

April 1, 1941.

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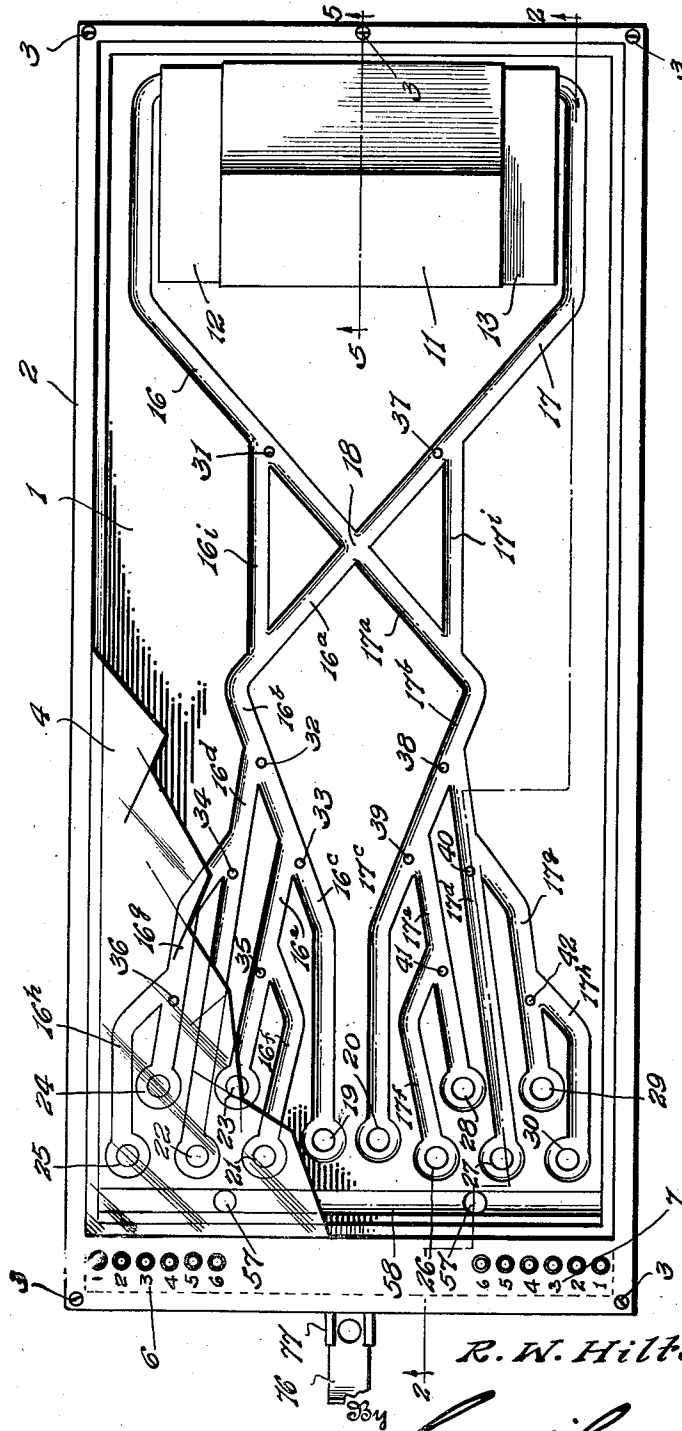
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GAME

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6 Sheets-Sheet 1

FIG. 1.



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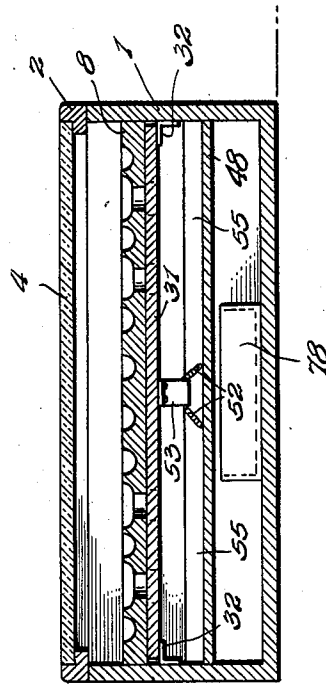
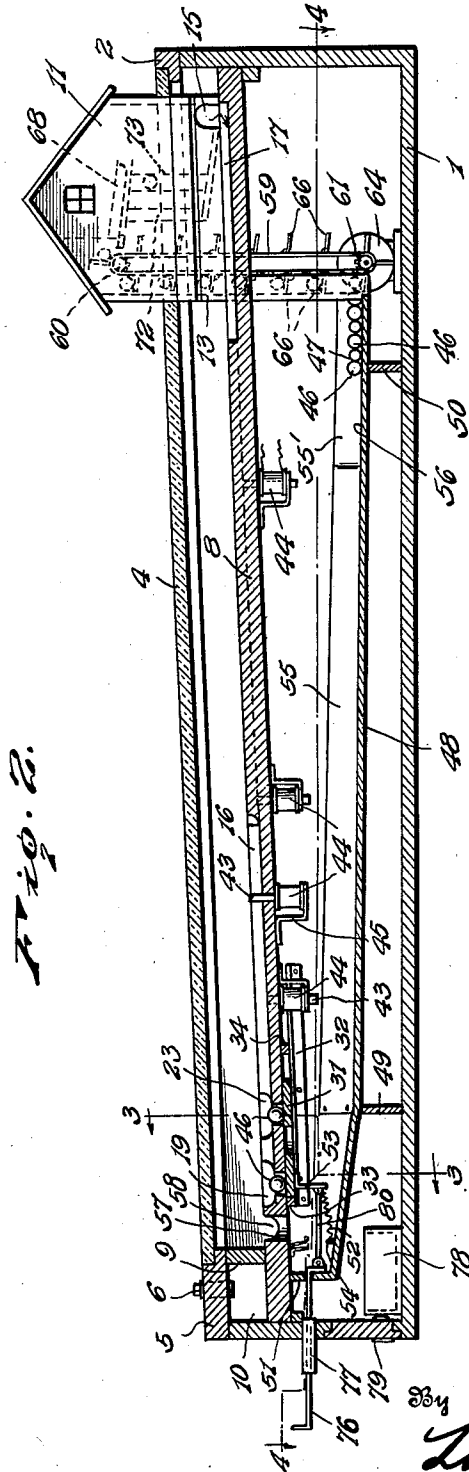
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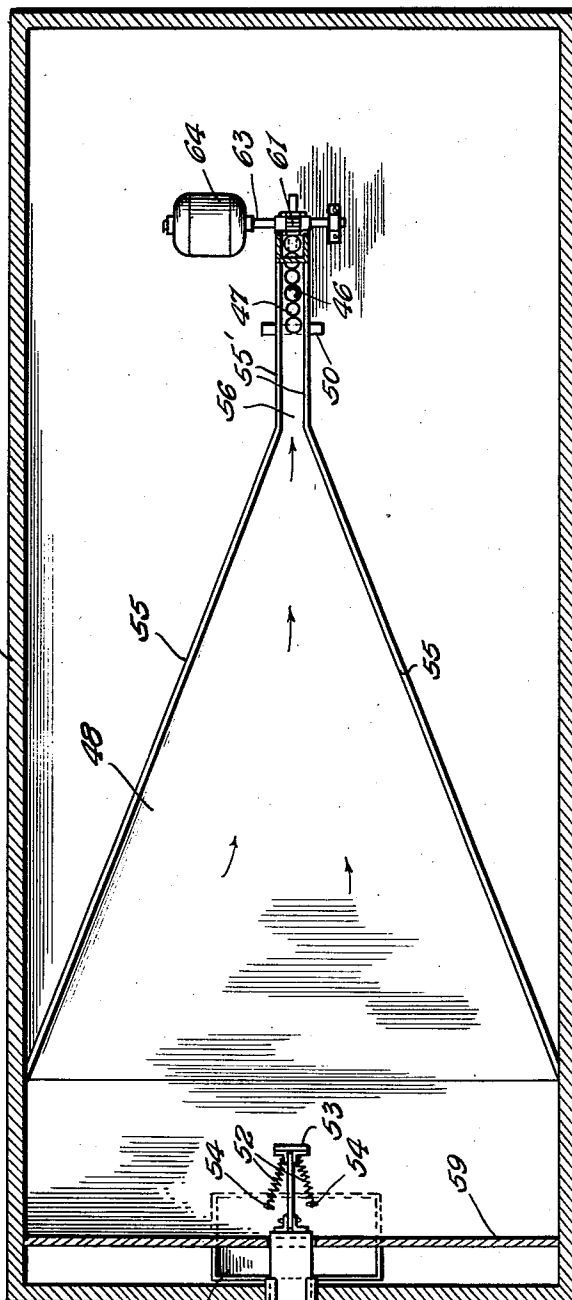
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Fig. 4.



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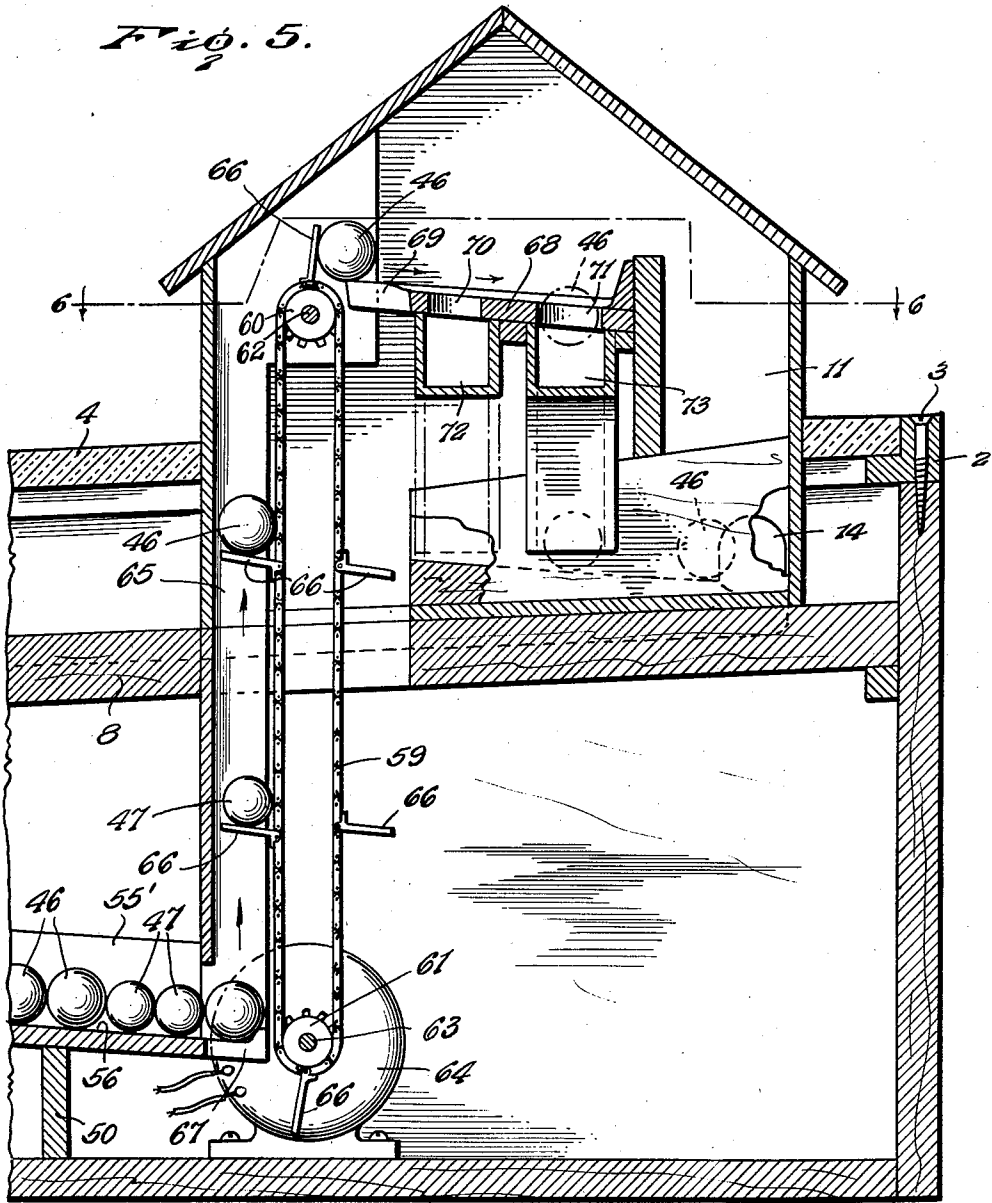
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GAME

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Fig. 5.



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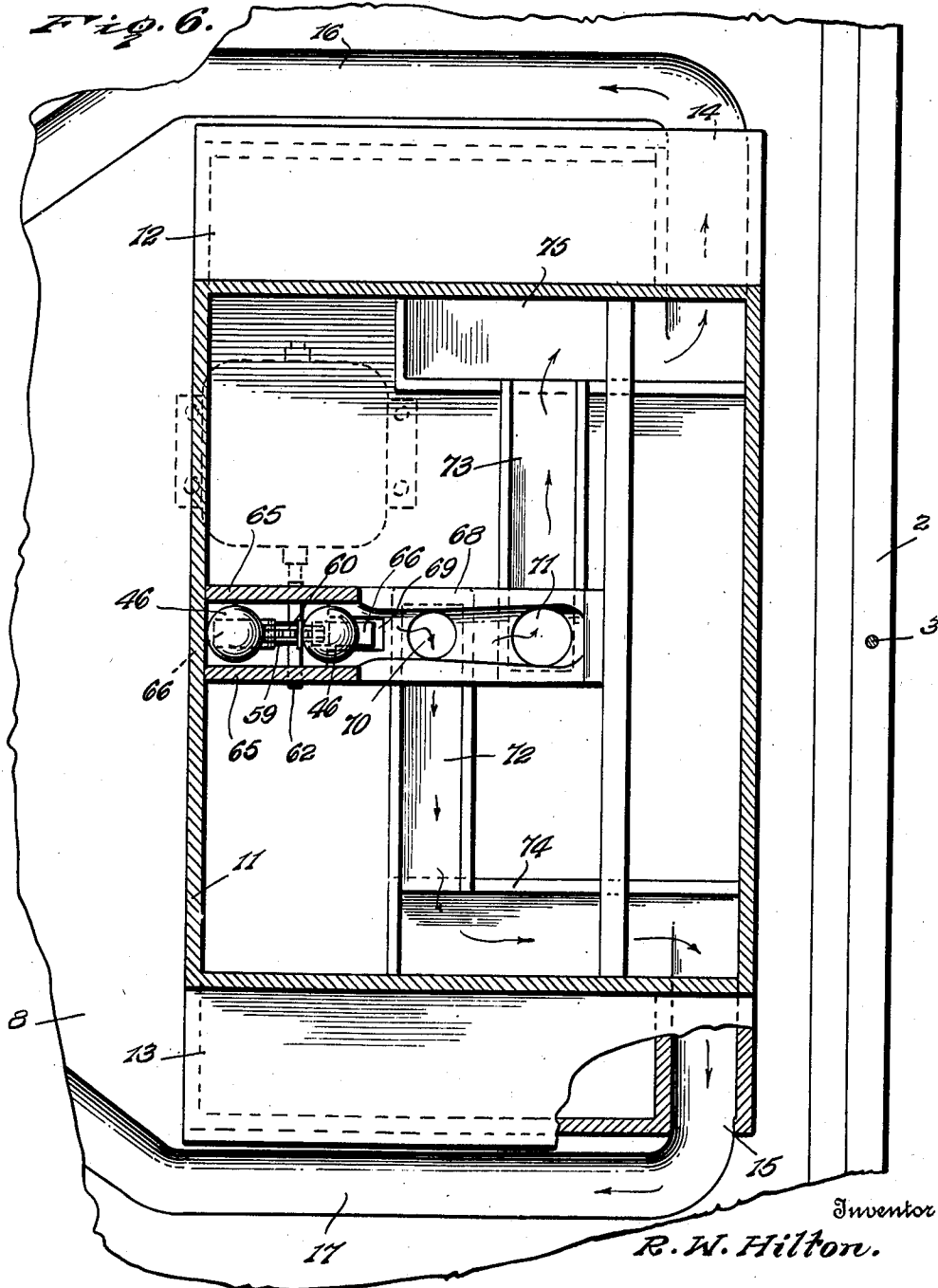
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GAME

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6 Sheets-Sheet 5



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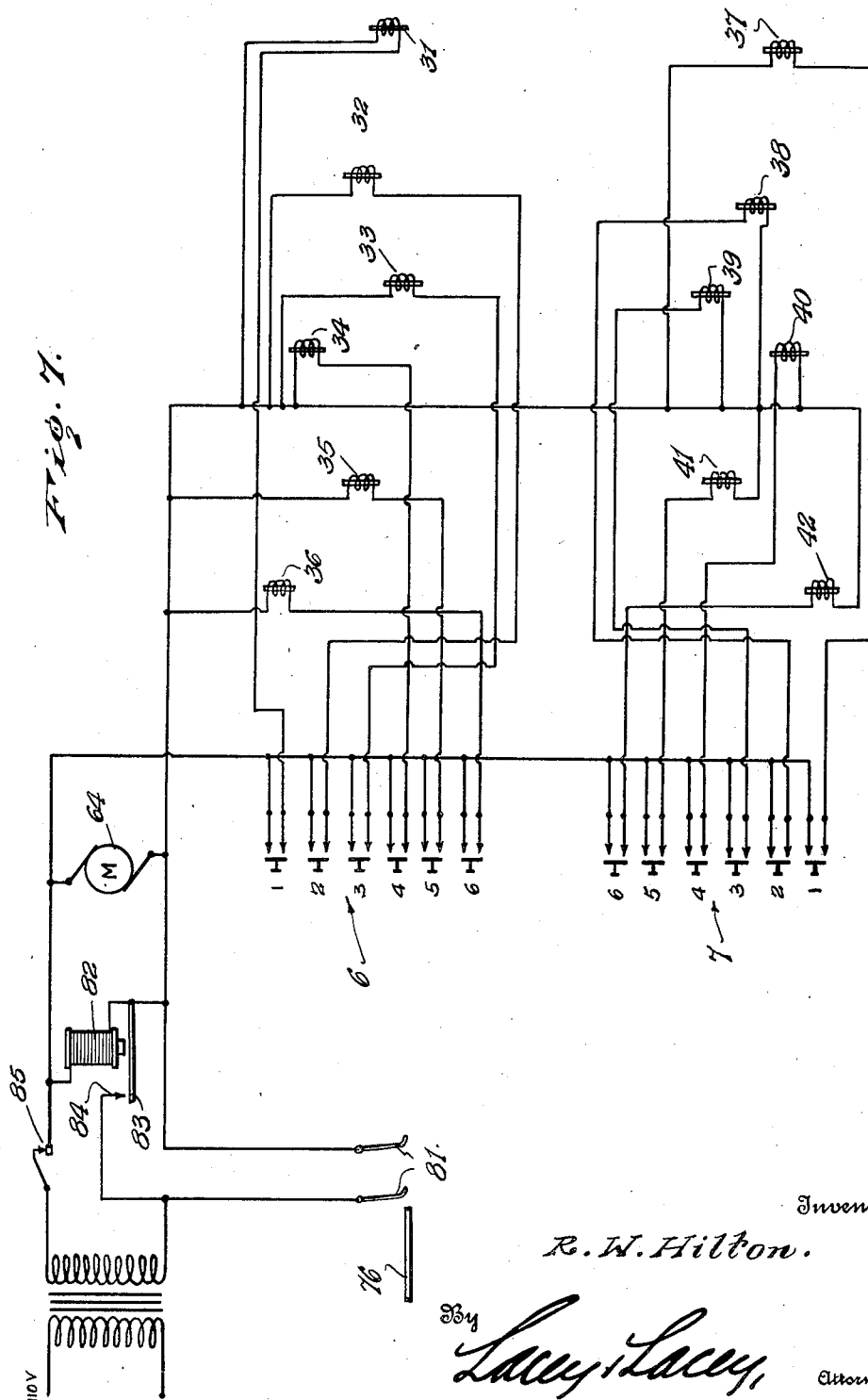
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GAME

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UNITED STATES PATENT OFFICE

2,236,536

GAME

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Application December 28, 1938, Serial No. 248,118

6 Claims. (Cl. 273—120)

This invention relates to a game and more particularly to a game apparatus including a playing field or board having tracks leading from a starting point to a plurality of stations and a plurality of movable objects, such as marbles or small balls, which leave the starting point and are to be directed along the path to predetermined stations, the path being so formed that, unless the movements of the balls along the path are accurately controlled, the balls will not reach the proper stations.

One object of the invention is to provide a game of this character adapted to be operated by two players who are competing with each other, the balls or marbles being readily distinguishable from each other and each player having under his control a plurality of gates by means of which movements of the balls along the track are controlled.

Another object of the invention is to provide a game of this character wherein the paths have intersecting portions, thus permitting a ball to roll from one track onto another if the gates controlling movement of the balls are not accurately manipulated or are not moved into place across the tracks at the proper time.

Another object of the invention is to provide a game wherein the balls may be all returned to the same starting point, means being provided for causing the balls of one set to be discharged from one side of the starting station onto the starting end of one track and the balls of the other set being discharged from the other side of the starting station onto the starting end of the second track. It will thus be seen that the players must not only accurately operate the gates which control movements of the balls along the track but must also watch the starting station so as not to fail to notice a ball discharged therefrom.

Another object of the invention is to provide a game apparatus wherein a conveyor or equivalent means for delivering the balls to starting mechanism at the starting station is operated by an electric motor, the circuit of which is closed when a coin carrier of coin-controlled mechanism is shifted into position to deposit a coin in a coin box, the circuit being then maintained in a closed condition for a predetermined length of time allowed for playing of the game.

Another object of the invention is to provide a game wherein the balls or marbles will be releasably supported at the various stations during playing of a game but caused to be released so that they may roll toward the starting station

conveyor when a coin is placed in the coin plate and the plate shifted inwardly to deposit the coin in the coin box.

Another object of the invention is to provide a game of this character which can be played by either one or two players and will be very interesting in either case.

The invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a top plan view of the game,

Figure 2 is a sectional view taken longitudinally through the game upon the line 2—2 of Figure 1,

Figure 3 is a transverse sectional view taken along the line 3—3 of Figure 2,

Figure 4 is a longitudinal sectional view taken horizontally through the game along the line 4—4 of Figure 2,

Figure 5 is a vertical sectional view upon an enlarged scale taken along the line 5—5 of Figure 1,

Figure 6 is a horizontal sectional view taken along the line 6—6 of Figure 5, and

Figure 7 is a wiring diagram for the game.

The casing or box 1 of this game apparatus may be of any length and width desired and also of an appropriate depth but is preferably fifty inches long and twenty-three inches wide. It may be formed of wood, metal or any other desired material, and at its top is provided with a cover 2 secured by a suitable number of screws 3. This cover is formed with an inwardly extending ledge, as shown in Figures 2 and 3, in order that it may support a transparent panel 4 which may be formed of glass or any other desired material and is firmly held in place in any desired manner. The forward end portion 5 of the cover is of such dimensions that it may be formed with openings through which are mounted switches of the button type, and referring to Figure 1, it will be seen that the switches are arranged in groups designated 6 and 7. There are six switches to each group which have been individually designated by the numerals 1 through 6 inclusive.

Within the box or casing 1 is mounted a board 8 which may be formed of wood or any other desired material and extends at its downward incline from the rear end of the casing to the front end thereof. The forward end portion of the playing board 8 is disposed under the forward end portion 5 of the cover 2, and between these forward end portion extend a partition strip 9 which is disposed vertically and transversely of the casing and constitutes a wall for

a chamber 10 into which the inner or lower end portions of the groups of switches 6 and 7 project, as shown in Figure 2. A housing 11, which may be referred to as a barn, is mounted upon the upper or rear end portion of the playing board 8, and at its opposite sides are sheds 12 and 13 formed with outlet openings 14 and 15, from which extend the upper ends of tracks 16 and 17 which, in the present illustration, are in the form of grooves formed in the upper surface of the playing board 8. These grooves or tracks extend along sides of the sheds 12 and 13 to a point a short distance in advance of the sheds and then converge towards each other until they intersect, as shown at 18, from which point they diverge, as shown at 16^a and 17^a, and then again converge, as shown at 16^b and 17^b, to a point in transverse spaced relation to each other and terminate in parallel end portions 16^c and 17^c leading to pockets 19 and 20 which, in this game, are designated pastures. Other pockets or pastures 21 through 25 which, together with the pocket 19 form one group of pastures, are formed in the upper surface of the playing board at one side thereof, and the other side portion of the playing board is formed with pockets 27 through 30 which, together with the pocket 20, form a second group of pockets or pastures. All of the pockets have openings at their bottoms through which balls or game pieces may pass when the openings are unobstructed, and in order to permit the balls or game pieces to be retained in the pockets or pastures, there has been provided a baffle plate 31 which is slidably mounted under the playing board upon strips or tracks 32 secured against the inner surfaces of side walls of the casing 1. When this baffle plate is in the position shown in Figure 2 with its forward edge face in engagement with the abutment strip 23, the balls or game pieces will be prevented from dropping through the openings of the pockets, but when the baffle plate is shifted rearwardly to a position in which its rear edge face engages the abutment strip 34, the openings of the pockets will be cleared and the balls or game pieces may drop from the pocket. Branch paths 16^d and 16^e and 17^d and 17^e lead from the converging portions 16^b and 17^b of the paths 16 and 17. The branch paths 16^d and 17^d lead to the pockets 22 and 27 and the branch paths 16^e and 17^e lead to the pockets 23 and 28. Other branch paths 16^f and 17^f lead from the branch paths 16^e and 17^e to the pockets 21 and 26, and from the branch paths 16^d and 17^d lead auxiliary branch paths 16^g and 17^g extending to the pockets 24 and 29, and provided in their turn with other branch paths 16^h and 17^h leading to the pockets 25 and 30. It will thus be seen that by properly directing movement of the balls or counters along the paths and the properly selected branch paths they may be caused to enter predetermined pockets or pastures, whereas if the balls are not properly directed along the paths or the branch paths, they will not reach the pockets for which they are intended. Auxiliary paths or grooves 16ⁱ and 17ⁱ connect the converging portions of the grooves or paths 16 and 17 with the diverging portions 16^a and 17^a thereof. These auxiliary paths are provided in order that a ball or game piece rolling along the path or groove 16 may be directed through the auxiliary path 16ⁱ and into the portion 16^a of this path or groove or a ball or counter rolling along the groove or path 17 caused

to roll through the auxiliary path 17ⁱ and into the portion 17^a.

Movement of the balls or game pieces along the paths 16 and 17 and branch paths thereof are controlled by means of gates 31 through 36 and 37 through 42 which, in the present illustration, consist of pins constituting the cores 43 of solenoids 44 mounted under the playing board 8 and supported by brackets 45 in position for their cores to project upwardly through openings formed in the playing board. The gates 31 and 37 are located in the converging portions of the paths 16 and 17 adjacent rear ends of the auxiliary paths 16ⁱ and 17ⁱ so that a ball or counter rolling along the path 16 may be diverted into the auxiliary path 16ⁱ instead of continuing along the path 16 and into the portion 17^a of the path 17, it being obvious that in like manner a ball or game piece rolling along the converging portion of the path 17 may be diverted through the auxiliary path 17ⁱ instead of following the path 17 and into the portion 16^a of the path 16. If the gate 32 is moved to its operative position, the ball will be diverted into the branch path 16^d and roll along this path to the pocket 22, or if the gate 34 is moved to its operative position, the ball will be diverted from the branch path 16^d into the branch path 16^e along which it will roll to the pocket 24 or be diverted by the gate 36 so that it will roll along the branch path 16^e to the pocket 25. If the gate 32 is left in the inoperative position and the gate 33 moved to the operative position, the ball will be diverted into the branch path 16^e and either roll along this branch path to the pocket 23 or be diverted into the branch path 16^f by the gate 35 and roll along the branch path 16^f to the pocket 21. If both of the gates 32 and 33 are left in the inoperative position, the ball will roll along the portion 16 off the path to the portion 16^c thereof and along this portion of the path to the pocket 19. In like manner, movement of a ball along the path 17 and its branch path to the pockets 20, 26, 27, 28, 29 and 30 will be controlled by manipulation of the gates 38, 39, 40, 41 and 42. The wiring diagram of Figure 7 shows the manner in which the solenoids forming the gates 31 through 36 are associated with the switches 1 to 6 of the group 6 and the solenoids constituting the gates 37 through 42 are associated respectively with the switches 1 through 6 of the group 7. The balls or game pieces of the set which are to move along the track 16 are large balls, indicated by the numeral 46, and the balls constituting the set of game pieces which are to follow the track 17 are small balls 47. The balls 46 are to represent sheep having white faces and will, therefore, be painted white, except one which is to represent a goat having a red face and will be painted red. In like manner, the smaller balls 47 are to represent sheep having black faces, except one which represents a yellow goat. Therefore, all of the balls 47 will be painted black, except one which will be painted yellow. It is also desirable to permit the pockets or pastures to be readily distinguished from each other, and in order to do so, the pockets 25 and 30 may be painted red to indicate pockets or pastures to which the goats are to be directed. The pockets 21 through 24 and 26 through 29 may be painted green to indicate pastures to which the sheep are to be guided and the pastures or pockets 19 and 20 may be colored yellow to indicate pastures or pockets to which no game pieces are to be directed or inadvertently allowed to move without incurring a penalty upon the

players. It will be understood that the colors mentioned above are merely an arbitrary selection of colors and any colors desired may be used or colors omitted and other means employed for distinguishing the goats from the sheep and their respective pastures from each other.

In order to return the balls or game pieces to the starting stations or barns 11, there has been provided a lower platform or flooring 48 which is mounted in the casing 1 upon cross strips 49 and 50 and has its forward portion extending at a steeper incline between the forward cross strip 49 and a cross strip 51 extending transversely in the casing under the forward end portion of the playing board 8 which forms the bottom of the chamber 10. This platform or flooring 48 extends rearwardly at a downward incline for its entire length, and when the baffle plate 31 is shifted rearwardly against action of the springs 52 having their ends secured to the bracket 53 of the baffle and screw eyes 54 carried by the platform, the balls will drop through the openings of the pockets onto the platform and roll along the platform between the guide rails 55 and into the channel 56 defined by the transversely spaced rear portion 55' of the guide rails. The platform or flooring 48 not only catches balls dropping through the openings of the pockets or pastures but will also catch balls dropping through the openings 57 of a groove 58 formed in the upper surface of the playing board between the cross strip 9 and the pockets. This groove 58 extends transversely across the playing board and slopes towards both of the openings 57. Therefore, if any of the balls should leave the pockets or pastures after entering them, they will enter the groove 58 and roll along this groove to one or the other of the openings 57 and drop onto the flooring or platform 48 and be returned to the channel 56.

The balls or game pieces are to be conveyed from the channel 56 upwardly into the housing or barn 11 and distributed therein so that the large balls 46 will leave the barn through the doorway or opening 15 and roll along the track 16 and the smaller balls will leave the barn through the doorway 15 and roll along the path 17. In order to elevate the balls, there has been provided an endless conveyor or elevator 59 trained about upper and lower sprocket wheels 60 and 61 carried respectively by the upper shaft 62 and the shaft 63 of the motor 64 mounted upon the bottom of the casing under the barn. The conveyor extends vertically between vertically disposed strips 65 constituting side walls of a conveyor housing and the endless conveyor 59 carries pivotally mounted plates or buckets 66 which move upwardly under the balls through an opening 67 at the rear end of the channel and carry the balls upwardly through the conveyor housing and deposit them upon a trough 68. This trough has its forward end portion formed with an opening or slot 69 to permit downward movement of the plates or buckets and through the bottom of the trough are formed openings 70 and 71 through which the balls may drop into the troughs 72 and 73 leading to companion troughs or extensions 74 and 75. These troughs or runways 74 and 75 terminate at the doorways or outlets of the shed at opposite sides of the barn and as the balls roll along the troughs and their extensions they will be delivered upon the tracks 16 and 17 at rear ends thereof so that they may roll forwardly along the tracks and be guided

into the pockets or pastures, as previously explained. The opening 70 is smaller than the opening 71 through which the large balls 46 are to pass but is of sufficient size to permit the smaller balls 47 to drop onto the trough 72. It will thus be seen that, while the small balls will drop through the openings 70 and into the trough 72, the larger balls will roll across the opening 70 and drop through the larger opening 71 into the trough 73. This will cause the large and small balls to be properly sorted and delivered onto rear ends of the correct pathways or grooves leading from the shed.

This game is to be coin controlled, and in order to do so, there has been provided a coin plate 76 of a conventional construction which is slidably mounted in the usual guide 77 extending through the front wall of the casing 1 over a cash box 78 to which access is had by opening a door 79. The inner end portion of the coin plate 76 extends through a slot or opening formed in the strip 59 and its inner end is connected with the brackets 53 by a link or rod 80. Therefore, when the coin plate or strip 76 is shifted inwardly and the coin dropped into the coin box, the baffle plate 31 will be shifted rearwardly into position to permit balls in the pockets or pastures to drop down onto the platform 48 and roll along the same to the channel 56 at the rear end thereof. The plate or strip 76 is released after being forced inwardly and the springs 52 return this plate and the baffle plate 31 to the normal position shown in Figure 2. During inward movement of the coin plate it will move into bridging relation to contacts 81 and a circuit will be closed through the relay 82 and as the armature 83 is moved into engagement with the stationary contact 84, the circuit for the game will be held in condition to be closed by any one of the switches of the groups 6 and 7 as long as the time switch 85 remains in a closed condition. This time switch will remain closed for a predetermined length of time required for a complete operation of the game and will then open to break the circuit through the relay and release its armature. The circuit will thus be broken until another coin is placed in the coin receiving opening of the plate 76 and the plate 76 again forced inwardly.

The operation of this game is as follows: A coin is placed in the coin-receiving opening of the coin plate 76 and this plate then thrust inwardly to deposit the coin in the coin box and bridge the contacts 81 while at the same time causing the baffle plate to be shifted rearwardly and permit balls in the pockets or pastures to drop onto the platform 48 and roll rearwardly along the same to the channel 56. As long as the time switch remains closed and the relay holds its armature in engagement with the stationary contact 84, the motor will be energized and as this motor operates the endless conveyor of the elevator will cause the balls or game pieces to be successively carried upwardly and deposited upon the trough 68. As the balls roll along the trough, the smaller balls will drop through the opening 70 and the larger balls will roll over this opening and drop through the opening 71. Therefore, the balls will be sorted and the larger balls delivered to the track 16 and the smaller balls delivered to the track 17. The two players stand at the front of the casing and, when a ball emerges from the barn and rolls along the track 16, the player having the white sheep or larger balls as his game pieces must press upon the switch button 1 of the group 6 in order to move

the gate 31 to the operative position and deflect the ball through the branch path 16¹ as otherwise this ball will follow the groove 16 to the point 18 where it intersects the groove 17 and roll along the portion 17^a of the groove or track 17 and count against him. After the ball reaches the portion 16^b of the track 16, the gate 32 or the gate 33 may be moved to its operative position to direct the ball or white sheep into one of the branch paths along which it will roll to a selected one of the pockets or pastures 21 through 24. In case the ball rolling along the groove or path is colored red or otherwise distinctively marked to indicate that it represents a red goat, this ball will be directed to the pockets or pastures 25. None of the balls are to be allowed to reach the pocket or pasture 19 unless the ball or game piece of the opposing player enters the portion 16^a of the path 16 in which case the gates 32 and 33 may be left in their normally opened position and the ball of the opposing player may be diverted to the pocket or pasture 19. The same rule applies when a small ball or black faced sheep rolls along the path 17 and is to be diverted through the branch path 17¹ and along the portion 17^b of the path and through the branch path leading therefrom to the pockets or pastures 26 through 29. It will also be readily understood that the smaller ball which is colored or otherwise marked to represent a yellow goat must be directed into the pasture or pocket 30, and none of these balls allowed to reach the pocket 20. After the game has been in operation for a predetermined length of time, the time switch 85 will open automatically and thus break the circuit through the motor. This ends the game and the player having the largest number of balls or game pieces in the correct pastures wins. The fact that the balls are delivered to the elevator in no particular order makes the game more difficult to play as, while a player is guiding a ball to a pasture, he must also watch the barn in order to see whether another one of his game pieces has been discharged therefrom. It will thus be seen that quick thinking and accurate manipulation of the switches are necessary.

Having thus described the invention, what is claimed as new is:

1. In a game apparatus, a playing surface having side and end edges, a starting station adjacent one end of said playing surface, destinations adjacent the other end of the playing surface, paths extending along said playing surface between said starting station and the destinations, sets of spherical game pieces movable through the starting station and along said paths, the game pieces of one set being larger than the game pieces of the other set, means for returning the game pieces to the starting station, and means for sorting the returned game pieces to separate the large game pieces from the small game pieces as they pass through the starting station and deliver the same to predetermined ones of said paths.

2. In a game apparatus, a playing surface, a starting station rising from said playing surface, destinations spaced from the starting station longitudinally of the playing surface, paths leading from said starting station to companion ones of said destinations, sets of playing pieces adapted to roll through the starting station and along said paths, the playing pieces of one set being larger than those of the other set, means for releasably holding the game pieces at the destinations, means for returning the game pieces to the start-

ing station when released from the destinations, and sorting means at the starting station for separating the large playing pieces from the small game pieces as they pass through the starting station and delivering the playing pieces as sorted to predetermined paths.

3. In a game apparatus, a playing surface having side and end edges, a starting station adjacent one end of the playing surface, destinations spaced from the starting station, game pieces, a path leading from the starting station and having branches extending to the destinations, gates at entrances to the branches for guiding movement of the game pieces along said paths and their branches to predetermined destinations, said gates being normally in an inoperative position, and manually controlled means for individually moving the gates into position to guide the game pieces into selected ones of the branches.

4. In a game apparatus, a casing, a playing surface in said casing, a starting station extending upwardly from the playing surface, groups of destinations on the playing surface spaced from the starting station, interconnected paths leading from said starting station and each formed with branches extending to individual destinations of a companion group of destinations, game pieces adapted to roll along said paths, plungers slidable vertically through said playing surface into and out of said tracks at entrances to the branches and constituting barriers for controlling movement of the game pieces along the paths and their branches to predetermined destinations, said barriers being normally in a depressed inoperative position to permit unobstructed movement of the game pieces, and electrically controlled means for individually shifting said barriers upwardly to an operative position having companion switches manually operable externally of the casing.

5. In a game apparatus, a casing, a playing surface in said casing, a housing extending upwardly from said playing surface and constituting a starting station, groups of destinations spaced from the starting station longitudinally of said playing surface, tracks leading from said housing along said playing surface and each provided with branches extending to individual destinations of a companion group of destinations, sets of game pieces adapted to roll through the housing and along said paths, the game pieces of one set being larger than those of the other set, means below the playing surface for returning the game pieces to a position under said housing, a conveyor for carrying the game pieces upwardly into said housing, sorting means in the housing for separating the large game pieces from the small game pieces as they pass through the housing and directing the sorted game pieces to predetermined paths, and operating means for said elevator.

6. In a game apparatus, a casing, a horizontal partition in said casing constituting a playing surface, a housing extending upwardly from said partition and constituting a starting station, destinations spaced from the housing longitudinally of the playing surface, paths leading from said housing and along said playing surface to said destinations, sets of spherical game pieces adapted to roll through the housing and along said paths to the destinations, certain of said game pieces being relatively large and certain of said game pieces being relatively small, means for returning said game pieces from said destinations to a position under said housing, an

elevator for carrying game pieces upwardly from said return means to said housing, an inclined trough in said housing for receiving said game pieces from said elevator, said trough having openings therein of graduated sizes for passage therethrough of the large and small game pieces,

and chutes for receiving the game pieces as they drop through said openings and delivering the large and small game pieces to predetermined tracks.

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