which form a part of this specification, wherein like numerals refer to like parts in all the figures and wherein:

FIGURE 1 is an overall perspective view of the major subassemblies of the game apparatus in their operative position relative to each other;

FIGURE 2 is a sectional view of the receptacle subassembly of FIGURE 1 as seen along section 2'—2" of FIGURE 3;

FIGURE 3 is a top view of the receptacle device of FIGURE 2;

FIGURE 4 is a top view of the ball dispenser device of FIGURE 1;

FIGURE 5 is a cross sectional view of the receptacle device along the plane 5'—5" of FIGURE 4;

FIGURE 6 is an enlarged cross sectional view of the track portion of the device of FIGURE 5 along the section plane indicated at 6'—6" in FIGURE 5;

FIGURE 7 is an enlarged cross sectional view of the track portion of the device of FIGURE 5 taken along plane 7'—7" of FIGURE 5; and

FIGURE 8 is a cross sectional view of an alternative embodiment of the device of this invention as shown in enlarged cross sectional view across plane 8'—8" of FIGURE 5.

FIGURE 1 shows the two major sub-assemblies of this game—the dispenser, **11**, and the receptacle generally shown as **12**—in their relative operative positions. Generally, the dispenser, **11**, provides for dispensing and placing of the balls, as **15**, on a locating device therefor, **16**, whereat the balls are conveniently struck with a golf club toward the receptacle sub-assembly, **12**. The receptacle is provided with an upwardly sloped ramp **20**. A somewhat tilted, yet upstanding, backboard, **21**, is provided with a plurality of scoring orifices therein, said backboard being spaced from said ramp in the direction of the upward slope of said ramp, so that the front surface thereof is intersected at approximately its center by the continued projection of the upwardly sloped surface, **26**, of said ramp. The ball passes from the locating device on the dispenser, through the space between the

dispenser **11** and the ramp **20** and, depending on the accuracy with which the ball is hit, into one of the scoring orifices such as **22**, **23**, and **24**, in the backboard **21** or into the keeper tray, **25**, at the bottom of the space between the ramp and the backboard. Each of the orifices as **22**, **23**, and **24**, is connected to one end of a funnel-shaped downwardly curved tube or chute **27**, **28**, and **29**, respectively. Each such tube is open at its other end to a scoring compartment as **32**, **33**, and **34**, respectively, wherein balls passing through the respective scoring orifice are retained and serve to provide a ready indication of the score achieved by the player.

Generally, the receptacle sub-assembly **12** comprises a ramp, **20**, whose rear edge forms a step, **30**, which is the front edge of a tray, **25**. The rear edge of tray **25** is formed by the bottom of backboard, **21**. Sidewalls **35** and **36** are attached to, support and locate the ramp **20** and tray **25** and the backboard **21**, and form the sidewall of said tray. Chutes or tubes **27**, **28**, and **29** are attached to the rear of each of the orifices **22**, **23**, and **24**, respectively, and to scoring compartments, **32**, **33**, and **34** which are located on and fixed to a flat base **37**. This base is a flat sheet like but rigid member attached to backboard **21** and sidewalls **35** and **36** and has laterally projecting flat lugs **39** and **40**.

The upper surface of the ramp **20** in the preferred embodiment is 21¼ inches wide and 4 inches long. It extends from the left sidewall **35** to the right sidewall **36** and is inclined upwardly at an angle of 19°. The front ramp edge, **41**, is bevelled to provide a smooth travel of a golf ball thereover. The bottom edge **45** of the side wall **35** and the bottom edge of sidewall **36** lie on the floor, rug, or other supporting flat surface **47**. The rear edge **42** of the ramp **20** is horizontal and parallel to the front edge **41** and is 1⅜ inch higher than the front edge **41**. The tray section **25** is 10 inches deep in the preferred embodiment, i.e., 10 inches from the rear edge **42** and step **30** therebelow of the ramp **20** to the rear edge **51** of the tray. The front edge **50** of the tray **25** is only one inch below the level of the rear edge **42** of the ramp **20**. The bottom of the rear edge **51** rests on the ground or other flat support surface **47**. Accordingly, there is a slight slope corresponding to a fall of ¼ inch in 10 inches or an angle of 2½ degrees, from step **30** at the front edge **50** to the rear edge **51** of the tray **25**. This slope of the tray **25** provides that balls dropped into the tray as hereinbelow described will roll to the rear of the tray, i.e., toward the back edge **51** leaving the front portion, near edge **42**, clear of any upward projection thereover of any such ball in the passage of further balls from the sloped surface **26** of ramp **20** to the backboard **21** and the holes therein.

The backboard **21** comprises a flat inclined panel portion, **52**, fixedly attached at its sides, **53** and **54**, to the sidewalls **35** and **36**, respectively. The bottom edge **55** of the backboard **21** joins the top of the rear wall **156** of the tray **25** and is firmly attached thereto. The flat portion **52** is 9 inches high from its bottom edge **55** to its topmost edge **56**. The topmost edge **56** is joined to the top edges **57** and **58** of the sidewalls **35** and **36**, respectively. The flat panel **52** is at an angle of 59° to the horizontal. Accordingly, the top edge **56** of the backboard **21** is 8⅞ inches to the rear of the front edge **41** of ramp **20** in the preferred embodiment. The top edge **56** is parallel to the front edge **41**. The side walls **35** and **36** are tapered inwardly and upwardly so that the top edge **56** is 16¼ inches wide in the preferred embodiment. The orifices **22**, **23**, and **24** each have 5⁹⁄₁₆ inches total height in the preferred embodiment. It is to be noted that the approximately 60° angle of the panel **52** to the horizontal provides a projection of such orifice with an effective height in the vertical plane of 4¼ inches, which is the size of the

standard golf cup as used on regulation golf courses. Hole **23** is made with a 4¼ inch diameter while the maximum diameter of holes **22** and **24** is 3 inches. The tops of holes **22**, **23**, and **24** are all located 3¾ inches below top edge **56** of the panel **52**. Hole **23** is located in the center of the panel and the vertical centers of holes **22** and **24** are located 4¾ inches laterally from the vertical center of hole **23** in the preferred embodiment.

In the preferred embodiment, the sub-assembly **12** is made of reinforced polyester glass fiber reinforced plastic laminate about ⅛ inch thick. The cooperation of the sloped sidewalls **35** and **36**, the tray floor **49**, and panel **52** provides a sturdy structure able to readily withstand without rupture or bending such impact as is provided by golf balls thrown with the usual range of force with which such are directed at the orifices in such panel. To aid in maintaining this structure **12** in position relative to the dispensing sub-assembly **11** the lugs **39** and **40** which project laterally from the sidewalls **35** and **36** are provided with a total width of about 24 inches, or, on each side a lateral 5 inch projection so that cans of fruit juice, rocks or furniture or other convenient weight may be positioned thereon and thereby fix the receptacle sub-assembly **12** in position. For this purpose friction pads as **59** and **60** are provided on the bottom surface of each lug **39** and **40**, respectively.

The angle of the panel **52** is chosen to be, in combination with the angle of upward slope of ramp surface **26**, substantially—i.e., about 10°—less than 90°. Accordingly, balls passing from the ramp along the plane of such ramp in the direction of the orifices **22**, **23**, and **24**, but missing such orifices and hitting the panel **52** will be bounced toward and drop to the floor **49** of the tray **25** rather than outwardly beyond edge **42** or **41** of ramp **20**. This angular relationship provides that balls hitting panel **52** from the ramp **20** will not be bounced back beyond edge **42** to the space, **17**, between the receptacle and the point from which such ball is stroked. Accordingly, balls are not lost from this device, which loss could be an annoying feature of a simulated golf game, but positive provision is made in this apparatus, as above described, for balls which miss the scoring orifices, either strike panel **52** and are bounced thereby into tray **25**, or directly fall into that tray and gathered against the rear wall **156** thereof.

The chutes or tubes, **27**, **28** and **29**, are each formed of an upper spherical portion and a lower conical portion. The upper spherical portion (as **61** for **28**) is a portion of a large sphere (in the preferred embodiment having a radius of curvature of 3½ inches in its longitudinal section) and otherwise curved to fit the orifice leading thereinto. The portions of this spherical portion immediately adjoining the rear of panel **52** are perpendicular thereto. The lower section of each such tube (as **62** of tube **28**) is conically shaped and reduces in size at its bottom to a vertical orifice, as **63**, with a diameter of about 2 inches, and a top edge **65**, about 2 inches above floor **67**.

The rear wall of each conical tube section, as **62**, is parallel to panel **52** and extends to a level below the horizontal level of the bottom of the scoring orifice, as **22**, **23**, and **24**, associated with such tube. Also, the shell of each tube, as **28**, is curved and, as seen in a vertical plane, normal to panel **52** at its juncture therewith. The rear wall of the conical portion, as **62** in FIGURE 2, has its uppermost portion located to the rear of the lowermost portion of the orifice (**23**) horizontally spaced therefrom by at least the diameter of the ball to be passed through such tube; at such uppermost portion the above mentioned curved portion, as **61**, is parallel to and joins said rear wall of said conical portion. The shortest distance from the vertical projection of said uppermost portion to the bottom of orifice **23** is, in the preferred embodiment, 1½ times the diameter of the ball to be passed therethrough. The above description for the structure of tube **28** applies also to tubes **27** and **29**.

Accordingly, a golf ball passing through an orifice, as **23**, of this device impinges on the rear wall of section **61** or **62**, the curvature of which sections provide that such ball is bounced from the surface which it strikes at substantially the supplement of the angle with which it strikes such surface. Accordingly, notwithstanding the 30° angle of inclination to the vertical (which, in combination with the slope of ramp surface **26**, prevents bouncing of balls from panel **52** beyond tray **25**) presented by the orifices, as **22**, **23** and **24**—which are much larger than the balls, also—balls passing therethrough are bounced by the inclination of the tube wall to the discharge of each such tube, as **63**, rather than permitting such ball to bounce out of the orifice, as **23**, through which it had passed.

The floor portion of such funnel, as portion **64** of tube **28**, is firmly attached to the rear wall **156** of the tray **25** and acts as a ribbing supporting member for the panel **52**, as well as for wall **156**, against the impact of balls striking such panel.

The floor portion **64** is short and sturdy; it also absorbs impact from balls striking wall **156** and is at an angle to the vertical less than wall 65° to soften the momentum of balls prior to such balls passing out of orifice **63**. The orifice **63** has, in the preferred embodiment, a 2⅛ inch height and a similar width. This permits a golf ball (diameter of 1⅝ inches) to pass freely therethrough but, in combination with that the rear of the tube wall portion **62** extends below the level of orifice **23** (and similar tube dimensions, positions and orifices are similarly arranged on tubes **27** and **29**), provides that balls passing through the tube discharge orifices, as **63**, will not have sufficient energy or proper direction to bounce out of the scoring receptacles as **33**.

The scoring receptacles, **32**, **33**, and **34**, are each located on top of the base **37** to receive the balls discharged from their respective tubes **27**, **28**, and **29**. Each such compartment comprises a sloped floor as **66**, **67**, and **68** and a peripheral wall **70**, **71**, and **72** for each compartment **32**, **33**, and **34**, respectively. The walls are each imperforate with a maximum 3¼ inch height in the preferred embodiment at its rear, and a minimum 2¼ inch height at their front ends near zone **76**, **77**, and **78**, respectively. There is a distance of 6¾ inches from the rear from the rearmost portion, as **74** of compartment **33**, of such wall to the discharge opening, as **63**, of its respective tube as **28**. Each compartment is 5 inches wide and separated by the peripheral walls above described from the other compartments. Accordingly, the player who strikes a ball as from the dispenser, **11**, up the ramp and through an orifice may, by counting the number of his balls in each compartment as **32**, **33**, and **34**, and the number of points for each ball in each such compartment, readily count the score. For example, entry of a ball into the larger central hole, **23**, the easiest to enter, is indicated in the illustration of the preferred embodiment as scoring 100 points while entry of a ball into the narrower, more difficult holes **22** and **24** are indicated as scoring 200 points; similar point numbers are boldly printed on the floor of compartments **32**, **33**, and **34**, as shown in the drawings.

The floor, **66**, **67**, and **68**, of each of these scoring compartments is sloped for the same reason and to the same degree as above discussed for floor **49** of tray **25**, from the point under the orifice of the tubing opening to the rearmost portion of each such compartment. This causes the balls reaching each such compartment to roll away from such orifice toward the rearmost portion of said compartment and prevents the balls reaching each of those compartments from lodging in a position which would block the tubing orifice and prevent the passage of subsequent balls therethrough. Also, this facilitates picking up the balls from the scoring compartment floor and counting of such balls.

The device of this invention provides that with a distance of 10 feet (shown as space **17** of FIGURE 1) between the dispenser **11** and the front edge of the receptacle **12**, a thirty foot putt is simulated. The vertical

projection of the orifice **23**, accordingly is made to correspond to the horizontal projection of a standard golf cup 4¼ inches in diameter. If the ball is struck with insufficient force to correspond to that force necessary to travel a golf ball over a standard level 30 foot green the trajector of the ball after it leaves the rear edge **42** of the ramp **20** will cause the ball to strike either the rear edge of the tray **25** or fall into the tray **25**. However, when the ball is struck with such force as would carry it over standard golf hole at 30 feet distance, then the path of the ball curves upwards and the ball strikes the panel **52** at a level above the top of the orifices **22**, **23**, and **24**.

The height of the top edge, **56**, of the panel **52** is, however, made so that no reasonable stroking force would carry the ball over the panel **52**. Accordingly, by the use of this device balls struck with a reasonable force will be caught either in the tray **25** or come to rest in the scoring compartments, **32**, **33**, or **34**.

With such a delicate balance of force, the length of the ramp must be sufficiently short that a ball struck with the minimum amount of proper force will not deviate from the line of direction given thereto by its stroking, as from sub-assembly **11** and so miss an orifice at which properly directed. In order to simulate a thirty foot putt on 10 foot distance—as is desirable for use in homes—the ramp section slope simulates the energy obsorption in a putt of such length notwithstanding that the receptacle, **12**, is at a lesser distance from the point at which the ball is struck than is the case where a ball is struck toward a golf cup 30 feet distant from where such ball is stroked. However, a problem which arises wherein a ball rolls up a ramp is that where the ramp is too long the ball tends to leave a straight path as it travels up the ramp. According to this invention, minimum interference with the direction of travel is effected by minimizing the length of the inclined section over which such balls need to travel to achieve the trajector and energy absorption required to simulate a long putt. Such shortness of the inclined section avoids any tendency of a rolling ball to turn away from its original line of direction when traveling at an angle other than 90° to the edge of such incline. Such shortness is effectively achieved according to this invention by providing that the discharge end of such ramp, although of a height less than the golf ball itself, and so otherwise subject to interference by balls which might gather adjacent the discharge edge of such ramp, is provided with means which, in cooperation with gravity and the spherical shape of the balls, provide positively that the balls will be moved from the discharge lip of such ramp to a point sufficiently distant from such ramp to not interfere with the passage of subsequent balls from the discharge lip of said short low ramp. The use of a relatively short path—4 inches along surface **26** in the preferred embodiment—with the small angle or slope of ramp—19° in the preferred embodiment—as corresponds to a thirty foot putt at a distance of 10 feet between the two sub-assemblies **11** and **12** results in that the height of the discharge edge **42** of the ramp **20** is less than the height of an ordinary golf ball. The sloped floor of the tray **25** as above described removes balls in the tray **25** from the zone whereat they might provide interference with subsequently stroked balls properly aimed at the orifices **22**, **23**, and **24**.

The connection of the funnel-shaped tubes, as **27**, **28**, and **29** to the panel **52** may be provided with reinforcement to withstand such impacts as are usually given to this type of device.

The dispenser sub-assembly **11** generally comprises a fixed base, **80**, a rotatable distributor plate sub-assembly **81** thereabove, and a putting board **82** attached to the base.

The base **80** is, generally, a hollow cylindrical structure. It comprises a cylindrical wall, **85**, 8½ inches diameter and 2½ inches high in the preferred embodiment, and a roof **86** provided with a pivot **87** therein at the geometric center thereof. The pivot **87** projects above the roof **86** and serves to hold the plate sub-assembly rotatably in place thereon. The base **80** is provided with a lateral recess **89** therein. This recess is open to the roof **86** and outside of wall **85**; it has a rear wall **90** and a sloped floor portion **91**. The rear wall **90** is recessed 2 inches from the outer wall **85** and is 2 inches wide. The sloped floor **91** extends to a 1¼ inch depth below the level of the top of roof **86**; the slope of the floor **91** is 20° downward and outward in the preferred embodiment.

The distributor plate sub-assembly **81** comprises a circular plate **93** with a central orifice through which pivot pin **87** passes. This pivot pin holds the plate **93** to the base **80**. A plurality of similar cups as **94** through **98**, eight in the preferred embodiment, are disposed on top of plate **93** and firmly attached thereto at their bottom. These cups are all spaced equally from the center pivot **87** and are also all equally spaced from each other. In the preferred embodiment each of these cups is cylindrical in outline, has 1¾ inch internal diameter, and is 1 inch high. Plate **93** is cut away at the bottom of each cylinder to provide a hole of the same size as the interior of the cup. The most centrally located portion of the holes of the bottom of each of the cups, as **94–98**, is slightly more lateral than recess wall **90**. Accordingly, when each cup passes over the recess **89** any ball in such cup will drop through the corresponding hole in plate **93** within such cup and fall towards the bottom of the recess **89**. There is a minimum distance of ½ inch between adjacent cups. This conveniently permits rotating the plate **93** by a putter type of golf club. Arcuate recesses as **99**, **100**, **101** in the top surface of roof **86** provide for temporarily retaining the balls so that only one ball at a time is moved to and drops into the recess **89**.

While in the preferred embodiment, solid cylindrical walls are shown for the cups, it is also within the scope of this invention that structures made with a plurality of upstanding pins as **111–116** may be arranged to form the outline of a cylinder with a hole **117** in the center thereof, said hole **117** having diameter of 1¾ inches or, otherwise, large enough for a golf ball to freely fall therethrough. Such pins **111** to **116** are spaced sufficiently far apart for an adult's fingers to pass therebetween and hold a golf ball to place it within such ball-holding structure or to remove it therefrom.

The putting board **82** is composed of a 3/16 inch thick board preferably made of plastic or cardboard 18 inches along the edge **120**, said edge being 28 inches distant from the most distant portion of the base **80**. The top of the board **82** is fixed to the bottom of base **80**. The center of the base passes under the rotating pin, **87**, so that base **80** is positioned on the center of such plate. A track **121** extends outwardly from recess **89**, said track **121** comprising two sloped ridges or shoulders **122** and **123**, 1 10/32 inch apart from each other in the preferred embodiment and separated from each other by a hollow portion **124** having a radius of curvature of 5/8 inch. Its uppermost portion is 1½ inches below top **86** of the base **80**, and extends 4¼ inches outward from the wall **85** toward edge **120** of the board **82**. The total width of the track from rear edge **118** to front edge **119** is 4 inches in the preferred embodiment.

The longitudinal center of the track **121** is located in line with a radius which passes through pin **87** and through the central longitudinal axis plane of symmetry of the recess **89**. The end of the track is contiguous with a circular area, **126**, 1½ inches in the preferred embodiment, bounded by a 3/32 inch high and 5/8 inch wide shoulder **127**, on the side adjacent the track and a shoulder **128**, ¼ of an inch high and ¾ inch wide on the side of area **126** distant from the track (and closest to the edge **120**).

Both shoulders are at an angle of 60° to the plane of the board **82**. Edge **140** of shoulder **128** is 3" from

the geometric center of area **126**. In the center of area **126** is concentrically located a circular pad or tee, **125**, which is 9/16 inch in diameter in the preferred embodiment. Shoulder edges **131** and **132** fair away from shoulder **128** into the surface of the board **82** at an angle of 45 degrees to the radius which passes through the central axis of track **121** and recess **89**. Shoulder edges **133** and **134** similarly fair away from shoulder **127**. The hollow or trough **124** in the track **121** passes to a level 1/16 of an inch below the level of the top of the board **82** as the ridges **122** and **123** pass in an even slope to the level of the shoulder **127** and fair thereinto. In the trough **124** at a distance 1½ inches from the shoulder **127** a conically shaped stop **129** begins to rise from the level of the floor of the track at that point with a radius of curvature of ¾ inch. It rises for 5/32" evenly over a distance of ¾ of an inch until the bottom of said surface intersects the shoulder **127**. At the point of juncture of the surface of stop **129** with the shoulder **127** there is a 1/16" deep, ½" wide channel or passage **130** which provides that a ball passing along track **121** is guided narrowly to pass along the axis of said passage, or channel, which is only about ⅛ inch long.

Accordingly the mechanism of operation of ball dispenser **12** is that the dispenser plate **93** on which the cups, as **94–98**, are located is loaded with balls. The bringing of one of said cups over the recess **89** results in that the ball in said cups drops 1¾ inches to the track **121**. The ridges **122** and **123** thereof are sufficiently apart so that the ball as 15" in FIG. 6 is firmly located on and between the said ridges **122** and **123**. After the drop of 1¾ inches to said ridges, the ball rolls along the length of the track until it comes to the stop **129**. Here the speed of ball is definitely slowed up and the ball passed through the axis of the channel or passage **130**; thereupon the energy left in the golf ball is expended against the shoulder **128**. Any tendency of the ball to bounce back is overcome by the shoulder **127**. This leaves the ball as **15'** resting on a 9/16 inch diameter felt pad. This felt pad has an inwardly curved top with a radius of curvature of ½ inch and a maximum depth of 1/16 inch. This serves to firmly seat a golf ball (which has a diameter of 1½ inches). Notwithstanding that the golf ball is seated in a somewhat sunken position relative to the top of the board **82** this is a reliable simulation of the "lie" of a golf ball on the putting green and does not interfere with the stroking or putting thereof.

Thus, this device broadly provides for the ready positioning of each of a plurality of golf balls in a sequence one after the other according to the sequence of positioning each of said cups containing each of said balls over the recess **89**. The width of the recess **89** is arranged so that the balls fall to the tracks properly oriented with sufficient energy to travel to pad **125** and are positively directed to ride in the trough between the ridges of said track. The track is sloped to provide sufficient energy so that the balls will reliably be delivered to the pad **125** from which such ball may be subsequently stroked in a manner simulating that in which a golf ball is normally stroked on a golf green.

Friction pads as **136** and **137** are provided at either of the lateral edges of the pad near edge **120** and also, a similar friction pad **138** is provided under the base **80**. This permits that a player may place his feet on the board **82** and accordingly the weight of the player will serve to fixedly locate the position of the board and dispenser and the ball dispensed thereby and so facilitate the player's movement of the cups, as **94** to **98**, one at a time over the recess as **89** to effect delivery of golf balls, or at such rate as is desired by the player, to the dished pad or tee **125**, the top-most portion of which is at the level of the top surface of board **82**. In an alternative embodiment of the invention, as shown in FIGURE 8, the dished pad **125** is replaced by a circular hole **139** of 9/16 inch diameter, passing through board **82** in area **126** for support of a golf ball as **15'**.

In the preferred embodiment the components of the receptacle are made of plastic, such as polyester resin, sheet. Also heavy cardboard may be used. Preferably, the major dispenser components—base **80**, distributor plate sub-assembly track **121** and board **82**—are also made of plastic which may be reinforced as with fiberglass. The distributor plate sub-assembly may be made of metal.

The arcuate recesses as **99** and **100** and **101** in the top surface of roof **86** of base **80** are each, generally, each a short shallow cylindrical trough, with its axis parallel to a radius in roof **86** along which the length of said recess is measured, as below described. In the preferred embodiment, each recess is 3/32 inch deep measured from and transverse to the top surface of roof **86**; 23/32 inch wide measured from its front edge, as **102**, to its rear edge, as **103**, transverse to a radius in roof **86** with pin **87** as center; one inch long measured in direction of said radius in roof **86** using pin **87** as center as shown for recess **99**; and the bottom of said recess has a cross section which is the arc of a circle 1½ inches diameter when viewed in a plane normal to the recess length. Each such recess has its greatest depth at the center of the width thereof, and the curved floor of said recess intersects the surface of the roof at the front and rear edges of said recess.

The centers of such recesses are located below the centers of the cups as **96**, **97** as well as below cups **94** and **95** when the cup **98** is located directly over recess **89**. Accordingly when one cup, as **98**, is above recess **89**, the golf balls in other cups as **94–97**, have a relatively stable resting position, as the balls thus located within cups **94–97** rest in recesses as **99**, **100**, **101** below said cups. This location of such balls prevent free or two ready a rotation of the plate **93**. Movement of the distributor plate sub-assembly and balls therein is thus temporarily prevented by the weight of the balls themselves locking the plate **93** against free movement. This cooperation of balls, recesses and cups retains all the balls in at least a temporary position and prevents premature undesired passage of a ball into recess **89**—and thence to pad or tee **125** notwithstanding that the surface of the materials of which plate **93** and roof **86** are made may be smooth and slick. However these moderate recess depths do permit a player, by inserting a golf club between cups, with but little force to conveniently and easily controllably urge said cups and the balls therein to rotate about pin **87** and pass over and into recess **89** one at a time and thence to the tee, **125**.

The ridges **122** and **123** smoothly slope, to a height of 3/16" in the preferred embodiment, from their edges **118** and **119** respectively, each such edge lying on the top flat surface of board **82** and each such edge being, in the preferred embodiment, 3 inches away from the center of pad **125** as measured along the shoulder edges **133** and **134**, each at 45° angle to edges **118** and **119** respectively in the preferred embodiment. These shoulder edges **133** and **134** smoothly taper into the top surface of board **82** from shoulder **127**, as do shoulder edges **131** and **132** from shoulder **128**. The shoulder edges **131** and **132** meet the top surface of board **82** at edge **140** three inches from center of tee **125** and at an angle of 45° to the longitudinal axis of track **121** and provide a corresponding length of slope and amount of sloped surface, **141**, extending from edge **140** to shoulder **128**. These sloped surfaces adjacent edges **118**, **119**, and **140** serve to protect the pad or tee **125** and the shoulders **127** and **128** and the track **121** from damage by improper stroking of the golf ball resting on pad or tee **125**.

The foregoing description of the invention is explanatory and illustrative rather than limiting, and changes in the detail of the particular constructions illustrated may be made by those skilled in the art.

Having thus described the means by which the objects

of the invention are obtained, in the form at present preferred, modifications thereof within the skill of the art are intended to be included within the scope of the appended claims.

I claim:

1. A dispenser for balls comprising a base, a rotatable plate thereabove, rotatably attached to said base about a point of rotation with a plurality of holes of greater size than said balls at the same radial distance from said point of rotation, ball retaining means about each of said holes, a recess in said base at said radial distance from said point of rotation, said recess having an entrance thereto on the top of said base and an exit therefrom at the side of said base and a passage therethrough slightly larger than the size of said balls, a sloped passage from the bottom of said recess to a ball retaining means, a stop in said sloped passage, said stop tapered upwardly in the direction of slope of said passage, a downward step at the end of said passage, an upward stop beyond said downward step in the direction of said passage at a distance approximately equal to the diameter of said ball, said step and said last mentioned stop constituting said ball retaining means.

2. A dispenser for golf balls comprising a base, a rotatable plate thereabove rotatably attached to said base about a point of rotation with a plurality of equispaced holes therein of greater size than said balls and at the same radial distance from said point of rotation, ball retaining means about each of said holes, a first recess in said base at said radial distance from said point of rotation, said recess having an entrance thereto from the top of the base and an exit therefrom at the side of said base and a passage therethrough slightly larger than the size of said ball, a sloped passage from the bottom of said recess to a ball retaining means, said passage and said ball retaining means being positively located on a mat fixed to said base, a downward step at the end of said passage, an upward stop beyond said downward step in the direction of said passage at a distance approximately equal to the diameter of said ball, said step and said stop constituting said ball retaining means, said passage comprising two tracks with a trough therebetween, one of said holes in said plate overlying said first recess, a second recess in said base below the hole in the plate adjacent the hole overlying said first recess, said second recess being smaller than the size of said ball.

3. A dispenser as in claim 2 wherein an area of the mat extends laterally from the ball retaining means and is spaced away from the base, which area is sufficiently large to support a player's feet thereon at a distance from said ball retaining means convenient for stroking by said player with a golf club.

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