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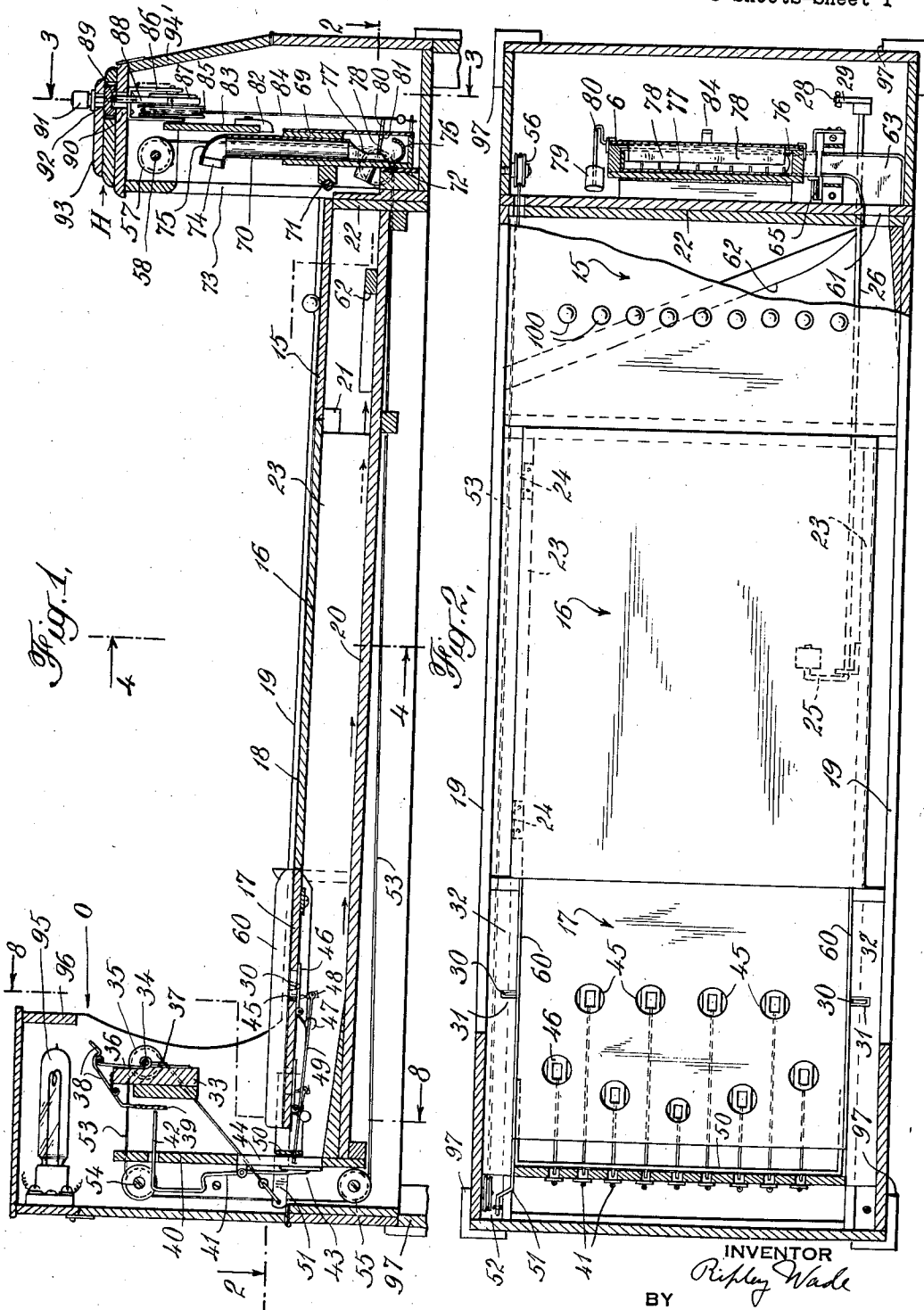
R. WADE

2,212,333

BALL GAME

Filed Oct. 23, 1937

3 Sheets-Sheet 1



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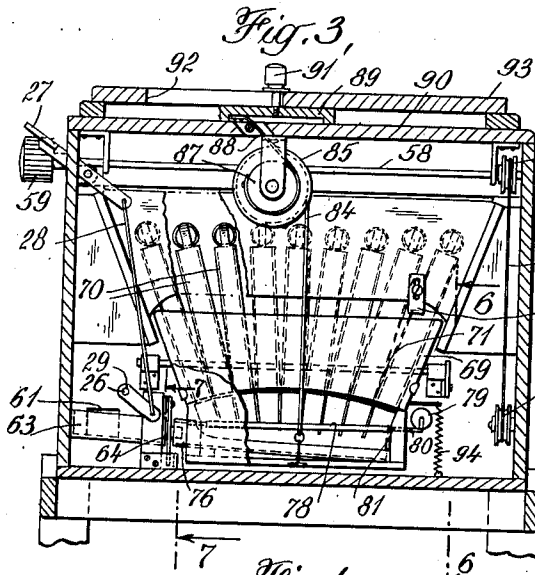
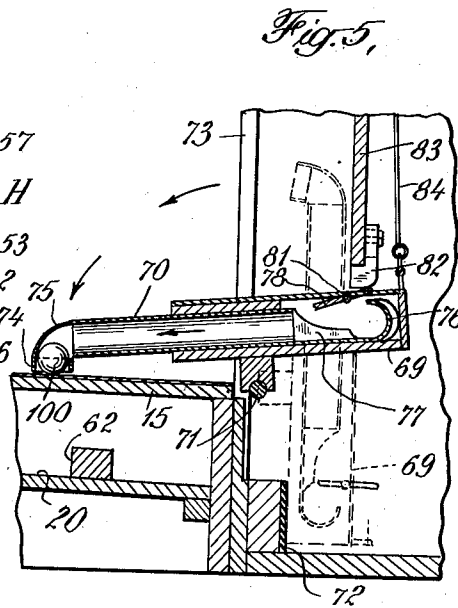
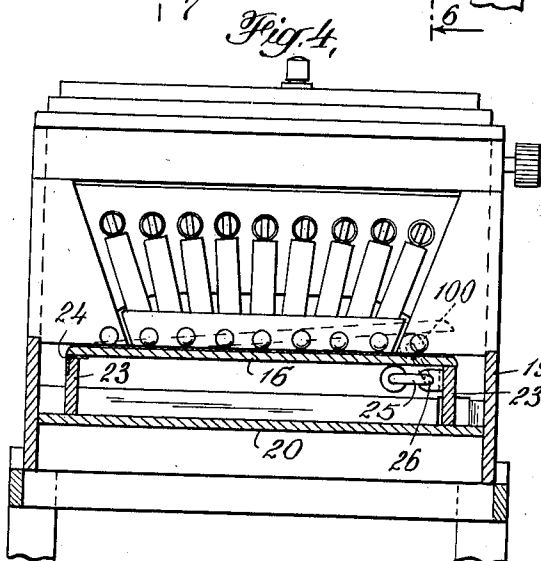
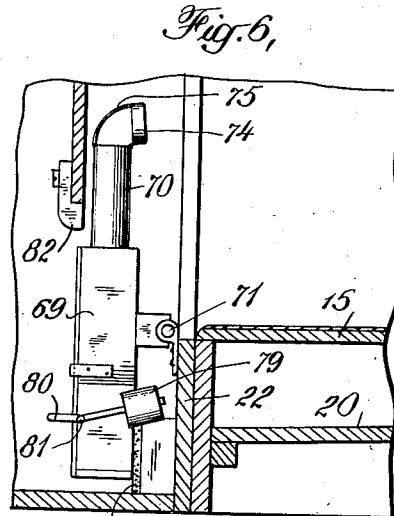
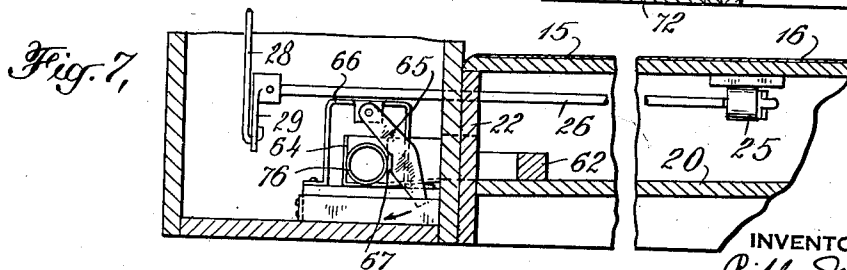
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3 Sheets-Sheet 2



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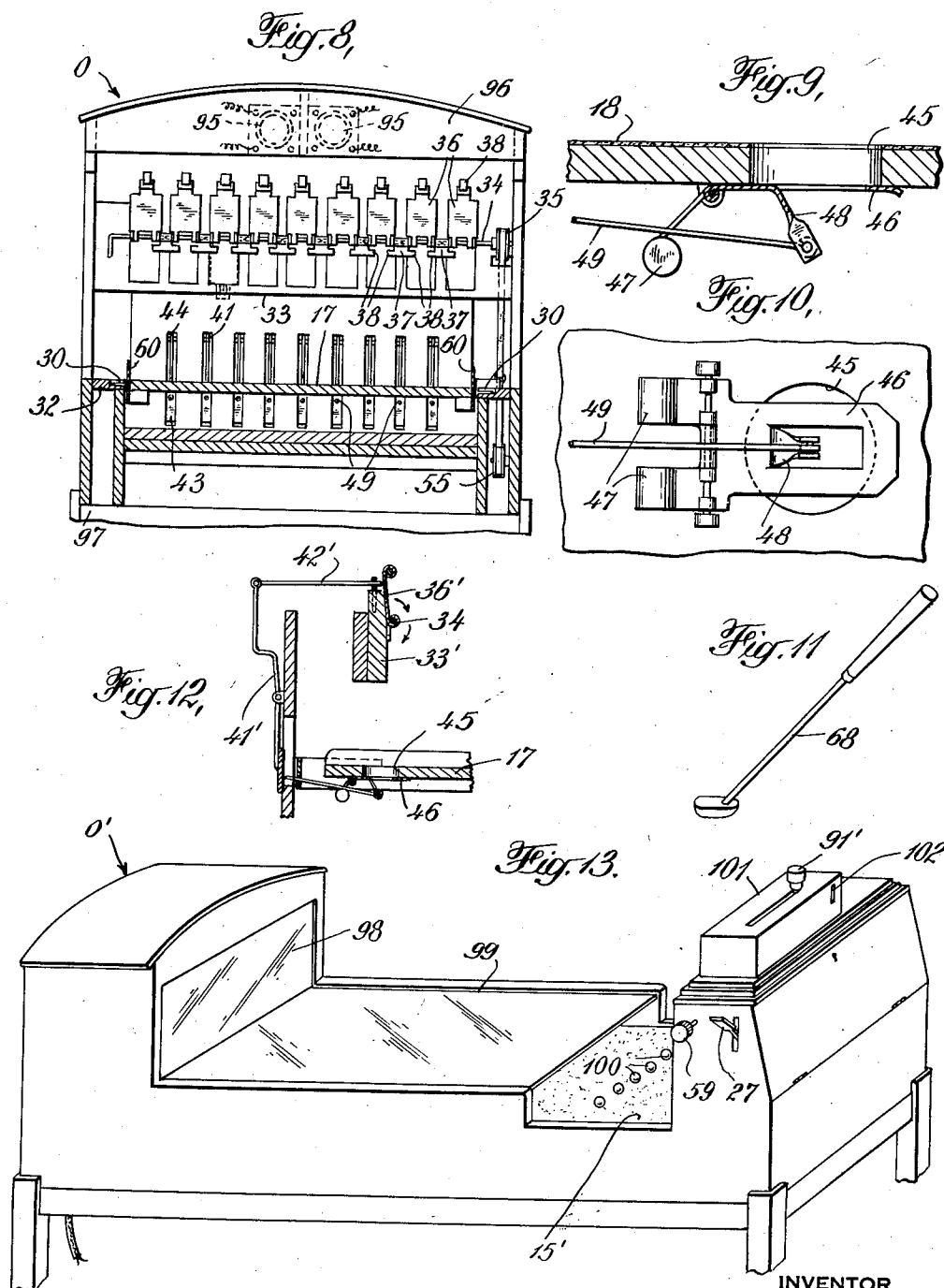
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BALL GAME

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,212,333

BALL GAME

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9 Claims. (Cl. 273—32)

This invention relates to game apparatus and more particularly concerns improved apparatus for playing a ball and target game simulating a golf putting contest. The apparatus is adapted for use either as a household entertainment device, a coin controlled entertainment or practice device or a full size outdoor putting course.

The objects of the invention include generally the provision of game apparatus of the type described in which a ball or other playing piece is struck with a club or otherwise manually projected along a playing surface toward a target means at a remote point, the apparatus being so constructed and arranged that while the course of the projected ball toward the target is solely dependent upon the skill or dexterity of the player, the scoring of shots, the return of balls, the clearing of the playing surface and the loading or placement of balls in position to be projected are all performed by improved and largely automatic means.

Further specific objects of the invention include the provision of improved scoring apparatus and re-setting means therefor which may also operate to clear a part of the playing surface of balls that have failed to reach a target; improved ball returning means acting to automatically collect the balls at the tee or starting section of the playing surface; improved loading means for teeing or placing the returned and collected balls in a predetermined arrangement on the tee or starting section and improved apparatus for actuating score indicating, surface clearing and ball loading mechanisms from the tee or starting end of the apparatus.

Other particular objects, advantages and characteristic features of the invention will be pointed out or will appear as the description thereof progresses.

The invention will be best understood by reference to the accompanying drawings in which certain embodiments thereof have been illustrated. In the drawings:

Figure 1 is a sectional elevation of a preferred embodiment of my game apparatus;

Figure 2 is a plan view, partly in section, taken along the line 2—2 of Figure 1 and viewed in the direction of the arrows;

Figure 3 is a sectional view, taken along the line 3—3 of Figure 1 and viewed in the direction of the arrows;

Figure 4 is a sectional elevation, taken along the line 4—4 of Figure 1 and viewed in the direction of the arrows;

Figure 5 is an enlarged sectional elevation of the loading mechanism;

Figure 6 is a sectional elevation, taken along the line 6—6 of Figure 3 and viewed in the direction of the arrows;

Figure 7 is a sectional view of the loader feeding gate and other apparatus taken along the line 7—7 of Figure 3 and viewed in the direction of the arrows;

Figure 8 is a sectional elevation of the score indicating apparatus, taken along the line 8—8 of Figure 1 and viewed in the direction of the arrows;

Figure 9 is an enlarged sectional view of one of the target means and its ball responsive mechanism;

Figure 10 is a bottom plan view of the mechanism shown in Figure 9;

Figure 11 is a perspective view of a typical playing club;

Figure 12 is a sectional view showing a modified form of score indicator operating mechanism; and

Figure 13 is a perspective view of the game apparatus enclosed and equipped for commercial coin control operation.

Referring first to Figures 1 and 2, the disclosed embodiment of my improved game apparatus comprises generally a horizontal elongated playing surface preferably formed of a starting or tee section 15, an intermediate or fairway section 16 and a target or green section 17. The playing surface sections are preferably covered with a suitable material such as felt or a short pile fabric 18. An upstanding housing H extends across the tee or starting end of the playing surface and substantially encloses the ball loading or teeing mechanism which operates through an opening 73 in the inner face of the housing. A somewhat similar housing O is provided at the target end of the device for enclosing the score indicating mechanism. The playing surface sections are supported from a suitable structure including vertical side members 19 and a base surface or ball return chute 20 which is inclined downwardly toward the loading end of the apparatus. The tee section 15 may extend laterally into contact with the side members 19, and rests upon suitable transverse means such as the bar 21 and vertical end wall 22 (Figure 1). The lateral edges of the intermediate fairway section 16 are preferably placed inwardly from the side members 19 as shown in Figure 2, and this section rests on longitudinal rails 23 adjacent its lateral edges (Figure 4).

In accordance with the invention, at least a part of the playing surface is tiltedly mounted whereby it may be cleared of balls which do not enter the targets. In the disclosed embodiment, the intermediate fairway section 16 is hinged at 24 to one of the longitudinal rails 23 so that it may be tilted as shown in Figure 4 to roll the balls on to the return chute 20 between one side rail 23 and the adjacent side member 19. A lifting crank 25 on a suitably journaled longitudinal shaft 26 operates to tilt the section 16, the shaft 26 being connected through an arm 29 and link 28 to a pivoted hand lever 27 extending through a slot in the housing H (Figures 3, 4 and 7).

For a like purpose, the target section 17 is pivoted to swing about a transverse axis by suitable means such as the trunnion pins 30 fixed in the side edges of the target section and journaled in slots 31 in the adjacent side supports 32 (Figures 1, 2 and 8). With this arrangement, the target section may be tilted to lower its front edge so that balls carried thereby will roll off and drop on to the return chute 20. The pivot point is preferably closer to the front than the back edge of the target section, and accordingly, the section drops back of its own weight to a horizontal position after being tilted by suitable mechanism as hereinafter described. Upstanding side rails 60 are preferably provided at the lateral edges of the target section to limit the lateral movement of the balls thereon.

Referring now more particularly to the score indicating apparatus shown in Figures 1 and 8, a transverse support 33 extends across the housing O above the playing surface and over the rearward part of the target section 17. A rotatable indicating shaft 34 extends across the front face of the support 33 and is provided with a driving drum 35 on one end. The shaft 34 carries a plurality of indicator plates 36 which are hingedly connected to and free to swing about the shaft. Fixed to the shaft 34 between each adjacent pair of indicator plates 36 is a plate return arm 37 having laterally extending lugs 38 at its outer ends which lie in the paths of the adjacent swinging plates 36. The arms 37 are normally in a vertically downward extending position as shown in Figures 1 and 8 whereby the plates 36 may swing downward. When the shaft 34 is turned in a counterclockwise direction, as viewed in Figure 1, the arms 37 lift the plates 36 to their upper or non-indicating positions.

Each plate 36 carries a number or other score indicia on the face thereof which is exposed when the plate hangs downward from the shaft 34. The opposite face of each plate 36 is preferably blank so that no score is indicated when the plate is resting against the support 33, as shown in Figure 1.

Each score indicating plate 36 corresponds to and is operated by the passage of a ball through a target opening or cup 45 in the target section 17, and suitable mechanism for accomplishing this operation will be described. Each plate 36 is held in its upper non-indicating position by a latch arm 38, pivotally connected to the support 33 and having a substantially vertically depending operating lever 39. A vertical back plate 40 carries a plurality of pivoted latch operating levers 41. The upper end of each lever 41 terminates in a substantially horizontal push rod 42 aligned with the operating lever 39 of one of the score indicators, and the lower end of each lever 41 carries a vertical operating plate 43 dis-

posed over a slot 44 in the back plate 40, as shown in Figure 1.

Each of the openings 45 in the target section 17 is preferably substantially aligned longitudinally of the playing surface with one of the score indicating plates 36. Thus each plate not only acts as a score indicator but also as a target guide or marker. As shown in detail in Figures 9 and 10, a trigger lever is pivotally supported on the under surface of the target section 17 adjacent each opening 45, the lever having a flap 46 extending across the opening in the path of a ball passing therethrough and a pair of weights 47 which normally hold the flap 46 in the horizontal position shown. A downwardly extending arm 48 on the flap 46 is pivotally connected to a push rod 49 which extends rearwardly beneath the target section and is slidably supported in an opening through a bracket 50 fixed to the target section and extending rearwardly from the back edge thereof (Figures 1 and 2). The rearward end of each push rod 49 lies in one of the slots 44 when the target section 17 is in the horizontal position. With this arrangement, the passage of a ball through an opening 45 depresses the flap 46 and so moves the push rod 49 rearwardly, the end of the rod 49 pushes the plate 43 of the corresponding lever 41, and thus causes lifting of the latch 38 through engagement of the lever rod 42 with the latch lever 39. When the latch 38 is thus lifted, the corresponding score indicating plate 36 falls of its own weight to its lower or indicating position.

If desired, the described latch mechanism may be dispensed with and the indicator plates may be retained in the upper non-indicating positions by their own weight. An arrangement of this kind is shown in Figure 12 wherein the plate 36', in its upper non-indicating position, is inclined backward, resting against a rearwardly inclined surface on the support 33'. The plate is moved to its indicating position by the direct action of the push rod 42' pivotally connected to an operating lever 41', the lower end of which is operated by the ball responsive mechanism of the target section, as described above in connection with the mechanism of Figures 1, 2 and 8.

The operations of tilting the target section 17 and re-setting the score indicators 36 are preferably simultaneously performed by means actuable from the starting end of the playing surface. As best shown in Figures 1 and 2, the target section 17 is provided with a rearwardly extending arm 51 which rests on a stop 52 when the target section is horizontal. A cord 53, fixed to the arm 51, passes around the indicator re-set operating drum 35 and thence rearwardly over the pulley 54, downwardly over the pulley 55, longitudinally beneath the chute 20 to the pulley 56 in the loader housing H and upwardly to a drum 57. The cord 53 is fixed to the drum 57, and this drum is fixed to a cross shaft 58, suitably journaled in the upper part of the housing H (Figure 3). An operating knob 59 is fixed to the end of the shaft 58 which protrudes from the side of the housing H. Rotation of the knob 59 pulls the cord 53, tilting the target section 17 and at the same time, turning the shaft 34 and thus lifting the indicator plates 36 to their non-indicating positions through the arms 37.

The returning balls which roll along the inclined chute 20 are directed toward an opening 61 in the end wall 22 by a diagonal baffle rail 62 (Figures 1 and 2). A ball cup 63 is disposed about the inner end of the opening 61 within the

housing H (Figure 3). The ball cup 63 has a transverse passage which is inclined downwardly and terminates in an open delivery end 64. The open end 64 of the ball cup is at times closed by a gate 65 which is pivoted from a suitable support 66 to swing by gravity across the open end 64 as shown in Figures 3 and 7. An inwardly extending operating lug 67 is provided on the gate 65 for engagement by a ball receiving tube on the loader as hereinafter described. The balls returned by the chute 20 collect in the cup 63 and are held therein by the gate 65 until the loader apparatus moves to a position to open the gate.

The loader mechanism is designed to place the balls 100 on the tee or starting section 15 in spaced transverse alignment as shown in Figure 2, whereby the balls can be successively projected along the playing surface by a club 68 (Figure 11) or any other suitable instrument. The improved loader mechanism disclosed comprises a receiving compartment 69 carrying a plurality of slightly divergent ball delivery tubes 70 which protrude from the upper edge of the compartment, the whole assembly being pivotally carried by a transverse shaft 71 disposed substantially at the level of the playing surface as best shown in Figures 1, 5 and 6. The shaft 71 is so disposed that the loader assembly normally occupies the substantially vertical position shown in Figures 1 and 6 and in broken lines in Figures 5, the lower forward face of the compartment 69 resting against a cushioned stop 72 below the playing surface. When the lower end of the compartment 69 is lifted, the tubes 70 swing out through the opening 73 of the housing H until their ends are closely adjacent the playing surface, as shown in Figure 5. The end of each tube 70 carries a ball guiding ring 74 connected to the tube by curved spaced bands 75, whereby the delivery of a ball from the tube may be both controlled and observed.

A transversely inclined inlet tube 76 is provided near the bottom of the loader compartment 69, and a protruding end of this tube is aligned with and disposed closely adjacent to the delivery end 64 of the ball cup 63 when the loader is in its vertical position. Movement of the loader to the vertical position carries the protruding end of the inlet tube 76 into engagement with the lug 67 on the gate 65, and thus moves the gate to the open position as shown in Figure 7. The tube 76 is cut away within the compartment 69 as shown in Figure 5, and the inlet ends of the tubes 70 are also cut away as shown at 77. A transverse ball holding gate 78 is fixed within the compartment 69 on a suitable transverse shaft 81. The gate 78 is normally disposed between the inlet tube 76 and the inlet ends of the ball delivery tubes 70, as shown in Figure 1 and in broken lines in Figure 5. The gate 78 is held in its closed position by a weight 79 carried on a reversely bent crank 80 at the end of the shaft 81 (Figures 2 and 6). When the loader assembly is swung to its ball delivering position, the crank 80 engages a block 82 at the lower edge of the loader back plate 83 and the shaft 81 is turned by continued movement of the loader to lift the gate 78 and so permit the balls to roll from the inlet tube 76 through the tubes 70 and on to the playing surface.

The loader may be tilted by any suitable manually operable means. As shown, a cord 84 is connected to the loader compartment 69 adjacent its lower end, and the upper end of the

cord is fixed to a pulley 85 suitably journaled in a bracket 86 adjacent the top of the housing H. A drum 87 is fixed to the pulley 85 and is operable by a flexible band 88 connected to the drum surface and to a slider 89. The slider 89 is carried on a transverse bracket 90 beneath the upper surface of the housing H. An operating knob 91, fixed to the slider 89, protrudes upwardly through a slot 92 in the housing cover 93. Transverse movement of the knob 91 rotates the drum 87 and pulley 85 and so tilts the loader assembly through the cord 84 to the ball delivering or teeing position shown in Figure 5. A spring 94 or equivalent means may be employed for positively returning the loader assembly to its vertical or ball receiving position. A door 94' may be provided in the outer end wall of the loader housing H to permit inspection of the loader mechanism.

Suitable lighting means such as the lamps 95 may be provided within the housing O behind a shield 96. These lamps serve to illuminate the playing surface and also the scores 36. The entire apparatus may be placed on a table or on the ground, or, if desired, a special frame or support, indicated at 97 in Figures 1 and 2 may be used to carry the apparatus.

If the apparatus is to be used as a commercial amusement device, the major portion of the playing surface is preferably enclosed and the ball loader mechanism is controlled by a coin release mechanism. Such an arrangement is shown in Figure 13. As there disclosed, cover plates 98 and 99, preferably of glass or other transparent material, are respectively fixed over the open face of the score indicator housing O' and the target and intermediate sections of the playing surface. The starting section or tee 15' is left open so that the balls 100 can be projected by a club or other instrument. A coin controlled release mechanism 101 of known construction is provided to normally lock the loader operating knob 91' and serves to release this knob for one ball loading operation after a coin has been deposited in the slot 102.

The apparatus of the present invention may be used for putting practice or as a competitive game. The balls 100 are preferably projected in turn along the playing surface toward the target section and those balls which enter the cups or openings 45 automatically release and display the corresponding score indicator 36. If desired, the intermediate or fairway section 16 of the playing surface may be cleared of balls after each shot, and the target section 17 can be similarly cleared independently of the fairway section. With this arrangement, balls stopping short of the target section or failing to enter the openings 45 may be left where they stop as hazards to subsequent plays or may be cleared away from the fairway or target sections or both at will.

The operation of the score indicating, ball returning and loading mechanisms will be clear from the preceding description. As the loader assembly swings about its pivot shaft 71, the balls are retained in the cut-away inlet tube 76 until outlet tubes 70 are tilted to a downwardly inclined position. At this point, the gate 78 is opened by the mechanism described and the balls roll simultaneously through the various tubes 70 to the desired aligned positions on the tee section 15.

The score clearing, ball returning and loading apparatus may be operated quickly and with a minimum of effort and accordingly distracting

interruptions of the play are avoided. The balls are returned to the loader mechanism immediately after they drop through a target opening or fall off the playing surface and accordingly, a supply of balls is always available for delivery to the tee section.

It should be understood that the invention is not limited to the particular forms of apparatus shown by way of illustration. Further, the apparatus may be of any desired size and thus variously adopted for use as a full size or miniature putting or chip shot course, or as an indoor amusement device.

I claim:

1. In a ball game apparatus of the type described, an elongated substantially horizontal playing surface having openings adjacent one end thereof for the reception of balls projected along said surface, a tee section at the other end of said playing surface from which balls may be projected, an inclined ball return chute beneath said playing surface for returning balls dropped through said openings to the opposite end of said playing surface, said chute extending beyond at least one side edge of said playing surface, and means for tilting an intermediate portion of said playing surface laterally toward said chute whereby balls on the playing surface between said openings and the tee section may be cleared and returned in said chute without rolling towards said openings or the tee section.

2. In a golf game apparatus, a substantially horizontal elongated playing surface comprising a stationary tee section at one end, a target section tiltably mounted at the other end and an intermediate section tiltably mounted between said tee and target sections, said target section having openings therein for the reception of balls projected along said playing surface, an inclined ball return chute beneath said playing surface for returning balls passing through said target section openings to a point adjacent said tee section, and means operable from a point adjacent said tee section for independently tilting said target section and said intermediate section whereby said sections may be cleared of balls which fail to enter said openings, said ball return chute being constructed and positioned to receive balls cleared by said tilting.

3. In a golf game apparatus, a substantially horizontal elongated playing surface comprising a stationary tee section at one end, a target section tiltably mounted at the other end and an intermediate section tiltably mounted between said tee and target sections, said target section having openings therein for the reception of balls projected along said playing surface, means below said playing surface for returning balls passing through said target section openings and balls dropped over the edges of said playing surface sections to a point adjacent said tee section, and separate means for independently tilting said intermediate section and said target section whereby said sections may be selectively cleared of balls.

4. In a ball game apparatus of the type described, a substantially horizontal playing surface including a normally horizontal target section, said target section being tiltably mounted and having openings therein for the reception of balls projected along the playing surface, means for tilting said target section to clear it of balls, operating means carried by said target section and having a ball-contacting element, said operating means being actuated by balls passing through said openings and contacting said element, a sta-

tionary support adjacent said target section, a plurality of score indicators movably supported on said stationary support, and indicator moving means carried by said stationary support and actuatable by said operating means when said target section is substantially horizontal, the tilting of said target section rendering the operating means inoperative to actuate the indicator moving means.

5. In a ball game apparatus of the type described, a substantially horizontal playing surface including a normally horizontal target section, said target section being tiltably mounted and having openings therein for the reception of balls projected along said playing surface, means for tilting said target section to clear it of balls, a plurality of score indicating elements supported adjacent said target section and movable from non-indicating to indicating positions, and means for selectively moving said score indicating elements to indicating positions when said target section is horizontal, said last-mentioned means having a ball-contacting element and being actuated by balls passing through said openings and contacting said element, said last-mentioned means including a mechanical connection which is broken by the tilting of said target section and re-established by the return of the target section to its normal horizontal position, whereby actuation of said score indicating elements by the passage of balls through said openings is prevented when said target section is tilted.

6. In a ball game apparatus of the type described, a substantially horizontal playing surface including a normally horizontal target section, said target section being tiltably mounted and having openings therein for the reception of balls projected along the playing surface, a plurality of score indicators supported independently of said target section and movable to indicating and non-indicating positions, movable means on said target section having a ball-contacting element, said movable means being operated by balls passing through said openings and contacting said elements, means supported independently of said target section and responsive to the operation of said movable means when said target section is substantially horizontal and acting to selectively move said score indicating elements to indicating positions, and manually operable means for simultaneously tilting said target section and moving all of said score indicating elements to their non-indicating positions.

7. In a ball game apparatus of the type described, in combination, a substantially horizontal elongated playing surface comprising a target section, a tee section and an intermediate section connecting said target and tee sections, and means for tilting said intermediate section independently of said target and tee sections to clear said intermediate section of balls thereon.

8. In a scoring mechanism for a ball game device including a substantially horizontal playing surface for balls, score indicating means comprising a stationary support, a score indicator plate having a raised non-indicating position and a lowered indicating position, said indicator plate being hinged to said stationary support and inclining backward against said support when in its raised non-indicating position so as to be retained in said position by gravity, said score indicator plate being swingable downwardly by gravity to a lowered indicating position upon being impelled from its backward inclined position against said support, and means for impelling said

score indicator plate from said backward inclined position including a lever pivotally supported below said playing surface and actuated by a ball falling thereon.

5 9. In a ball game apparatus of the type described, an elongated substantially horizontal playing surface having openings adjacent one end thereof for the reception of balls projected along said surface, an inclined ball return chute be-
10 neath said playing surface for receiving and re-

turning balls dropped through said openings and balls discharged from said playing surface to the opposite end of said playing surface, and means for tilting a portion of said playing surface laterally to discharge balls thereon into said chute 5 whereby balls on said portion of the playing surface which fail to enter said openings may be cleared from said playing surface and returned in said chute.

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