Aug. 11, 1936. L. W. GENSBURG 2,050,309

GAME APPARATUS

Filed June 24, 1935 3 Sheets-Sheet 1

Fig. 1.

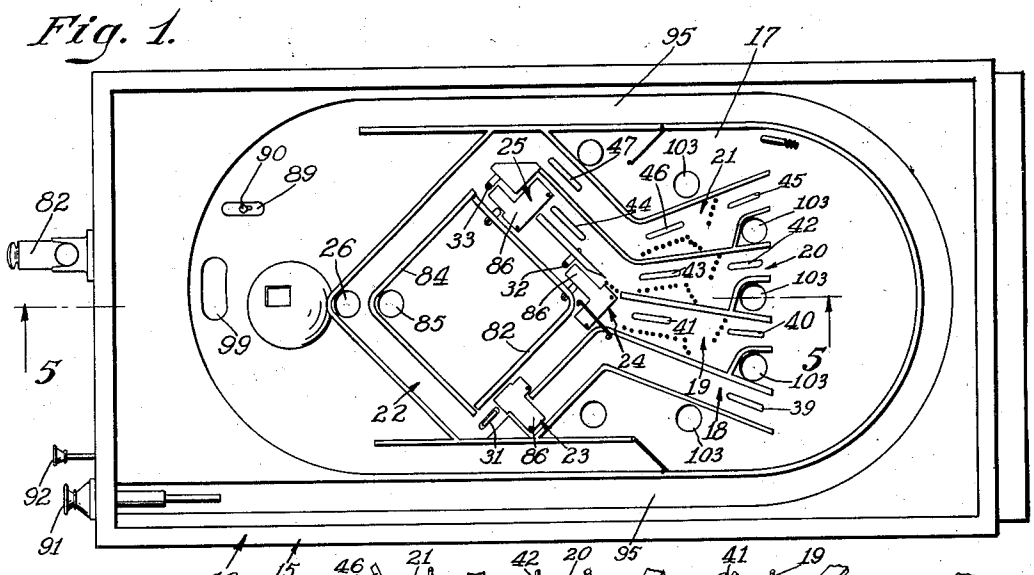


Fig. 2.

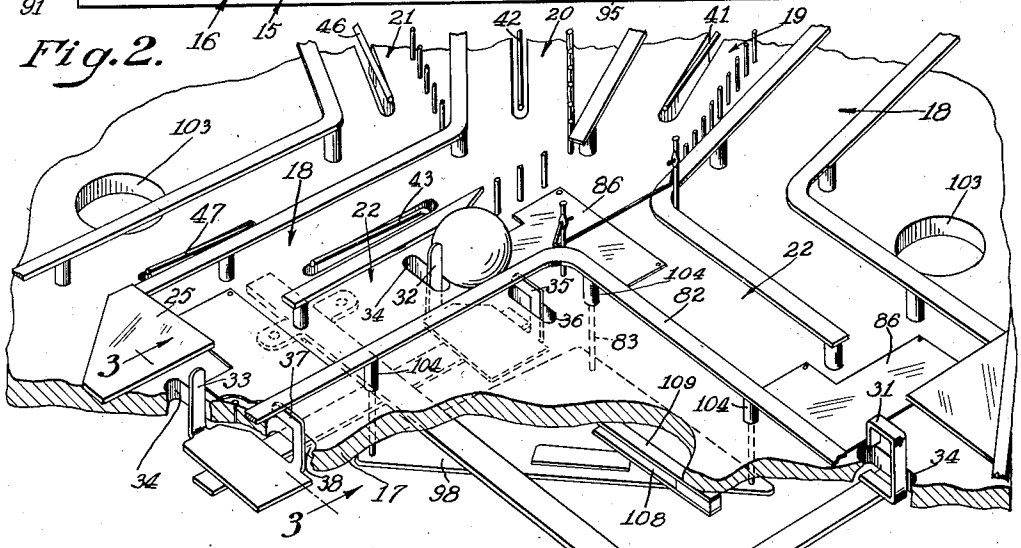


Fig. 3.

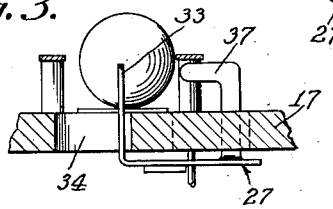
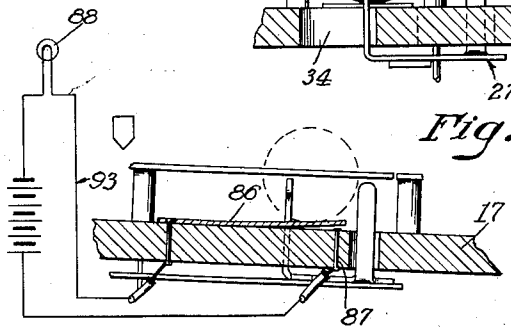


Fig. 4.



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GAME APPARATUS

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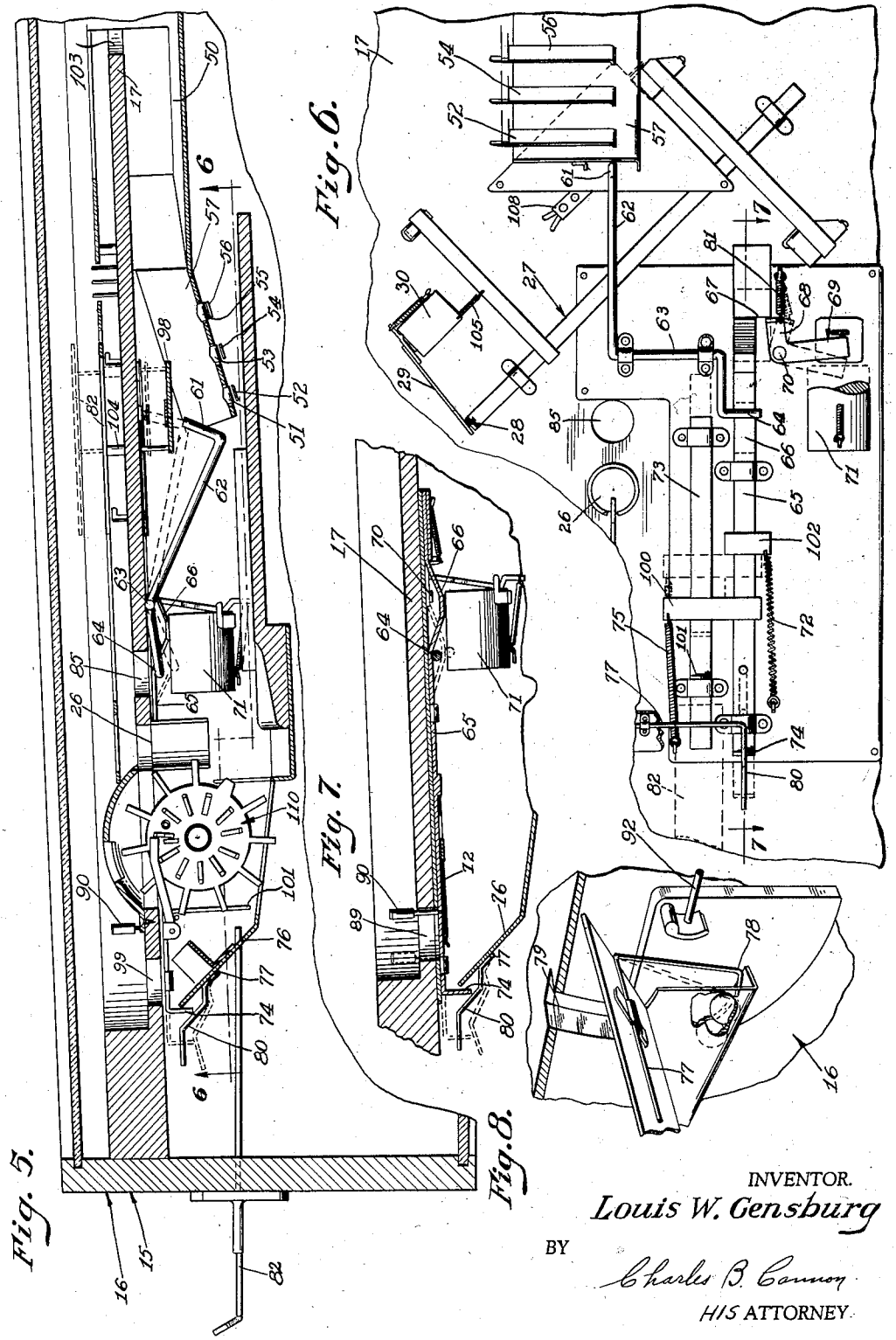


Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

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Fig. 9.

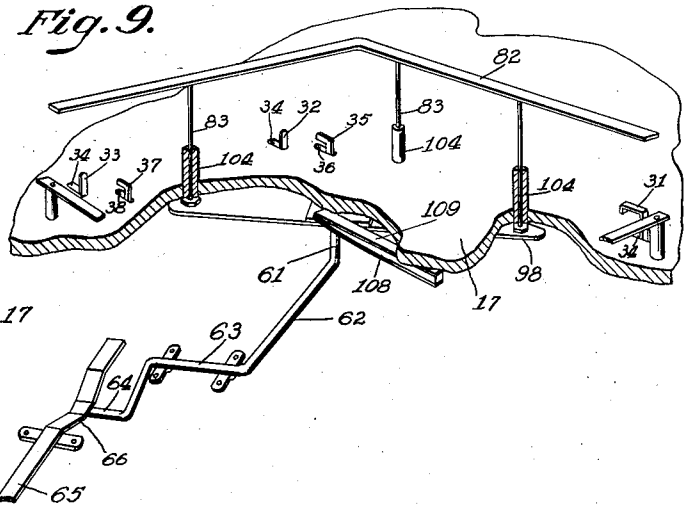


Fig. 10.

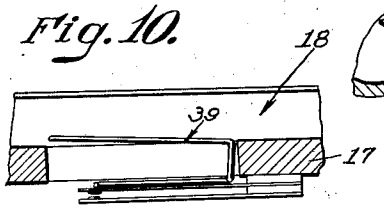
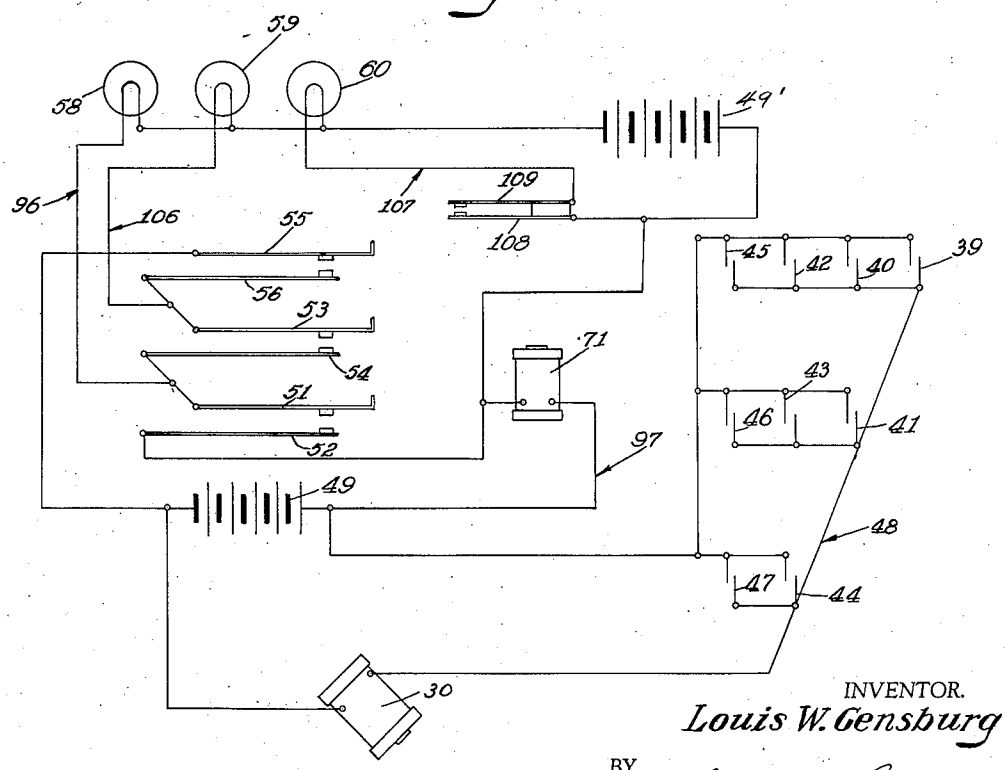


Fig. 11.



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Patented Aug. 11, 1936

2,050,309

UNITED STATES PATENT OFFICE

2,050,309

GAME APPARATUS

Louis W. Gensburg, Chicago, Ill.

Application June 24, 1935, Serial No. 28,133

3 Claims. (Cl. 273—121)

This invention relates to a game apparatus.

It is an object of this invention to provide an improved game apparatus, which is relatively simple and inexpensive in construction, and efficient in use.

Another object of the present invention is to provide a novel baseball game of the so-called pin and marble game type.

A further object of the present invention is to provide a novel mechanism for advancing the balls from one base to another upon the diamond.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be understood best by reference to the accompanying drawings, showing the preferred form of construction and in which:

Fig. 1 is a top plan view of a game apparatus embodying a preferred form of the present invention;

Fig. 2 is a fragmentary perspective view showing the baseball diamond, the approach runways to the diamond, and certain parts of the operating mechanism for advancing the balls from one base to another upon the diamond;

Fig. 3 is a sectional detail view, on line 3—3 in Fig. 2, showing one of the ball-stopping and advancing units which are associated with first, second, and third bases of the diamond;

Fig. 4 is a sectional detail view, showing one of the switches, arranged at first, second, and third bases, for indicating the fact that balls are positioned upon the bases and the respective bases at which the balls are located;

Fig. 5 is a longitudinal vertical sectional view on line 5—5 in Fig. 1;

Fig. 6 is a bottom plan view on line 6—6 in Fig. 5;

Fig. 7 is a sectional view on line 7—7 in Fig. 6;

Fig. 8 is a perspective detail view, partly in section, of one feature of the invention and which feature is associated with the ball-elevating device;

Fig. 9 is a fragmentary perspective view of part of the playing field or diamond, showing certain parts of the operating mechanism associated therewith;

Fig. 10 is a sectional view in detail, showing one of the switches which are located in the approach runways to the various bases or positions upon the diamond; and—

Fig. 11 is a schematic wiring diagram of the electric circuit embodied in the invention.

A preferred form of the present game apparatus is shown in the drawings, is therein generally indicated at 15, and comprises a cabinet 16 which includes an inclined playing board 17 having a series of ball runways 18, 19, 20 and 21 provided thereon, these runways merging into and communicating with a runway 22 which provides, in effect, a baseball diamond, and the runways 18, 19, 20 and 21 thus providing, in effect, approach runways to the various bases or positions upon the diamond 22.

Arranged at the four corners of the playing field or diamond 22 are first, second, and third bases, and "home" plate, 23, 24, 25 and 26, respectively, and arranged upon the inclined playing board 17 at first, second, and third bases, 23, 24, and 25, respectively, are metallic contact plates 86, (Figs. 1 and 4).

Slidably mounted in the cabinet 16, below the inclined playing board 17 is a main-operating bar 27, (Fig. 2), which has a depending arm 28 at one end thereof and engageable with this arm 28 is the movable element 29 of a solenoid 30. The slide bar 27 has three upwardly extending and ball-stopping arms 31, 32, and 33, which are arranged, respectively, at first, second, and third base positions on the diamond or playing field 22 and these upwardly extending and ball-stopping arms 31, 32, and 33 are slidably arranged in cut-out openings or slots 34 which are provided in the inclined playing board 17, (Fig. 2), at first, second, and third base positions, respectively.

In addition to the upwardly projecting and ball-stopping arms 31, 32, and 33, the slide bar 27 has an upwardly extending and ball-advancing arm 35, (Fig. 2), which projects upwardly through a slot 36 which is formed in the inclined playing board 17 and at a point arranged adjacent the first base position 23; and the slide bar 27 has a second upwardly extending arm 37 which also projects above the inclined playing board 17, through a slot 38 formed therein, at a point adjacent third base position 25, (Fig. 2).

Provided in the approach runway 18, to first base position 23, (Figs. 1 and 2), is a pivoted contact or circuit-closing switch 39, (Fig. 10). Provided in the approach runway 19 to second base position 24 are two spaced switch members 40 and 41 which are similar to the switch 39, (Fig. 10). Provided in the approach runway 20 to third base position 25 are three switches 42, 43, and 44 which are similar to the switch 39, (Fig. 10), and provided in the approach runway 21 to the home base position 26 are three switches 45,

46, and 47 which are similar to the switch 39, (Fig. 10).

The switches 39 to 47 inclusive are arranged in an electrical circuit which is generally indicated at 48, (Fig. 11), and which includes a suitable source of current 49, which may be a battery of dry cells arranged in the cabinet 16.

The arrangement of the switches 39 to 47 inclusive in the circuit 48, (Fig. 11), is such that if a ball enters the approach runway 18 to first base it will engage the switch 39 and thereby close the circuit 48 to the electromagnet 30, thus actuating the electromagnet 30 which thereupon attracts its pivotal armature 29, (Figs. 2 and 6). This movement of the pivotal armature 29 causes the same to engage the depending arm 28 of the slide bar 27, thereby shifting the slide bar 27 (right to left, Fig. 2). This movement of the slide bar 27 causes the ball-stopping arms 32 and 33 to be removed from engagement with such balls as may be disposed at second and third base positions upon the diamond 22, at the same time causes the arms 31, 35 and 37 to engage the balls which may be disposed, respectively, at first, second, and third base positions, thereby advancing each of the balls, which may be disposed in the runway or diamond, one base.

Similarly, if a ball enters the approach runway 19 to second base position, it will successively engage the switches 40 and 41 and thereby successively close the circuit 48 to the electromagnet 30 twice in succession, thereby twice in succession shifting the slide bar 27, (right to left, Fig. 2), and thus successively advancing each of the balls, which may be disposed upon the diamond 22, two bases.

Similarly, when a ball enters the approach runway 20 to the third base position, it successively engages the switches 42, 43, and 44 and thus three times in relatively rapid succession closes the circuit 48 to the electromagnet 30, thereby three times in relatively rapid succession shifting the slide bar 27 (right to left, Fig. 2) and thus advancing each of the balls disposed upon the diamond 22, three bases.

In the same manner, when a ball enters the approach runway 21 to home base position it successively engages the three switches 45, 46 and 47 and thereby closes the circuit 48 to the electromagnet 30 three times in relatively rapid succession, thus three times in succession shifting the slide bar 27 (right to left, Fig. 2) and thus advancing each of the balls which may be disposed upon the diamond 22, three bases.

Provided in the inclined board 17, at various preselected points, are ball exit or "out" openings 103, and arranged in the cabinet 16 under the inclined playing board 17, and in communication with the ball exit or "out" openings 103, is a ball return runway 50, (Fig. 5).

The ball return runway 50 includes an inclined lower end portion 57, (Fig. 5), and arranged in this inclined lower end portion 57 of the ball return runway 50, (Fig. 5), is a series of three pairs of contacts or switches 51—52, 53—54, and 55—56 which are arranged in a circuit 96, (Fig. 11). Likewise embodied in the circuit 96 are three signal lights 58, 59, and 60, respectively, and these signal lights 58, 59, and 60 may be mounted at any suitable point in the cabinet 16 so as to be visible to the player.

The "out" balls are temporarily retained in the lower end portion 57 of the ball return runway 50 by an angled arm or stop portion 61 of a member 62 which is pivotally mounted, as at 63, upon the inclined playing board 17, (Fig. 5), and at the bottom side of the latter. This member 61—62—63 includes an offset arm 64 which projects under a slide bar 65 which is slidably mounted upon the inclined playing board 17, at the bottom side of the latter, and this slide bar 65 has a depending cam portion 66 which is engageable with the offset arm 64 of the member 63, (Fig. 7). The slide bar 65 is normally urged (right to left, Fig. 6) by its resetting spring 72.

The slide bar 65 has an arm 67 (Fig. 6) and engageable with this arm 67 is an arm 68 of a latch member 69 which is pivotally mounted upon the bottom side of the inclined playing board 17, as at 70. Associated with this latch member 68—69 is an electromagnet 71, which is arranged in an electric circuit 97, (Fig. 11).

Arranged adjacent to the slide bar 65 and likewise slidably mounted upon the inclined playing board 17, on the bottom side of the latter, is a second slide bar 73 which has a depending arm 101, (Fig. 6), and this slide bar 73 is likewise urged (right to left, Fig. 6) by a resetting spring 75. Attached to the slide bar 73, (Fig. 6), is a cross arm 100 and attached to the slide bar 65 is a cross arm 102 which is engageable with the cross bar 100.

Arranged below the ball exit opening 99, (Fig. 5), is an inclined ball return runway 76, (Fig. 7), and pivotally mounted upon this inclined runway 76 is a horizontally extending rod 77, (Fig. 8), which has a depending arm 78 and this arm 78 is adapted to be projected into the path of balls traveling towards the elevator guideway or groove 79. This rod 77 has an angled or cam portion 80 with which the depending arm 74 of the slide bar 65 is engageable, (Fig. 7), when the slide bar 65 is moved (right to left, Figs. 5, 6 and 7).

The diamond 22 is defined by an inner rail and an outer rail, (Fig. 1), and the inner one of these two rails (Figs. 2 and 9) includes a relatively stationary portion 84 and a vertically movable portion 82. This portion 82 is slidably mounted upon pins 83 which are slidably mounted in guides 104 which are attached to the inclined playing board 17, (Fig. 9).

Arranged at first, second, and third base positions is a relatively movable or resilient flat metal contact plate 86 and adapted to be engaged by each of these contact plates 86 is a relatively stationary contact 87, (Fig. 4). These contacts or switches 86 and 87 are arranged in an electrical circuit 93, (Fig. 4), which includes a plurality of indicator lights 88, (Fig. 4), which are adapted to indicate, when illuminated, the position of the balls upon the bases.

Provided in the inclined playing board 17 adjacent the lower end of the latter, is a slot 89, (Figs. 1 and 5), and projecting into and movable in this slot 89 is a stop pin 90 which is attached to and carried by the slide bar 65, (Fig. 7). The purpose of this stop pin 90 will be explained hereinafter.

Operation

Balls may be propelled, one at a time, up the ramp or runway 95, onto the upper portion of the inclined playing board 17 so that they may gravitate thereover and enter into any one of the approach runways 18, 19, 20 and 21 to the baseball diamond 22, or, as the case may be, into one of the "out" openings 103.

Assuming, for the purpose of illustration, that a ball which is propelled onto the upper portion of the inclined playing board 17 enters the ap-

proach runway 18 to first base position: In this case the ball will engage and close the switch 39, thereby closing the circuit 48 to the electromagnet 30. When the circuit 48 to the electromagnet 30 is thus closed, the electromagnet 30 attracts its pivotal armature 29, thereby moving the latter into engagement with the depending arm 28 of the slide bar 27, (Fig. 2). This engagement of the pivotal armature 29 with the depending arm 28 of the slide bar 27 shifts the latter (right to left, Fig. 2), thereby moving the upwardly extending arms or ball stops 32 and 33, which are formed as a part of the slide bar 27, out of engagement with the balls disposed at second and third base positions upon the diamond 22. At the same time, this movement of the slide bar 27 (right to left, Fig. 2) moves the upwardly extending and ball-advancing arms 31, 35, and 37, (Fig. 2), into engagement with the balls disposed at first, second, and third base positions upon the diamond 22, thereby advancing each of such balls one base.

Similarly, if a ball enters the approach runway 19 to second base position, it will successively engage and close the switches 40 and 41, and thereby twice in succession close the circuit 48 to the electromagnet 30, thus moving the slide bar 27 twice in succession (right to left, Fig. 2), thereby moving the stop arms 32 and 33 out of engagement with the balls disposed at second and third base positions and, at the same time, moving the ball-advancing arms 31, 35, and 37 of the slide bar 27 twice in succession into engagement with the balls disposed at first, second, and third base positions, respectively, upon the diamond 22.

In a similar manner, a ball entering the approach runway 20 to third base will successively engage the three switches 42, 43, and 44 in succession, and will thereby three times, in relatively rapid succession, close the circuit 48 to the electromagnet 30 and thus operate the bar 27 three times in relatively rapid succession.

Similarly, a ball entering the approach runway 21 to home base will engage the three switches 45, 46, and 47 in relatively rapid succession and will thus three times in relatively rapid succession close the circuit 48 to the electromagnet 30 and thus operate the slide bar 27; it being noted that the slide bar 27 is returned to its initial position, after each operation thereof, by its resetting spring 105 (Fig. 2).

The balls which enter the "runs" opening 26, (Fig. 1), pass therethrough and actuate a registering device, which is generally indicated at 11, (Fig. 5), and which is of the type described and claimed in the applicant's Patent No. 1,992,658, and the spent balls which enter the "out" opening 99, (Fig. 1), fall therethrough onto an inclined ball return runway 76 (Fig. 5).

The played balls which enter the "out" openings, such as 103, which are provided in the inclined playing board 17, drop by gravity into the inclined runway 50 and travel, by gravity, down the latter into the lower and inclined end portion 57 of the latter. The first ball traveling down the runway 50 to the lower and inclined end portion 57 of the latter engages the upwardly extending or angled stop arm 61 of the pivotal bar 62, and the ball is thus stopped upon the contact 51, (Fig. 5), and thereby forces the latter into engagement with the contact 52, thus closing the circuit 96, (Fig. 11), to the signal light 58 which indicates one "out".

The second ball which travels down the runway 50 to the lower end portion 57 of the latter engages the first ball, which is stopped by the arm 61, and comes to rest upon the contact 53, thereby forcing the same into engagement with the contact 54, and thus closing the circuit 105, (Fig. 11), to the signal light 59, which indicates two "outs".

In a similar manner, the third "out" ball which enters the runway 50 comes to rest upon the contact 55 and thereby forces the latter into engagement with the contact 56. When the switch 55—56 is thus closed, by the third "out" ball entering the lower and inclined end portion 57 of the ball runway 50, the circuit 97, (Fig. 11), is closed, and the electromagnet 71 being thus actuated, attracts the arm 69 of the pivotal latch member 68—69, thereby pivoting the same at 70 (clockwise, Fig. 6), and thus moving the arm 68 of the latch member 68—69 out of latching engagement with the arm 67 of the slide bar 65, whereupon the resetting spring 72, for the slide bar 65, slides the same (right to left, Fig. 6).

During this movement of the slide bar 65 (right to left, Figs. 6 and 7), the depending cam portion 66 thereof engages the offset arm 64 of the member 63 and thereby pivots the member 63 (counterclockwise, from full to dotted line position, Fig. 5). This movement of the member 62 (from full to dotted line position, Fig. 5) moves the upwardly extending stop arm or end portion 61 thereof up above the lower and inclined end portion 57 of the ball return runway 50, thereby releasing the balls which were held in the inclined portion 57 of the runway 50 upon the switches 51—52, 53—54, and 55—56 whereupon the thus released balls may travel, by gravity, to a point adjacent the propelling means 92.

At the same time, this movement of the angled end or stop portion 61 of the member 62 up out of engagement with the balls stopped thereby in the lower and inclined end portion 57 of the runway 50, causes the arm 61 of the member 62 to engage the flat plate 98, which is attached to the pins 83 at the lower ends of the latter (Fig. 9), thereby lifting the plate 98, pins 83, and the rail 82, (Figs. 1, 2, 5, and 9), upwardly. In this manner, the rail 82 is raised up out of engagement with the balls disposed at first, second, and third base positions upon the diamond 22, thus releasing any balls disposed at these positions and allowing the same to travel by gravity down the inclined playing board 17 (right to left, Fig. 1), down which they are guided by the rail 84 into the "out" opening 85 which is provided in the inclined playing board 17 adjacent the home base position, (Fig. 1). The flat plate 98 being thus raised engages the contact 108 and urges the latter into engagement with the contact 109 (Fig. 9), thereby closing the circuit 107 (Fig. 11) to the signal light 60 which indicates three "outs".

When the pivotal latch member 68—69 is released, by actuation of the electromagnet 71, from latching engagement with the arm 67 of the slide bar 65, the resetting spring 72 moves the slide bar 65 (right to left, Figs. 6 and 7), and during this movement of the slide bar 65 the cross arm 102 thereof engages the cross arm 100 which is attached to the slide bar 73, both slide bars 65 and 73 being held in this position until the coin slide 82 is operated.

During this movement of the slide bar 65, (right to left, Figs. 5, 6, and 7), the depending arm 74 thereof engages the angled or cam portion 80 of the pivotal ball-stopping member 77

(Figs. 5 and 8), and thus rocks this member 77 (counterclockwise, Fig. 5, clockwise, Fig. 8), thereby moving the arm 78 of the member 77 into position to prevent the passage of balls into the elevator guideway or groove 79, (Fig. 8) into the ramp 95, and in front of the ball-propelling device or plunger 91.

When the slide bar 65 is thus shifted (right to left, Figs. 6 and 7), after the third "out", the stop pin 90 carried thereby moves from right to left in the slot 89 (Fig. 7), and in so doing moves into the path of balls traveling from the ramp or runway 95 (Fig. 1), onto the playing field of the inclined playing board 17, so that any ball or balls which may be propelled out of the ramp or runway 95, when the stop 90 is thus positioned (as in dotted lines, Fig. 7), will engage the stop 90 and will thus be prevented from traveling from the ramp 95 onto the playing field of the inclined playing board 17.

However, when the coin slide 82 is moved (left to right, Figs. 5, 6,), its inner end engages the depending arm 101 of the slide bar 73 (Figs. 5, 6, and 7), and thereby shifts the slide bar 73 (left to right, Figs. 5, 6, and 7), against the action of its resetting spring 75. During this movement of the slide bar 73 (left to right, Figs. 5, 6, and 7), the cross arm 100 thereof engages the cross arm 102, which is carried by the slide bar 65, and thereby shifts the slide bar 65 (left to right, Figs. 5, 6, and 7), against the action of its resetting spring 72. During this movement of the slide bar 65 (left to right, Figs. 5, 6, and 7), the stop pin 90 is moved (left to right, from dotted to full line position, Fig. 7) out of the path of balls traveling from the ramp 95 onto the playing field of the inclined playing board 17.

When the slide bar 65 is disposed in its initial or retracted position, (as in dotted lines, Fig. 6), the spring 81 urges the pivotal latch member 68—69 in a direction (counterclockwise, Fig. 6) to dispose the arm 68 of the latch member 68—69 against one lateral side or edge of the arm 67 of the slide bar 65. However, when the slide bar 65 is shifted (left to right, Figs. 5, 6, and 7), by the action of the coin slide 82 and the slide bar 73, the arm 67 of the slide bar 65 passes beyond the arm 68 of the latch member 68—69, whereupon the spring 81 urges the latch member 68—69 (counterclockwise, Fig. 6), thereby disposing the arm 68 of the latch member 68—69 in latching engagement with the arm 68 of the slide bar 65.

During this movement of the slide bar 65 (left to right, Figs. 5, 6, and 7), the depending cam portion 66 thereof engages the offset arm 64 of the member 61—62—63—64 and thereby pivots this member (clockwise, from dotted to full line position, Fig. 5), thus moving the stop arm 61 thereof into effective position (as in full lines, Fig. 5) and in which position the upwardly extending arm 61 of the member 61—62—63—64 prevents the passage of balls out of the lower and inclined end portion 57 of the runway 50.

However, when the slide bar 65 is again moved (left to right, Figs. 5 and 6) by the action of the coin slide 82, the depending arm 101 of the slide bar 73 moves out of engagement with the angled or cam portion 80 of the member 77, whereupon the arm 78 of the member 77 pivots by gravity back into its initial position, (as in full lines, Fig. 8).

When a ball is disposed, for example, at first base position, it rests upon the corresponding contact plate 86, (Figs. 2 and 4), and thereby moves the latter into engagement with the corresponding stationary contact 87, thus closing the circuit 93 (Fig. 4) to a signal light 88 (Fig. 4) which indicates that there is a ball disposed at first base position.

In a similar manner, balls which are disposed at second and third base positions rest upon the corresponding contact plates 86 and thereby force the same into engagement with the corresponding stationary contacts 87 (Fig. 4), thus closing circuits, similar to the circuit 93, (Fig. 4), to signal lights similar to the light 88, so as to indicate that balls are disposed at second and third base positions upon the diamond 22.

It is to be noted that the arm 31 of the member 27 is both a "ball-stopping" and a "ball-advancing" arm since when this arm 31 is in its normal position it stops a ball which is disposed at first base position from gravitating over the inclined playing board 17 (right to left, Fig. 1) and when the member 27 is operated the arm 31 engages the ball disposed at first base position and advances the same toward second base position.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification, without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention what I claim as new and desire to protect by Letters Patent is:

1. In a game apparatus, the combination of: a cabinet including an inclined playing board provided with a ball exit opening and including a playing field; an inclined ball return runway in said cabinet below said exit opening; a ball runway or ramp for conducting balls onto said playing field; means for propelling balls along said second-named runway or ramp onto said playing field; means including a member movably mounted in said cabinet for movement into position to prevent the passage of balls from said ramp or second-named runway onto said playing field; means for stopping balls in said first-named runway; and means actuated by the last of a predetermined number of balls stopped in said first-named runway by said stopping means for moving said member into position to prevent the passage of balls from said ramp onto said playing field.

2. In a game apparatus, the combination of: a cabinet including an inclined playing board having openings formed therein and having a baseball diamond thereon; said diamond including ball runways arranged between the base positions thereon; approach runways leading to the said base positions and first-named runways upon said diamond; electric switches arranged in said approach runways and actuated by the weight of balls traveling therealong; and means including a device actuated by the weight of balls traveling along said approach runways over said switches for advancing balls from one base position to another upon said diamond; said means comprising a member movably mounted in said cabinet below said inclined playing board and having arms projecting upwardly above said inclined playing board through certain of said openings; said means including a device actuated by the closing of said switches for moving said

movably mounted member so as to move the said arms thereof into engagement with balls disposed at the said base positions upon said diamond; said member having other arms thereon projecting upwardly above said inclined playing board through certain others of said openings for stopping balls disposed at certain of the base positions upon said diamond; said second-named arms being moved, by said member, into position to release balls stopped thereby for movement over said inclined playing board when the said first-named arms of said member are moved into engagement with balls disposed at the base positions on said diamond.

3. In a game apparatus, the combination of: a cabinet including an inclined playing board having two spaced ball exit openings provided therein and having a diamond provided thereon; said diamond being defined by substantially horizontally extending rails and including a vertically movable rail normally retaining balls at certain of the base positions upon said diamond and against gravitation thereover; a ball return runway below said inclined playing board and in communication with one of said ball exit openings; means for stopping balls in said runway; and means including a device actuated by the last of a predetermined number of balls stopped in said runway by said stopping means for lifting said vertically movable rail so as to release balls stopped thereby at certain of the base positions upon said diamond so that said balls thus released may gravitate over said diamond into the other of said ball exit openings.

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