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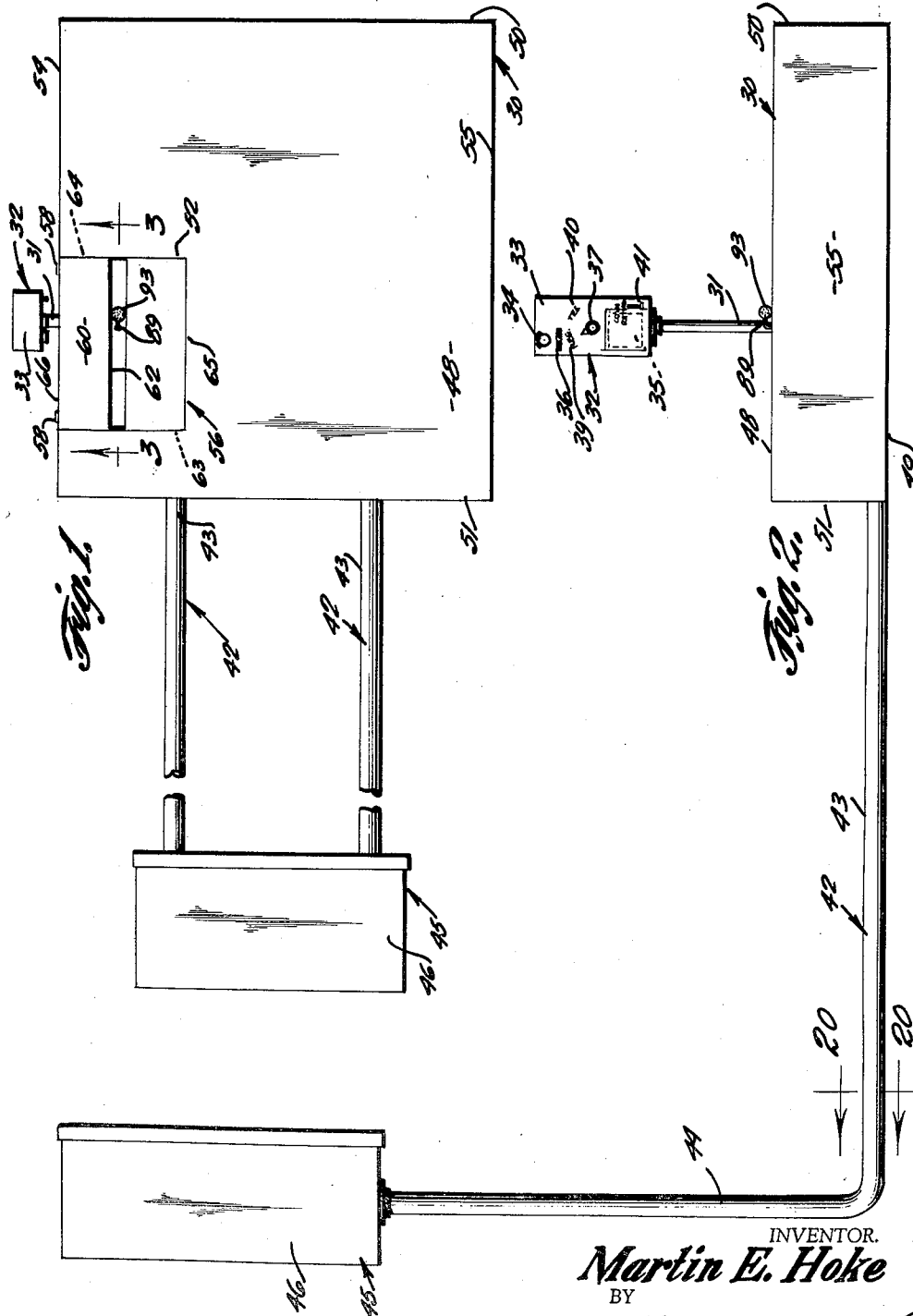
M. E. HOKE

3,078,718

COIN CONTROLLED GOLF GAME

Filed Nov. 21, 1960

5 Sheets-Sheet 1



INVENTOR.
Martin E. Hoke
BY
Victor J. Evans & Co.
ATTORNEYS

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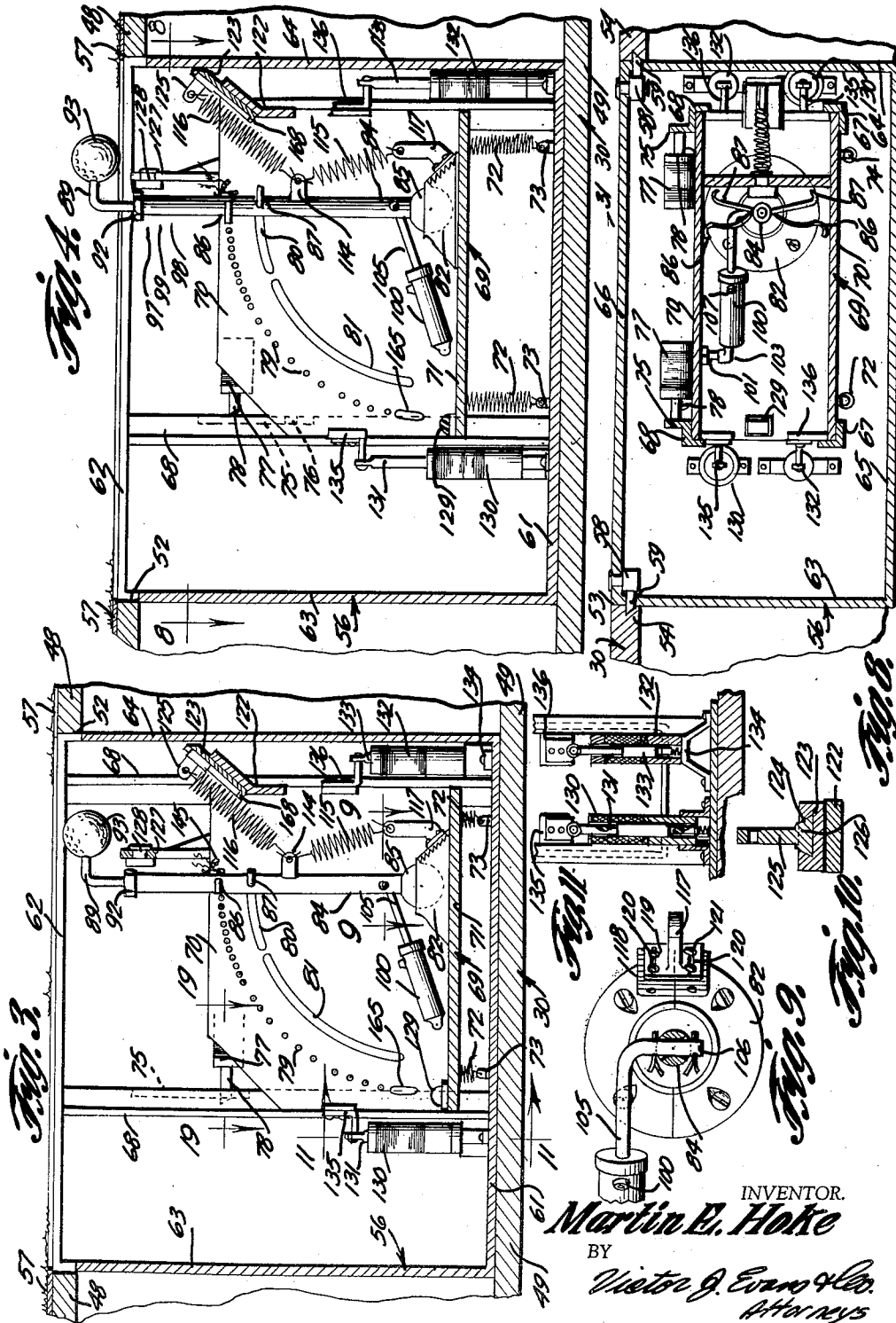
M. E. HOKE

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COIN CONTROLLED GOLF GAME

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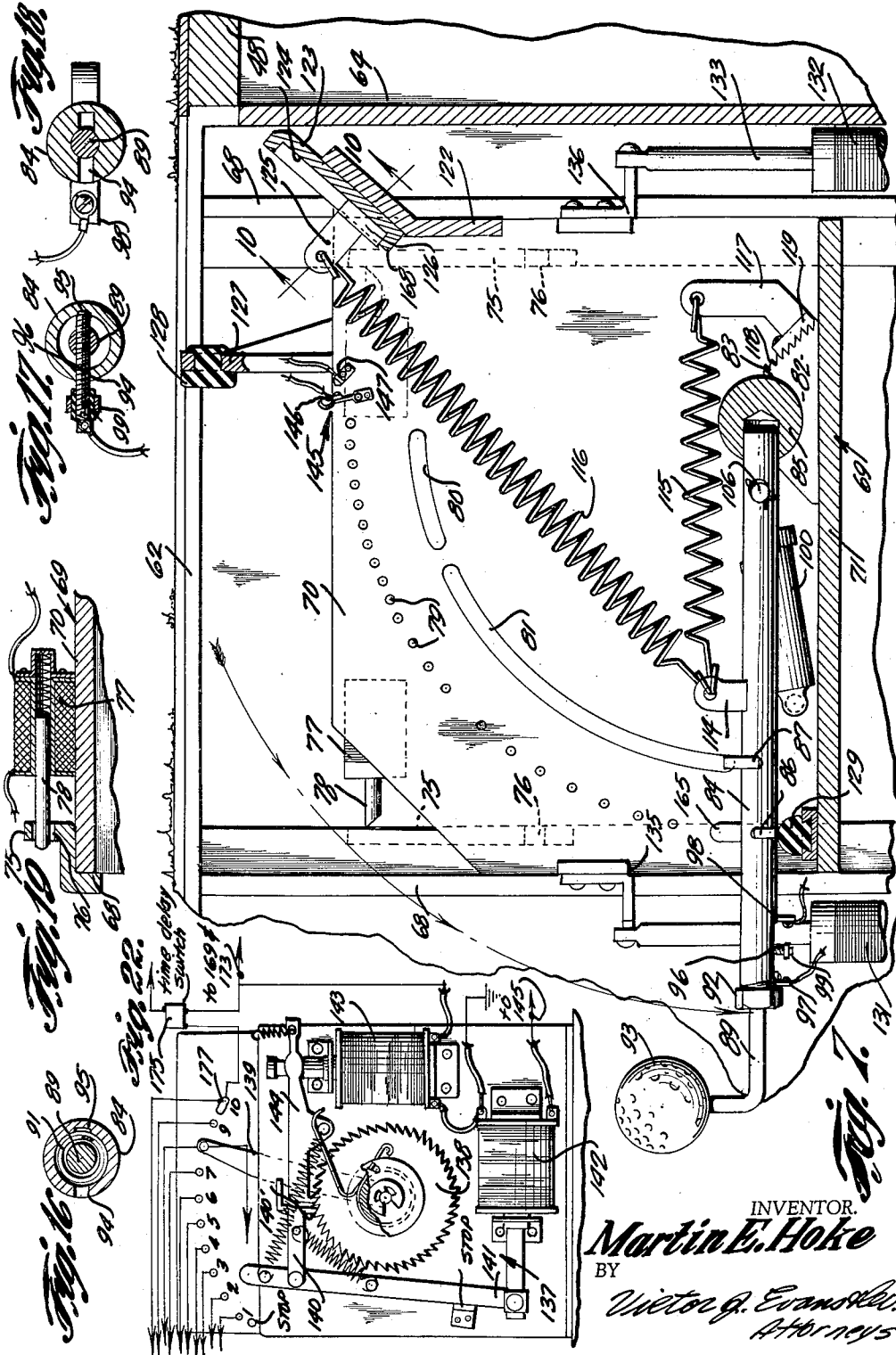
M. E. HOKE

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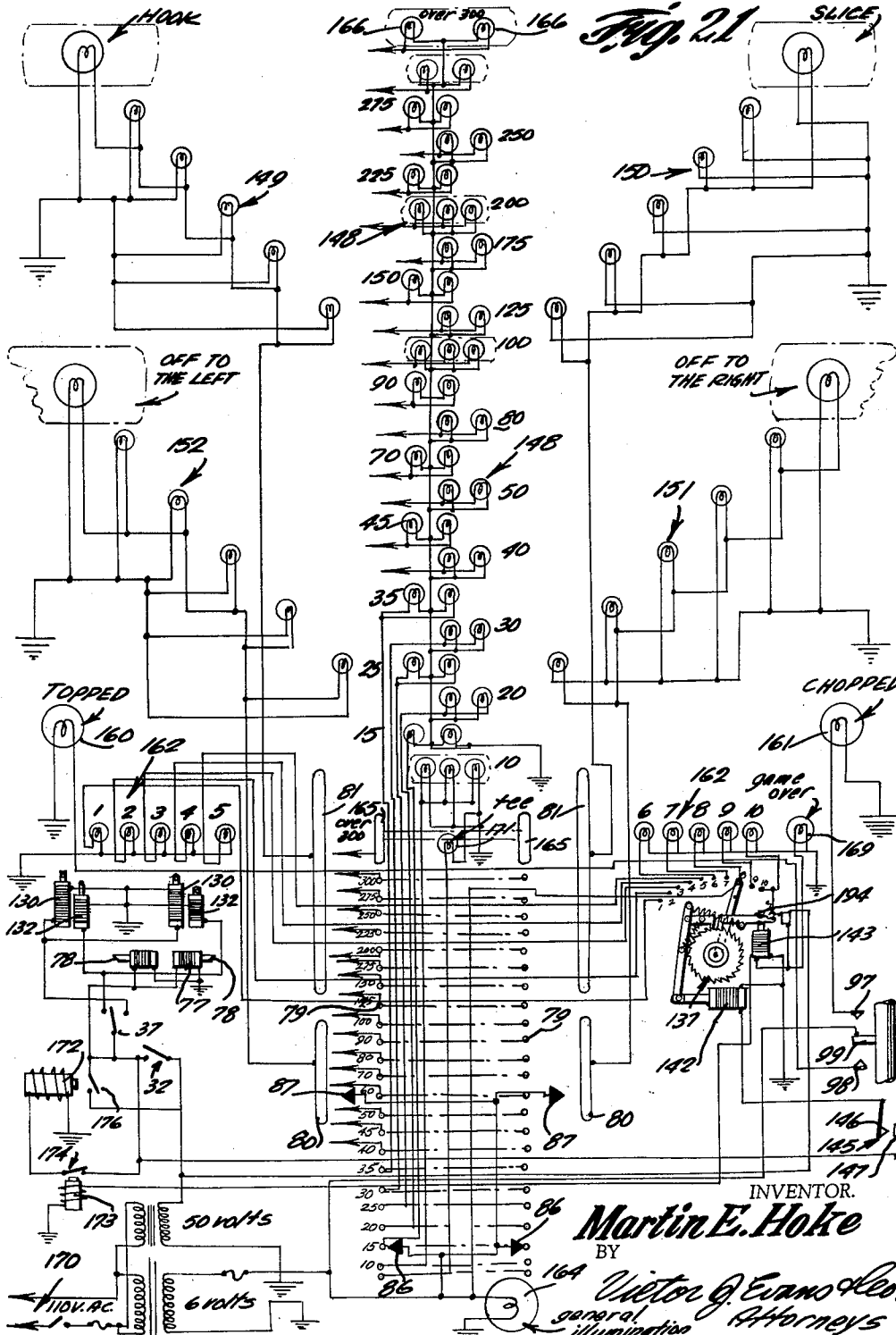
M. E. HOKE

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3,078,718
COIN CONTROLLED GOLF GAME
 Martin E. Hoke, 6310 Marlboro Pike,
 Washington 28, D.C.
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 3 Claims. (Cl. 73—380)

This invention relates to a game apparatus, and more particularly to a game apparatus which is coin controlled and wherein the game will permit a player to simulate the actual playing of a game of golf.

The primary object of this invention is to provide a game apparatus which is coin controlled and wherein according to the present invention there is provided an indicator mechanism which will accurately indicate the number of strokes as well as indicate the distance that a golf ball would be shot, and wherein there is also provided a means for indicating various other conditions encountered in the playing of a golf game such as hooks, slices, chopping and topping of a golf ball.

A further object is to provide a golf game apparatus the type stated which includes a base that is adapted to have material such as matting thereon which resembles or simulates grass so as to increase the pleasure and effectiveness of the game, and wherein there is provided a coin actuator which serves to prevent use of the game apparatus until a coin of the proper denomination is inserted therein, and wherein the game apparatus of the present invention also includes a mechanism that is under the control of the player whereby the ball member which is struck by the golf club can be positioned in a lowered position for regular shots, or else the ball member can be positioned in a raised position for tee shots as desired.

A still further object is to provide a golf game of the type stated which is economical to manufacture and efficient in operation and which is rugged in structure and foolproof in use.

These and other objects of the invention will become apparent from a reading of the following specification and claims, together with the accompanying drawings, wherein like parts are referred to and indicated by like reference characters and wherein:

FIGURE 1 is a top plan view of the golf game apparatus of the present invention, with parts broken away.

FIGURE 2 is a side elevational view of the golf game apparatus of the present invention.

FIGURE 3 is a sectional view taken on the line 3—3 of FIGURE 1, and showing the parts in retracted locked position before the game starts.

FIGURE 4 is a view similar to FIGURE 3 but showing the parts in a different position arranged so that the ball member is adapted to be struck by a golf club for a regular shot.

FIGURE 5 is a view similar to FIGURE 4 but showing the parts in a different or adjusted position and with the ball member in position for a tee shot.

FIGURE 6 is an enlarged sectional view illustrating certain constructional details of the ball supporting bar and its associated parts.

FIGURE 7 is an enlarged vertical fragmentary sectional view showing a different position of the parts from that shown in FIGURES 3, 4 and 5.

FIGURE 8 is a sectional view taken on the line 8—8 of FIGURE 4.

FIGURE 9 is a sectional view taken on the line 9—9 of FIGURE 3.

FIGURE 10 is a sectional view taken on the line 10—10 of FIGURE 7.

FIGURE 11 is a sectional view taken on the line 11—11 of FIGURE 3.

FIGURE 12 is a sectional view taken on the line 12—12 of FIGURE 6.

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FIGURE 13 is a fragmentary sectional view showing a portion of the air cylinder or dash pot for controlling the ball supporting bar.

FIGURE 14 is a sectional view taken on the line 14—14 of FIGURE 13.

FIGURE 15 is an enlarged fragmentary sectional view showing certain constructional details of the movable ball supporting bar.

FIGURE 16 is a sectional view taken on the line 16—16 of FIGURE 15.

FIGURE 17 is a sectional view taken on the line 17—17 of FIGURE 15.

FIGURE 18 is a sectional view taken on the line 18—18 of FIGURE 15.

FIGURE 19 is a sectional view taken on the line 19—19 of FIGURE 3.

FIGURE 20 is a sectional view taken on the line 20—20 of FIGURE 2.

FIGURE 21 is a wiring diagram illustrating the present invention.

FIGURE 22 is an enlarged view illustrating certain constructional details of the counter mechanism.

Referring in detail to the drawings, there is shown a golf game apparatus which includes the hollow base that is indicated generally by the numeral 30, and the numeral 31 indicates an upright or standard which provides a support for a coin actuator 32, and the coin actuator 32 includes a hollow unit 33 which is provided with a coin receiving slot or opening 34, and the numeral 35 indicates in FIGURE 2 a cash box for receiving coins that are used for actuating the present invention, and a suitable key mechanism may be used to provide a means for gaining access to the cash box 35 as for example when the coins are to be removed therefrom. The numeral 36 indicates a slug rejector, and as shown in FIGURE 2, there is provided a manually movable knob 37 which is provided with a pointer 38 that is adapted to either register with the location 39, or else the knob 37 can be rotated so that its pointer 38 registers with the location 40. The location 39 is to set the golf ball for a regular shot, while the location 40 is to set the golf ball for a tee shot.

The game apparatus of the present invention further includes a pair of support members 42 which have a generally L-shape, FIGURE 2, and it will be seen that the support members 42 include horizontally disposed portions 43 as well as vertically disposed portions 44, and the numeral 45 indicates an indicator which is mounted on the upper ends of the vertical portions 44 of the support members 42. The indicator 45 includes a hollow housing 46 which is provided with a transparent cover plate 47 that has indicia thereon or contiguous thereto, and wherein said indicia is adapted to indicate distance, direction and number of shots as later described in this application, and a plurality of lamps or lights are positioned in the indicator housing 46 for electrically indicating the condition indicative of the playing of the golf game.

As shown in the drawings the base 30 includes horizontally disposed space parallel top and bottom walls 48 and 49, FIGURE 4, and the base 30 further includes spaced parallel vertically disposed end walls 50 and 51 and vertically disposed spaced parallel side walls 54 and 55. The top wall 48 is provided with a cutout or recess 52 which is contiguous to a recess 53 in the side wall 54, and the numeral 56 indicates a removable box that is mounted in the base 30 in registry with the openings or recesses 52 and 53. The numeral 57 indicates material such as matting that is suitably affixed to the upper portion of the top wall 48 and this material 57 simulates or resembles grass so as to increase the realistic effect of playing the game of golf. The box 56 is adapted to be

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selectively retained in place in the base 30 by means of locking mechanisms 58 which are provided with retractable keepers 59, and the locking mechanisms 58 may be actuated by a key, as for example when the box 56 is to be removed for repair or replacement.

The box 56 is shaped to include a horizontally disposed top member 60 which is provided with an elongated slot 62 therein, for a purpose to be later described, FIGURE 1, and the box 56 further includes a horizontally disposed bottom member 61 as well as spaced parallel vertically disposed end members 63 and 64, and spaced parallel side members 65 and 66.

Mounted in the box 56 are four vertically disposed track members, and two of the track members are indicated by the numeral 67, while the other two track members are indicated by the numeral 68, FIGURE 8. The numeral 69 indicates a vertically adjustable casing which is slidably mounted between the track members 67 and 68, and a vertically adjustable casing 69 includes a pair of spaced parallel vertically disposed side pieces 70 as well as a horizontally disposed bottom piece 71. The numeral 72 indicates or designates spring members or coil springs which have their lower ends anchored to the bottom member 61 of the box 56, while the upper ends of the springs 72 are anchored or connected to the side pieces 70 of the movable casing 69 as at 74.

Vertically disposed plates 75 are secured to or formed integral with the track member 68, and these plates 75 have openings or apertures 76 therein, FIGURE 19. There is also provided a pair of locking solenoids 77 which are suitably affixed to the movable casing 69, and each of the locking solenoids 77 is provided with a retractable or movable plunger 78 that is mounted for movement into and out of engagement with a corresponding opening 76 in a plate 75.

As shown in FIGURE 4 for example there is provided a plurality of spaced apart terminals 79 which are suitably mounted in or affixed to the inner portion of each side piece 70 of the casing 69, and these side pieces 70 are also provided with arcuate or curved contacts 80 and 81. These contacts and terminals are electrically connected to the lamps or bulbs in the indicator housing 46 by means of wires, conductors or the like, and such conductors may extend through the hollow support members 42. The terminals 79 may be electrically connected to lamps that indicate distance, while the contacts 80 and 81 are adapted to be electrically connected to the lamps or bulbs that indicate direction.

The numeral 82 indicates a support element which is secured onto the bottom piece 71 of the casing 69, and the support element 82 is provided with a socket 83 therein, FIGURE 6. The numeral 84 indicates a movable bar which has a ball 85 affixed to its lower end, and the ball 85 is swivelly positioned in engagement with the socket 83. A pair of spaced apart contactors or wipers 86 and 87 are secured to each side of the movable bar 84, and these contactors 86 and 87 are adapted to selectively engage the terminals 79 and contacts 80 and 81 as the bar 84 moves.

The upper end of the movable bar 84 is provided with a recess 88, and the numeral 89 indicates an L-shaped rod which has its lower end slidable in the recess 88, there being a coil spring 90 positioned in the recess 88 and engaging the bottom of the rod 89, FIGURE 15. A coil spring 91 is circumposed on the rod 89, and the coil spring 91 is positioned below a cap 92 that is arranged in threaded engagement with the upper portion of the bar 84. The numeral 93 indicates a golf ball or ball member, and the golf ball 93 is suitably secured to the upper portion of the rod 89, FIGURE 4. The upper portion of the bar 84 is also provided with a slot 94, and there is provided in the bar 84 an alignment groove 95. The numeral 96 indicates a securing element which extends through the slot 94 and the securing element 96 is arranged in engagement with the rod 89 as shown in

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FIGURE 15, and the inner end of the securing element 96 engages the alignment groove 95 whereby this element will be maintained in its proper aligned position. This construction permits the securing element 96 and rod 89 to move up and down with respect to the bar 84. A pair of spaced apart contact members 97 and 98 are suitably affixed to the bar 84, and these contact members 97 and 98 are adapted to be electrically connected to lamps in the indicator housing 46, the contact members 97 and 98 being arranged on opposite sides of the securing element 96. The numeral 99 indicates a contact piece which is affixed to the outer end of the securing element 96, and the contact piece 99 is mounted for movement into and out of electrical engagement with the contact members 97 and 98 as the rod 89 shifts positions in the bar 84 so that an electrical circuit to certain of the bulbs or lamps in the indicator will be selectively completed or broken.

A dash pot or air cylinder 100 is connected as at 101 to the lower portion of the casing 69, and this connection at the lower end of the cylinder 100 includes a ball and socket joint 103 which permits the cylinder 100 to swivel or move as the bar 84 shifts or moves positions. The lower end of the air cylinder 100 is provided with an opening or air vent 102, and a piston 104 is movably mounted in the cylinder 100, there being a piston rod 105 which has its inner end suitably affixed to the piston 104, and the outer end of the piston rod 105 is connected as at 106 to the bar 84. A check valve 107 is mounted in the upper portion of the cylinder 100, and the check valve 107 includes a cylindrical sleeve portion 108 which is provided with a plurality of inwardly directed ribs 109 that engage spaced apart slots or grooves 111 in a movable disc 110, and these coating ribs 109 and grooves 111 help insure that the disc 110 will be maintained in its proper aligned position as it moves in the sleeve portion 108. The movable disc 110 is provided with a central aperture 112, and the outer end of the check valve 107 is apertured as at 113, FIGURE 13.

The numeral 114 indicates an apertured lug which is secured to or formed integral with the bar 84, and first and second coil springs 115 and 116 are each connected to the lug 114, FIGURE 4. The lower end of the coil spring 115 is connected to a bracket 117, and a toothed portion 118 on the support element 82 is adapted to coact with a toothed base portion 119 of the bracket 117 so that the bracket 117 will remain stationary in its adjusted position. The base portion 119 is provided with elongated slots 120 whereby securing elements such as screws 121 are adapted to be extended through these slots 120 and into engagement with the support element 82. Thus, by loosening the screws 121, the bracket 117 can be adjusted to the desired location, and then the screws 121 can be tightened in order to maintain the bracket stationary in the desired location. This provides a means whereby tension on the spring 115 can be adjusted or regulated, as for example in the event that the spring 115 becomes weak from continued use, the bracket 117 can be moved in order to compensate this weakness.

The numeral 122 indicates a crosspiece which is affixed to the casing 69, and a track element 123 is secured to the crosspiece 122. A groove 124 is arranged in the track element 123, FIGURE 10, and a tongue 125 has a portion 126 slidably arranged in the groove 124, and this tongue 125 is connected to the upper end of the coil spring 116.

The numeral 127 indicates a cross element that is secured to the side pieces of the casing 69, and a bumper made of rubber or the like as indicated by the numeral 128 is suitably affixed to the cross element 127. There is also provided a bumper 129 which is affixed to a lower end portion of the casing 69, FIGURE 4, and these bumpers 128 and 129 serve to cushion the movement of the bar 84 as the bar moves to its extreme position.

First and second pairs of solenoids 130 and 132 are

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provided, and the solenoids 130 are provided with movable plungers 131, while the solenoids 132 are provided with movable plungers 133, and the solenoids 132 may be supported on saddies 134, FIGURE 11. The plungers 131 of the solenoids 130 are secured as at 135 to the movable casing 69, and the plungers 133 of the solenoids 132 are secured as at 136 to the casing 69. By means of these solenoids the casing can be positioned in a lowered position or a raised position so that the ball member 93 can be arranged for a regular shot or a tee shot as desired.

A counting mechanism as indicated by the numeral 137 is also provided, FIGURES 21 and 22, and the counting mechanism 137 includes a rotary wheel 138 as well as a pointer 139, and the numerals 140 and 144 indicate ratchets, the ratchet 140 being actuated by a lever 141, and the lever 141 is connected to a solenoid 142. There is also provided a return solenoid 143 which returns the counter back to zero after the game is over, and the member 144 is connected to the plunger of the solenoid 143. The numeral 145 indicates a switch that is arranged in the path of the movable bar 84, and the switch 145 includes separate elements 146 and 147.

From the foregoing, it is apparent that there has been provided a golf game apparatus which is coin operated or controlled, and in use with the parts arranged as shown in the drawings a person can use the machine for entertainment or for increasing one's ability at the game of golf and the machine is constructed so that there will be a highly realistic effect or simulation so that the player can ascertain from an indicator mechanism various conditions incident to the playing of the game of golf as for example when the game is played on a regular golf course.

Before a player starts the game, the parts are in the position shown in FIGURE 3 so that the ball member 93 is below the top wall 48 of the base 30. The slot 62 in the box 56 provides a means whereby the ball 93 can move from a position such as that shown in FIGURE 3 to a position such as that shown in FIGURE 4 or to a position such as that shown in FIGURE 5. The player who will play the game stands on the top wall 48 of the base 30, and this top wall 48 as well as the top member 60 of the box 56 are adapted to have secured thereto a material 56 which resembles grass so as to increase the pleasure or realistic effects with which the game is played. The parts are normally held or maintained locked in the retracted or down position of FIGURE 3 by means of the keepers 78 of the pair of solenoids 77, and these keepers 78 engage the openings 76 in the stationary plate 75, FIGURE 19 so that for example a person could not cause the ball member 93 to be raised up into playing position without the insertion of a coin in the actuator 32.

With the player standing on the top wall 48 of the base 30, and with a coin of a suitable denomination inserted into the opening 34 of the actuator 32, an electrical circuit will be completed automatically to the pair of solenoids 77 so as to retract the pair of keepers or plungers 78 from the openings 76 in the stationary plate 75, and with the keepers 78 retracted it will be no interference with upward movement of the casing 69.

For the first shot, the knob 37 is adapted to be manually rotated so that its pointer 38 can be aligned with the point 40, FIGURE 2 which corresponds to a tee shot in the same manner as the initial shot in the playing of a regular game of golf, and as the pointer 38 is moved to coincide with the location 40, an electrical circuit will be completed through suitable conductors to the pair of solenoids 130 so as to energize these solenoids 130. Since the movable plungers 131 of the pair of solenoids 130 are connected as at 135 to the vertically movable casing 69, it will be seen that as the plungers 131 move upwardly the casing 69 will likewise be moved upwardly as for example the parts will move from the position shown in FIGURE 3 to the position shown in FIGURE 5 wherein in FIGURE 5 the ball member 93 which cor-

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responds to the usual golf ball will be in a raised position ready to be struck by a driver or golf club held in the hands of the player who is standing on the base 30. The initial shot will probably be a tee shot and for a tee shot the parts are arranged as shown in FIGURE 5 since this corresponds to the initial tee shot in a regular game of golf, and the member 89 functions as a tee since it serves to support the golf ball 93. After the initial tee shot, subsequent shots will be regular shots so that the subsequent shots after the tee shot will be accomplished with the ball 93 in the position of FIGURE 4 and in FIGURE 4 the ball 93 is at a position slightly lower than the position shown in FIGURE 5. To cause the parts to move from a position such as that shown in FIGURE 3 to a position such as that shown in FIGURE 4 for a regular shot, the knob 37 is manually turned until its pointer coincides with the location 39 which is the location for a regular shot as shown in FIGURE 4 whereby with the pointer of the knob 37 coinciding with the location 36, an electrical circuit will be completed to the pair of solenoids 132 instead of to the pair of solenoids 130, and with these solenoids 132 energized or actuated, the plungers 133 of the solenoids 132 will be moved upwardly, and since these plungers 133 are connected as at 136 to the casing 69, the casing 69 will be moved upwardly between the four track members 67 and 68 to the position of FIGURE 4. In view of the difference in length between the solenoids 130 and the solenoids 132, it will be seen that when the solenoids 130 are actuated the casing 69 will be moved to a higher elevation as for example as shown in FIGURE 5, than for example will be the case when the solenoids 132 are actuated since when the shorter solenoids 132 are actuated the parts will move to the position of FIGURE 4.

With the parts arranged as shown in FIGURE 5 for a tee shot, the ball 93 is adapted to be struck or hit with the driver or golf club, and as the ball 93 is hit with the golf club, the bar 84 will be moved or pivoted as for example in a counter-clockwise direction, FIGURE 5 and since the lower end of the bar 84 is affixed to the ball 85, and with the ball 85 swivelly positioned in the socket 83 of the support element 82, it will be seen that the bar 84 can pivot or move from a position such as that shown in FIGURE 5 to a position such as that shown in FIGURE 7 or the bar 84 can move to various intermediate positions depending upon the accuracy or force with which the ball is struck. As the bar 84 pivots on the support element 82, the contactors 86 and 87 will move between the side pieces 70 of the casing 69 and these contactors will electrically engage the terminals 79 and contacts 80 or 81 so as to automatically complete an electrical circuit to light bulbs or lamps such as the lamps 148, 149, 150, 151, and 152, FIGURE 21, and these lamps are suitably mounted in the indicator housing 46 rearwardly of the transparent plate 47, and suitable indicia may be provided for the indicator as shown in FIGURE 20. For example indicia or printed matter may be provided on the indicator 45 as shown by the numeral 153 in FIGURE 20 to indicate distance, and the bulbs 148 may be arranged in such a matter as to indicate the distance that the bar 84 moves as the result of the ball 93 being struck with a particular force or impact. Similarly, indicia 154 may indicate "off to the left," and hook shots may be indicated by the indicia 155, a "slice" can be indicated by the indicia 156, and "off to the right" is indicated as at 157. "Topped" shots are indicated as at 158, and "chopped" shots are indicated as at 159. A lamp 160 is adapted to be arranged adjacent the "topped" indicia 158, and a similar lamp or bulb 161 is arranged adjacent the "chopped" indicia 159. A row of lamps or bulbs 162 is provided adjacent to and for coaction with a series of numbers or indicia 163 which functions as a shot counter so that

a visible indication is given or provided for the number of times that the ball has been struck or shot.

Electrical energy for the game is adapted to be supplied from a suitable source of supply as for example as indicated by the numeral 163, and the numeral 164 indicates one or more lamps or bulbs that can be used to provide general illumination. With the electrical circuit arranged as shown in FIGURE 21, it will be seen that as the bar 84 pivots on the support element 82, the pairs of spaced apart contactors or wipers 86 and 87 will electrically engage certain of the terminals 79 and contacts 80 and 81 so as to selectively complete circuits to the proper lamps in the indicator 45. The terminals 79 and the contacts 80 and 81 are suitably affixed to the inner surfaces of the side pieces 70 of the casing 69 and for example as the bar 84 pivots as the result of the ball 93 being struck, the contactors 86 will engage certain of the terminals 79 to energize corresponding lamps 148, and indicia is provided for coaction with the lamps 148 to indicate the amount of pivotal movement of the bar 84 which is calibrated to correspond to distance that a golf ball would be driven on a regular golf course. For example if the bar 84 is moved a certain distance lamps of the group of lamps 148 may be energized to indicate a drive of 125 yards, 225 yards or the like.

Similarly, as the bar 84 moves the contactors 87 will engage the contacts 80 or 81 so as to complete the electrical circuit to lamps such as the lamps 151, 152, 160 or 161 so that a visible indication is given for a shot that is off to the left, off to the right, topped or chopped. In connection with this phase of operation, attention is directed to FIGURE 8 of the drawings wherein it will be noted that the contactors 86 are longer than the contactors 87 so that the contactors 86 will always be in a position to engage the terminals 79 to complete the electric circuit to the lamps 48 which indicate distance that the ball is driven. As long as the ball is driven in a straight forward direction, the pair of contactors 87 will not engage the contacts 80 and 81. When the ball 93 is struck or stroked in such a manner that it moves out of its straight forward path, as for example if the ball moves off to the left or off to the right, the wipers or contactors 87 will move into engagement with the contacts 80 so as to complete the electrical circuit to the lamps 152 or 151 depending upon which contact 80 is engaged by a particular wiper 87. That is since the bar 84 can swivel in the support element 82 due to the provision of the rounded member 85 and recess 83, the bar can move to indicate the position or direction in which the ball 93 is struck so that the indicator will have its proper lamps energized to accurately reflect the particular characteristic of the stroke of the ball under consideration.

When the ball is struck with sufficient force in such a manner that it moves out of a straight forward path, the wipers 87 will electrically engage a particular contact 81 so as to complete an electrical circuit to the lamps 149 or 150 whereby a "hook" or "slice" will be indicated by having these lamps lit up or energized.

There is further provided elongated terminals 165 that are electrically connected to lamps 166 and these lamps 166 are arranged contiguous to indicia 167 to indicate when a ball has been struck with sufficient force to drive the ball a distance greater than 300 yards.

The support members 42 are hollow so that the various electrical circuitry or conductors may extend through these hollow members 42 in order to electrically connect the mechanisms such as the mechanisms in the unit 56 to the mechanism in the indicator 45. The unit or box 56 is adapted to be made so that it can be removed when desired, and to permit this there is provided in the base 30 recessed or cut away portions 52 and 53 which are of a size such that the box 56 can be snugly positioned therein, and suitable locks 58 are

adapted to be used for preventing unauthorized removal of the box 56 from the base 30, and these locks 58 may be of the type which is only opened by a proper key so that only authorized persons can gain access thereto.

The bumper 129 serves to limit or cushion swinging or pivotal movement of the bar 84 in one direction as for example as shown in FIGURE 7, and the bumper 128 serves to cushion swinging movement of the bar 84 in the opposite direction as shown in FIGURE 4.

The mechanism shown in FIGURE 15 provides a means for indicating when the ball has been topped or chopped. For example when the ball 93 is topped, the rod or tee 89 will be pushed or moved downwardly into the recess 88 to compress the coil spring 90, and as the rod 89 moves downwardly, the securing element 96 will likewise be moved downwardly from the position shown in FIGURE 15 and as the securing element 96 moves downwardly, it carries its contact piece 99 down into electrical engagement with the contact member 98 so as to automatically complete a circuit to the lamp 160 which will indicate that the ball has been topped.

Similarly, when the ball is chopped, the rod 89 will be lifted upwards in the recess 88 of the bar 84 so that the securing element 96 will move upwardly whereby the contact piece 99 on the end of the securing element 96 will move into electrical engagement with the contact member 97 in order to automatically complete the circuit and energize the lamp 161 to indicate that the ball was chopped.

The dash pot or air cylinder 100 helps control movement of the bar 84 so as to insure that the bar will not move or pivot too fast or too slow. Thus, for example after the ball 93 has been struck, the bar 84 will be pivoted as previously stated and with the piston rod 105 connected as at 106 to the lower portion of the bar 84, the piston rod 105 will push the piston 104 downwardly into the cylinder 100 so that air in the cylinder below the piston 104 will be pushed out through the opening or vent 102 in the lower end of the cylinder 100 and at the same time air can enter the upper or other end of the cylinder 100 through the check valve 107 since the incoming air can pass through the opening 113 and through the aperture 112 in the disc 110 and thus fill the void left by the moving piston 104 and this construction provides an air cushion for the piston 104 to have a dampening effect on the pivotal movement of the bar 84 so that the bar and associated parts will not move too rapidly or too violently. During the return to starting position of the bar 84 as shown in solid lines in FIGURE 6 for example, the piston 104 will move from left to right in the cylinder 100 so that air can enter the opening 102 and thus enter the lower portion of the cylinder 100. As the air is entering the cylinder 100 through the opening 102, the air above the piston 104 will leave the cylinder through the valve 107.

The springs 90 and 91 function as centering springs or return springs so as to return the rod 89 back to the position shown in FIGURE 15 after a ball has been topped or chopped so that the parts will be in position ready for the next stroke or shot.

The springs 72 function as return springs for the casing 69, so that for example when the solenoids 130 and 132 are deactivated, the springs 72 will automatically return the casing 69 to a lowered position as for example as shown in FIGURE 3 whereby the keepers 78 of a locking solenoid 77 can move into engagement with the opening 76 in order to have the apparatus ready for the next game to be played.

The lower end of the cylinder 100 is swivelly connected as at 103 to the casing 69 so that as the bar 84 swivels or pivots, the ball and socket joint or swivel connection 103 will permit the cylinder 100 to pivot in such a manner that there will be no binding or jamming of the parts.

As shown in the drawings there is also provided the pair of coil springs 115 and 116, and with the parts arranged

as shown, it will be seen that when the ball is struck, first the spring 115 will be stretched or have tension placed thereon, but during this initial pivotal movement of the bar 84 no stretching or tension will be placed on the other spring 116. This is because the spring 116 has its upper end connected to the sliding tongue 125, and the tongue 125 has the lower portion 126 thereof slidably arranged in the groove 124 of the track element 123. FIGURE 10 so that the initial pivotal movement of the bar 84 only results in stretching of the spring 115 but not in stretching the spring 116 since any tension applied to the spring 116 is compensated by sliding movement of the tongue 125. However, as the bar 84 continues to pivot or move at the result of being struck with sufficient force, the tongue 125 will reach the lower limit of its travel as for example when it engages the stop portion 168, and then as the bar 84 continues to pivot the spring 116 will be stretched since no further downward sliding movement of the tongue 125 can take place. This construction or provision of the springs 115 and 116 and their associated parts is such that a "pitch" shot can be accomplished wherein only the spring 115 will come into play, or else for longer shots the spring tension of both springs 115 and 116 will be encountered. The spring 115 has its lower end connected to the member 117, and the member 117 can be adjusted on the support element 82 so as to vary or regulate the tension of the spring 115, and also to provide a means for taking up slack in the event the spring becomes weaker from continued use.

There is also provided an automatic counting mechanism for counting the number of shots so that for example after ten shots or strokes the game will be automatically terminated or ended. This counter mechanism includes the switch 145 that is arranged in the path of the bar 84 so that each time the bar 84 returns to a position such as that shown in FIGURE 4 from a downward position such as that shown in FIGURE 7, the bar 84 will automatically engage the contact piece 146 and move this contact piece 146 into electrical engagement with the contact piece 147 so as to automatically complete a circuit to lamps 162 which have indicia or numerals 163 adjacent thereto for indicating how many shots have been played. In addition, the switch 145 is electrically connected to the solenoid 142, so that each time the switch 145 is closed by the return movement of the bar 84, the solenoid 142 will be energized to move the lever 141 which will actuate the ratchet 140 in order to move the counter wheel 138 one position on the return stroke of the ratchet 144 since the pawl or dog 140' of the ratchet 140 will engage the teeth of the wheel 138, and after ten shots the solenoid 143 will be actuated to return the counter mechanism 137 to zero position and also the lamp 169 will be lit up to indicate or show that the game is over. There is further provided a time delay switch 175 which is electrically connected to the members 169 and 173 as shown in FIGURE 22 for example. After a game has been played, an additional coin can be inserted in the actuator 32 in order to permit another game to be played and it is to be understood that the machine can be used over and over again or continuously as additional coins are inserted therein. The game will not only provide a source of entertainment or recreation, but will also be instructive to the players since the various conditions encountered during the playing of a regular game of golf will be indicated so that by continually practicing with the machine efforts can be made to improve the player's golf game and correct any conditions which may need rectifying.

The parts can be made of any suitable material and in different shapes or sizes.

Certain of the lamps in the indicator housing 46 are arranged in a series formation as shown in FIGURE 21 and for example the lamps 149 are arranged so that as these lamps are energized, the lamp in the lower right

portion of the group of lamps 149 will first be energized, and then the next lamp to the left and thereabove will be energized and this will continue until the large lamp shown in the upper left corner of FIGURE 21 is energized, and this energization of the lamps will take place quickly with a flashing effect to indicate the movement of a golf ball being hooked.

Similarly, energization of the group of lamps 150 occurs by having the first or lower most lamp in the group 150 first energized, and then the next lamp thereabove will be energized and this will continue until the large lamp in the upper right hand corner of FIGURE 21 will be lit and again the lamps will be lit with a flashing effect to indicate the particular movement of the ball such as the ball being sliced.

Also, this successive lighting effect will occur in connection with the lamps 152 and 151 and as shown in FIGURE 21 the lower most lamps of these series will first be lit and then the next lamps and this will continue until the large lamps in the series are energized in order to enhance or increase the desired effect of the indicating mechanism.

The numeral 171 indicates a lamp that is energized when the ball is in the position of FIGURE 5 for the tee shot, and after the tee shot has been completed the lamp 171 will go off.

As shown in FIGURE 21, there is provided a start relay 172 for initially closing a normally opened switch 176 so that when the coin switch 32 is closed by insertion of a coin in the coin actuator, the start relay 172 will close the normally opened switch 176 to supply current to the various parts of the circuit in order to permit the game to operate. The numeral 183 indicates a relay for actuating a normally closed switch 174, and the relay 173 is electrically connected to a time delay switch 175 so that when the game is over and the pointer or wiper 139 engages the number ten button or last button 177 of the counter, the solenoid 173 will act on the switch 174 to open the circuit whereby no further playing can take place until an additional coin is inserted in the actuator, and at the same time the game over light 169 will be lit. The time delay switch 175 permits the light 169 to be lit up at the proper time.

The present invention can function as an electronic driving range and wherein various types of shots can be indicated and recorded, and wherein when the game apparatus of the present invention is being used, the indicated results of the game will register the various strokes and depending upon the skill of the player, a high or low score can be attained or indicated.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

What is claimed is:

1. In a golf game apparatus, a base having grass simulating material on the upper surface thereof, an electrically operated indicator spaced from said base for indicating distance, direction and number of strokes, a control unit removably mounted in said base, and a coin actuator operatively connected to said control unit, said control unit including a movable bar having a ball member thereabove, said ball member adapted to be positioned in a lowered position or raised position whereby regular or tee shots can be played, and solenoid means for controlling the positioning of the ball member for a regular or tee shot, and a manually operable knob on said coin actuator for controlling said solenoid means.

2. In a golf game apparatus, a base having grass simulating material on the upper surface thereof, an electrically operated indicator spaced from said base for indicating distance, direction and number of strokes, a control unit removably mounted in said base, and a coin actuator operatively connected to said control unit, said control unit including a movable bar having a ball member thereabove, said ball member adapted to be positioned in a

lowered position or raised position whereby regular or tee shots can be played, and solenoid means for controlling the positioning of the ball member for a regular or tee shot, a manually operable knob on said coin actuator for controlling said solenoid means, and locking solenoids for maintaining the ball member in a retracted position until a coin is inserted in the coin actuator.

3. A golf game apparatus comprising a hollow base, a coin operated actuator spaced from said base and said actuator including a manually movable knob for permitting a tee shot or a regular shot, hollow L-shaped support members affixed to said base and said support members including horizontally disposed portions and vertically disposed portions, an indicator mounted on the vertically disposed portions of said support members and said indicator having indicia thereon to indicate distance, direction and number of shots, lamps in said indicator for coaction with said indicia; a removable box mounted in said base and said box including a slotted top member, a plurality of spaced parallel vertically disposed track members mounted in said box, an adjustable casing slidably engaging said track members and said casing including spaced parallel vertically disposed side pieces and a horizontally disposed bottom piece, spring members having their lower ends anchored to the bottom of said box and the upper ends of said spring members being anchored to the side pieces of said casing, vertically disposed plates on certain of said track members and said plates having apertures therein, locking solenoids affixed to said casing and said locking solenoids including movable plungers defining keepers for selectively engaging the apertures in said plates, a plurality of spaced apart terminals on the side pieces of said casing and said terminals being electrically connected to distance indicating lamps in the indicator, spaced apart arcuate contacts on the inner portions of the side pieces of said casing, and said contacts being electrically connected to certain of the lamps in the indicator, a support element secured on the bottom piece of said casing, a movable bar swivelly connected to said support element,

first and second contactors of different lengths affixed to each side of said bar for selectively engaging said contacts and terminals, an L-shaped rod slidably connected to said bar, spring members connected to said rod, a ball affixed to said rod, a securing element connected to said rod, spaced apart contact members affixed to said bar and said contact members being electrically connected to certain of the lamps in said indicator, a contact piece affixed to said securing element and said contact piece being mounted for movement into and out of electrical engagement with said contact members, a cylinder having its lower end pivotally connected to said casing, a piston movably mounted in said cylinder, a rod member having its inner end affixed to said piston and its outer end connected to said bar, an apertured lug affixed to said bar, first and second coil springs connected to said apertured lug, a bracket adjustably connected to said support element and said bracket being connected to the lower end of said first coil spring, a crosspiece affixed to said casing, a track element affixed to said crosspiece and said track element having a groove therein, a tongue having a portion thereof slidably mounted in said groove and said tongue being connected to said second coil spring, first and second pairs of solenoids having plungers connected to said casing for positioning the casing in a lowered position or in a raised position so that the ball member can be arranged for a regular shot or a tee shot, and a counter mechanism actuated by said bar for energizing lamps in the indicator to record the number of shots that have been played.

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