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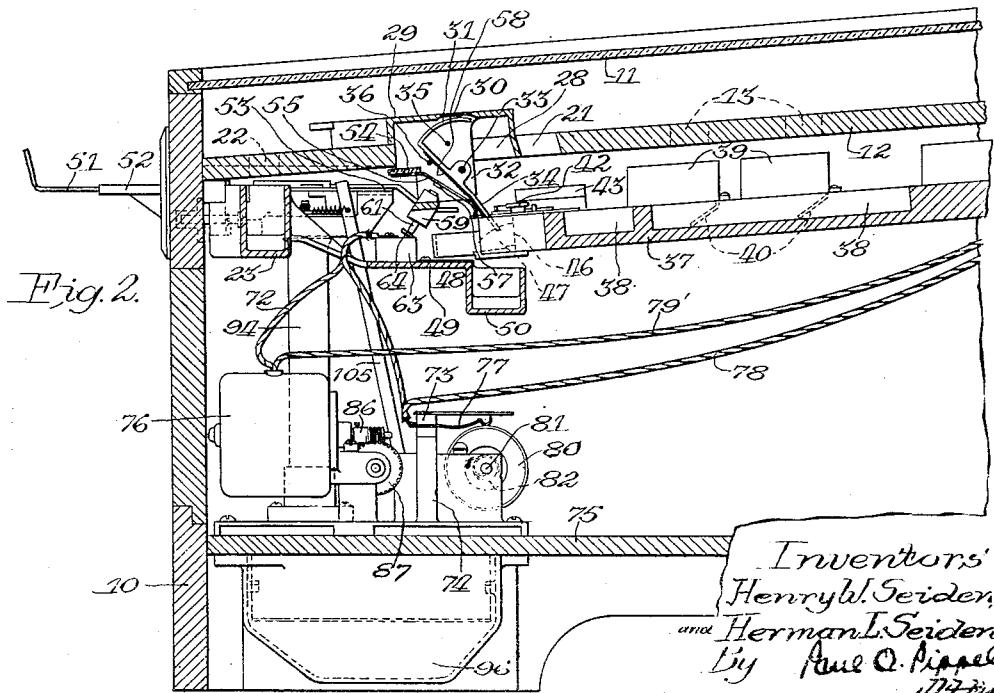
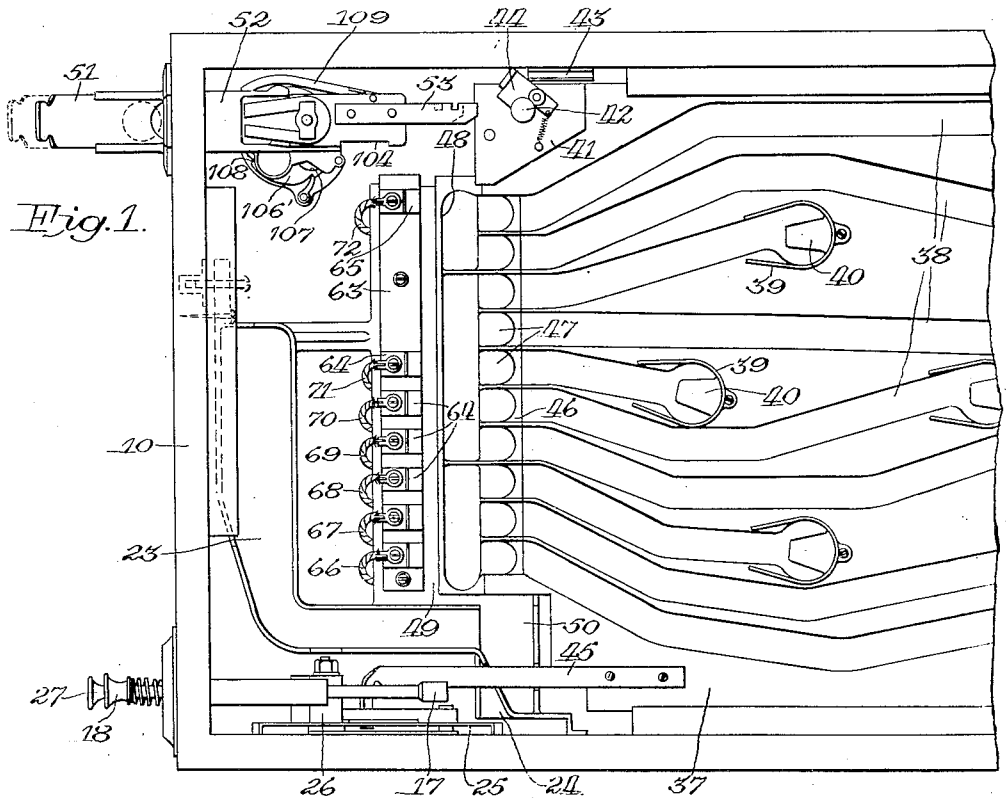
H. W. SEIDEN ET AL

2,010,966

GAME OF SKILL

Filed March 7, 1934

3 Sheets-Sheet 1



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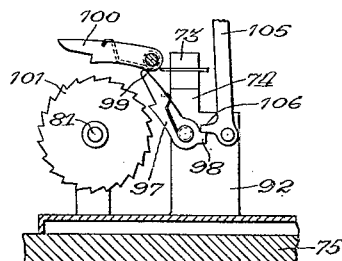
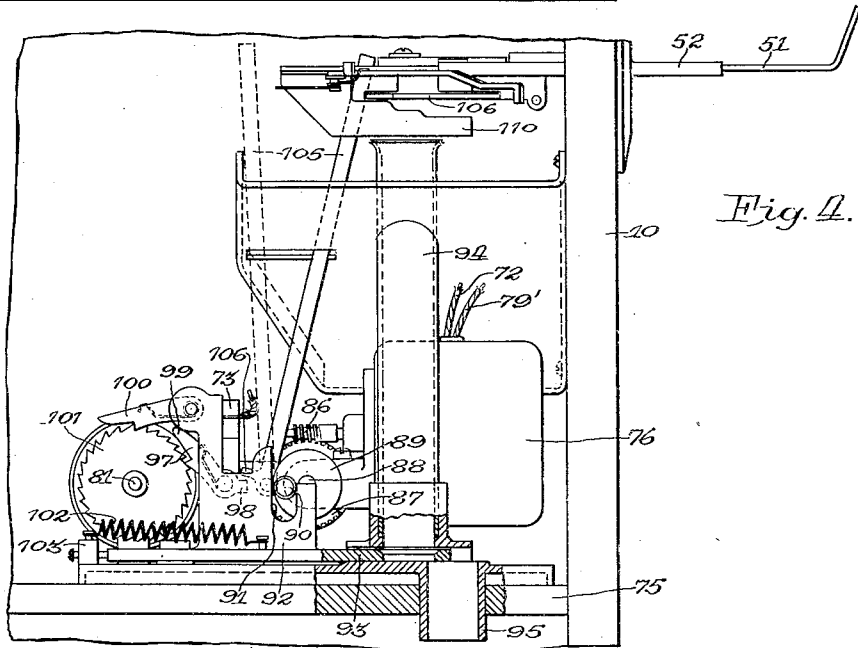
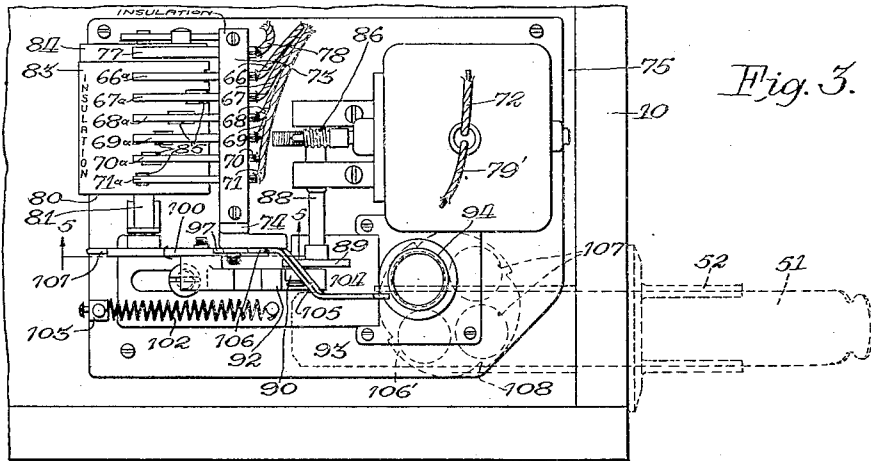
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GAME OF SKILL

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3 Sheets-Sheet 2



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GAME OF SKILL

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3 Sheets-Sheet 3

Fig. 7.

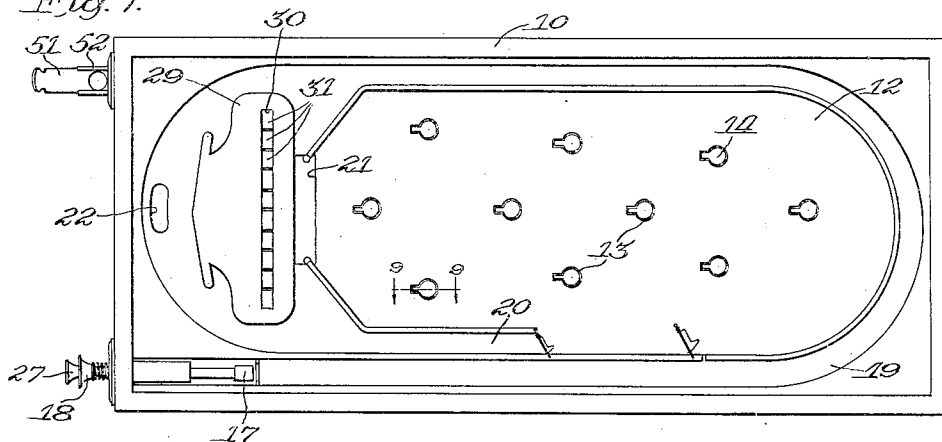


Fig. 8.

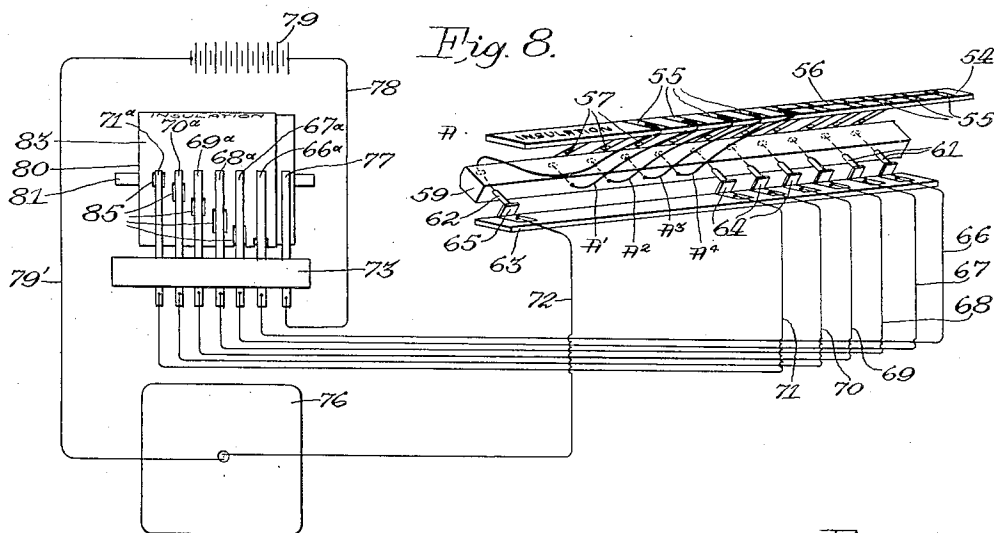
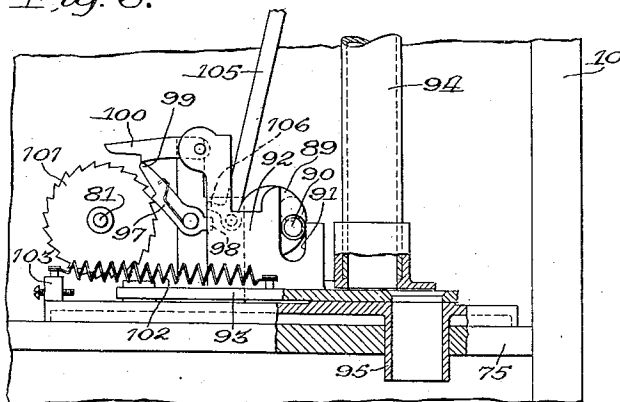


Fig. 6.



## UNITED STATES PATENT OFFICE

2,010,966

## GAME OF SKILL

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23 Claims. (Cl. 273—121)

The invention relates to a game for the amusement of the player and also to develop skill and proficiency in the playing thereof.

More particularly the game is of the so-called pin and marble type in which marbles or balls are projected over a playing board provided with holes through which the balls are trapped. To encourage practice and the development of skill in the playing of such game it is desirable to spur the player on by offering some inducement to continued play, especially so, as the games of this type are coin or token operated and the player must pay for the privilege of using the game. It is desirable that such inducement be practical and take the form of a reward, which preferably is in the form of a coin or token payment to be made automatically by the game mechanism, such payment or reward being for the purpose of enabling the player, if he is skilful enough to win such reward, to continue play by using his gain, in the coin slide to release the play mechanism of the game for such further play. It is also desirable to make the reward payment commensurate with the varying degrees of skill displayed; thus, greater skill to receive a greater reward, and lesser skill to receive a proportionately smaller reward.

Accordingly, the main object of the invention is to provide mechanism associated with a game of this type which will operate to dispense a token or suitable reward in accordance with the skill displayed in playing the game.

Another object is to provide such dispensing mechanism which will be electrically controlled but mechanically operated, so that it will be simple, efficient, and absolutely fool proof in operation.

Still another object is to provide such mechanism which will proportion the reward to the skill displayed in playing the game, that is the greater the skill, the more liberal the reward.

A further object is to provide such dispensing mechanism for a coin released game mechanism.

Other objects of the invention will, of course, become apparent to those versed in this art as the disclosure is more completely made.

Briefly, the improved game of skill comprises a box containing a playing field board having formed therein a series of holes, each designated with a certain numerical value. Means is provided to trap the balls dropping through the holes when projected over the playing field, and to lead certain balls to electric contacts, there being a number of contacts for a corresponding number of holes. Thus certain balls, if so

trapped, are caused to close electric circuits to initiate operation of an electric motor which operates mechanism to dispense a reward which in the form of the invention herein disclosed preferably is one or more tokens, trade checks or coins. The mechanism is so arranged that a predetermined number of traps or holes must have received a ball before the dispensing mechanism can become operative. A commutator drum is included in the electrical part of the mechanism, said drum serving to regulate or govern the amount of the reward to be dispensed in accordance with the skill displayed by the player. The drum and contact mechanism after play has been completed is preferably reset by a coin released mechanism, that also serves to reset the game parts to permit replay.

So much will suffice for the present to give a general idea of the structure constituting the invention, a practicable form thereof being illustrated in the accompanying sheets of drawings, wherein:

Figure 1 is a plan view of the rear end of the game with the glass top panel and playing field board removed to show the mechanism therebelow;

Figure 2 is a side sectional view of the structure shown in Figure 1 as seen along the line 2—2 in that figure, looking in the direction of the arrows;

Figure 3 is a plan view of the electrically controlled, mechanically operating dispensing mechanism, the coin slide being shown associated therewith in dotted lines;

Figure 4 is a side elevational view of the pay out mechanism, showing the same from the opposite side shown in Figure 2, the parts being in position ready to operate, and the side panel of the box removed;

Figure 5 is a detail side view of the pawl and ratchet wheel parts of the reward dispenser, as seen along section line 5—5 of Figure 3;

Figure 6 is a side elevational view of a portion of the structure shown in Figure 4 with the dispenser in operative position;

Figure 7 is a general plan view, on a reduced scale, of the game board;

Figure 8 is an electrical diagram; and,

Figure 9 is a side sectional view through one of the trap doors for the target holes as seen along the line 9—9, appearing in Figure 7, looking in the direction of the arrows.

Looking at Figure 7 the game comprises a generally rectangular box 10 having an open top closed by a glass panel 11, as shown in Figure 2.

The play field of the game is a board 12 sloped from the front to the rear end, said board being suitably fastened in the box 10 near its top and provided with a series of targets, or ball traps, in the form of holes 13 passed through the board.

As seen in Figure 9 each hole 13 has associated therewith a pivoted trap door 14 in the form of a circular pad with which is integrally formed an angularly disposed trip arm 15. A flat spring 16 is secured adjacent each hole 13 to engage the trap door trip 15 releasably to hold the door 14 in hole closing position after a ball has passed therethrough. It will be understood that when play is initiated the doors 14 stand upright to uncover the holes 13, the trips 15 lying horizontally under the hole, so that when a ball is projected to the hole and it drops therein, the trip arm 15 is caused to swing downwardly and pull the door 14 to a horizontal position closing the hole. Thus, it will be understood in a single game or cycle of play, the balls can only pass through a hole once. There are ten such holes and only ten ball projectiles, the latter preferably being steel balls of ample weight to insure certainty of operation and play. Consequently if all ten balls in a game are played and all reach an objective then all holes will be closed. The board 12 is to be provided with the usual pin obstacles to encourage greater skill in play, such obstacles not having been shown as they form no part of the present invention.

A ball projector 17 is arranged in the usual place at the right hand edge of the game board, said projector comprising a spring pressed plunger, which may be operated by the hand grip 18. When a ball is impelled by this projector it travels around an oval passageway 19 and finally emerges from a passage 20 onto the board 12 and then rolls down the inclined surface thereof to the holes 13. An opening 21 at the lower end of the play field of the board traps spent balls missing the targets 13, said balls dropping through to a ball storage tray later to be described. Also a free play, or repeat play hole 22 is provided at the extreme lower end of the board 12, said hole leading a ball that might fall therethrough, to a trough 23 (see Figure 1) which is inclined toward the right side of the box to direct the ball to a chute 24 which also is inclined and directs the ball into the path of movement of a ball lifter 25. This ball lifter 25 is of any approved form and pivots about a shaft 26 mounted on the right hand wall of the box 10. The lifter is operated by a plunger 27 in any conventional manner well understood in this art, thus causing the ball to be raised to the lower end of the passageway 19, where it is in position to be projected by the ball projector 17 heretofore described.

To the rear of the transverse slot 21 the board 12 is formed with a relatively large transverse opening 28 as shown in Figure 2, said opening being closed by a register plate panel 29 having a transverse sight opening 30 under which is arranged a series of ten transversely aligned segmentally shaped registering elements 31. The ends 32 of the panel 29 are downwardly extended to carry a transverse shaft 33 on which the legs 34 of each segment 31 are pivoted intermediate their ends. Each register segment 31 has its top surface provided with a number, representing scoring values; for instance, looking at Figure 7 reading from the left wall to the right wall of the machine, the ten segmental registers would be successively numbered as follows: 1000, 900, 800, 700, 600, 500, 400, 300, 200, and 100. Further, on

opposite sides of the legs 34 of these segments are arranged transverse stop rods 35 and 36, their function being to limit the pivotal movement of the segments 31 fore and aft.

Looking again to Figures 1 and 2, it will be seen that a slight distance below the play field board 12 is an inclined panel 37 sloping from the right hand end to the left hand end, as seen in Figure 2. This panel 37 is slidably mounted for bodily end-wise sliding movement in the side walls of the box 10, the panel being normally pushed by a spring, not shown, toward the lower end of the box 10, as shown in Figure 2. Generally, these spring pushed sliding under panels are old in the art and for that reason no further illustration of the structure is required; in any event, the same not being pertinent to the present invention.

This panel 37 is formed with a series of ten alleys 38 which looking from the left hand side to the right hand side of the box 10 (as viewed when the player stands in playing position) correspond respectively to the ten holes 13 thereabove and lead also respectively to the ten register segments 31 given the values, in the order mentioned from 1000 to 100. Thus, there is an alley 38 for each hole 13 and for each register segment 31. Underneath each hole 13 the panel 37 carries a U-shaped wall 39 embracing the terminal end of each alley 38, the purpose of the walls 39 being to guide the balls with certainty into the alleys 38. Each wall 39 also includes an inclined plane element 40 for imparting initial momentum to the trapped balls.

At its rear left hand corner the shifter alley plate 37 carries a corner plate 41 on which is mounted a post 42 (see Figures 1 and 2). The adjacent wall of the box 10 carries a guide 43, while the plate 41 carries a spring pulled pivoted lever 44. The purpose of this mechanism will later appear. The opposite corner of the plate 37 has fastened to it a rearwardly extending arm 45 that can slide through the sides of the trough 24 as shown in Figure 1 when the panel 37 is shifted. The function of the arm 45 will later be made known.

At the lower edge of the panel 37 is a cross bar 46 formed with a transversely aligned series of ten pockets 47, each of which is chute shaped and respectively lined up with an alley 38 to form a continuation thereof. The cross bar also includes a rearwardly extended, transversely disposed wall or loop portion 48 which is open at its bottom and as shown in Figure 2 normally rests on a sloping bracket 49 with which the return chute 23, heretofore described, is formed. The lower or front edge of the sloping bracket 49 terminates in a transversely disposed ball chute 50. As the bracket 49 is secured appropriately to the walls of the box 10, the chute 50 is, of course, stationary, and is located directly under the normal position of the pocketed cross bar 46. Further the chute 50 is inclined to deliver balls toward the lifter 25. It can now be seen that the played balls are delivered by the alleys 38 to the chute pockets 47, and thence against the legs 34 of the register segments 31 to set the registers and contacts, later to be described. When the slide panel 37 is shifted forwardly, or to the right, as seen in Figures 1 and 2, the loop 48 moves with it and pulls the legs 34 of the segments forwardly, at the same time the accumulated balls fall into the chute 50 down which they roll into position for being picked up by the ball lifter 25.

As has been stated the game is to be coin re-

leased or operated, and for that purpose the left hand side of the box 10 has mounted therein a coin slide 51 (see Figures 1, 3 and 4) which slides in a guide part 52, the rear, or inner end of the slide carrying an extension 53 having a hooked end as seen in Figure 1. When the slide 51 is pushed in, the extension 53 abuts the post 42 to shift the panel 37 to the rear, or right, as shown in Figures 1 and 2.

The slide 51 is of that type having the usual safeguards against use of spurious coins or tokens, so that the slide must be moved in its maximum distance before the panel 37 can be properly moved. In the event a magnetic, spurious coin or token is attempted to be used then a magnet carried by the guide 52 picks up the coin, so that stops become operative to permit only part way movement of the slide. Under such condition the hooked end of the extension 53 locks with the latch 44 to hold the panel 37 stable and against further movement. Under such circumstances the balls cannot be freed from the pockets 47 for play, and the slide 51 must be moved back to normal or starting position for expelling the spurious coin from the slide. When the slide moves back it automatically frees from the latch 44. This structure forms no part of our invention and need not further be described.

The main object of the invention, it will be recalled, was to make the playing of the game extremely interesting; to encourage repeated playing thereof with the resultant practice developing more skill and proficiency; and, to that end, as an inducement, mechanism is provided that will actually reward the player in direct proportion to the skill shown by him in play. This mechanism is in the form of a dispenser, or pay out means, controlled in operation by the played balls, and operable in accordance with the numerical value of the target hole into which a ball is projected. For instance, in the example of the mechanism herein chosen for purposes of illustration, before any reward is paid, a ball must have been trapped first by the holes having the values of 1000, 900, 800, 700 and 600. The balls played into these holes may be trapped in any random order, that is, they do not have to be played or trapped in sequence. After the segmental registers 31 for the five holes mentioned have been turned up by the played balls, then the last of these five balls is trapped by the 600 value hole 13 to cause a contact to be automatically closed to operate an electric motor and mechanism that will pay out or dispense two tokens or coins; thereafter, if the 500 hole traps a ball, two more coins will be paid out; if the 400 hole is hit, two additional coins are released by the said mechanism; the 300 hole 13 causes release of four additional coins; the 200 hole pays out six additional coins or tokens; and lastly, as a reward for the maximum display of skill, that is a ball in each of the ten holes, which tenth hole would be the one valued at 100, then fourteen additional token or coin rewards will be released by the dispensing mechanism. This reward paying mechanism will now be described.

Looking first to Figure 2, it will be seen that the under side of the register panel 29 carries a transverse insulated bar 54 carrying a transversely spaced series of ten conductor spring strips 55 (see also Figure 8) the first six strips 55 looking at Figure 8 and counting from right to left being electrically connected by a conductor strip 56, whereas each of the remaining five strips 55 is separate as shown. The first six con-

nected spring strips 55 are for the balls trapped in the holes 13 of the values 1000, 900, 800, 700, 600, and 500, and the remaining five strips 55 are for each of the remaining four holes 13. Each strip 55 carries an electrode 57 and the lower end thereof as shown in Figure 2 engages the leg 32 of its complementary or corresponding register segment 31. An insulator pad 53 backs each leg 32 to insulate the spring strips from the segments.

The panel 29 further carries under the transverse bar 54 another transverse member 59 on which is mounted a series of six spaced spring pressed metal plungers 61, each plunger being lined up with an electrode 57 but normally gapped apart therefrom. At its other end is another plunger contact 62.

Beneath the plunger carrying member 59 the bracket 49 carries a transverse contact bar 63 having a spaced series of six contacts 64 one for each of the six plunger contacts 61. At the other end of the member 63 is a single contact 65 for the plunger 62. The plungers are spring pressed always to contact its complementary contacts 64, 65, as shown.

Wires 66, 67, 68, 69, 70, and 71 lead from the bank of six contacts 64, and a wire 72 leads from the lone contact 65 as shown in Figure 8. These wires 66-71 inclusive lead to brushes 66<sup>a</sup>, 67<sup>a</sup>, 68<sup>a</sup>, 69<sup>a</sup>, 70<sup>a</sup>, and 71<sup>a</sup> carried on a plate 73 mounted on a support 74 fastened to a floor 75 of the box 10. The wire 72 connects with an electric motor 76 suitably supported on the floor 75. Another brush 77 connects by a wire 78 to a battery 79 of dry cells located in the box 10 in any convenient place. A wire 79' leads from the other end of the battery to the motor 76.

A commutator drum 80 is journaled on a shaft 81, a clock spring 82 (see Figure 2) being connected between the stationary shaft and drum to store energy as the drum turns. This commutator drum is made of brass, or other conductor, and has an insulated covering 83 leaving an exposed edge 84, which is always contacted by the brush 77 and as a result the drum 80 is always in circuit with the battery 79. Further the insulated cover 83 is formed with a spirally, staggered series of cut outs 85 which as appears in Figure 8 of increasing length from left to right so that the brushes 66<sup>a</sup>-71<sup>a</sup> will hold the motor energized and in operation for varying intervals.

The bar 54 in Figure 8 appears schematic and perspective, the contact strips 55 having a flat portion secured to the bar and the main portions thereof extending angularly away, as shown in Figure 2 also. The first contact strip and its contact 57 when ball actuated; contacts a wire A in connection with the plunger 62 to establish a first portion of the motor circuit 72. Reading from left to right in Figure 8, the second strip 55 when ball closed, connects a wire A<sup>1</sup> to the circuit 72; and so in turn the third strip 55 connects a wire A<sup>2</sup> to the circuit; the fourth strip 55 connects wire A<sup>3</sup> to the motor circuit which now has been gradually added to, or built up, until the wire A<sup>4</sup> also is in circuit with the wire 71 through the first clip 64 to completely establish the circuit from the battery to the motor and commutator.

As shown in Figures 3 and 4, the motor 76 has a shaft carrying a worm gear 86 meshing a worm wheel 87, the latter turning a shaft 88 on which is a wheel 89 provided with an eccentric pin 90. The pin 90 operates in the slot 91 formed in a vertical wall 92 which is an integral portion of a horizontally disposed slide member 93. This

slide is reciprocable under the lower end of a vertical token or coin magazine tube 94 suitably mounted in the box 10, as shown, the tube being in this instance long enough to carry thirty tokens, or checks, or coins, the slide 93 being, in the present form, of a thickness to enable it to push out two coins or tokens at a single stroke.

Offset from the tube 94 is a short pay out, or dispensing tube 95 that extends below the slide 93 to drop the tokens to a pay out box 96 at a lower side corner of the box 10, where the player can retrieve the dispensed reward. The wall part of the slide 93 carries a spring pressed dog 97 having a heel 98 and rounded nose 99. Further the wall 92 has an extension carrying a pawl 100, which is pivoted and spring pressed, the same having a curved lower edge rideable on the rounded nose 99 of the dog 97. As the wall 92 reciprocates to the left as seen in Figure 4, the pawl 100 engages and moves a ratchet wheel 101 a single step, the wheel 101 being fast on the shaft that turns the commutator drum 80 to cause the drum to turn a like amount. As the spring 82 tends to unwind the drum, or turn it back, the dog 97 serves as a holding dog to lock the ratchet wheel to maintain its gain. A spring 102 is connected between a post 103 and the slide 93.

Looking to Figures 1, 3, and 4 it can be seen that the coin slide 51 has a notch 104 associated with a lever 105 having a toe 106 which engages the heel 98 as shown in Figure 5 when the slide 51 is properly coin operated and moved in, such movement of the slide pivoting the lever to the rear, or left as viewed in Figure 4. In this fashion the dog 97 is freed from the ratchet wheel 101, and the nose 99 of the dog in turn lifts the pawl 100 out of engagement with the ratchet wheel 101. The latter wheel now being completely freed is caused to be driven reversely by the spring 82 to return the commutator drum 80 to its starting position. When the coin slide returns to normal position after having released the game for play, then these parts assume the position shown in Figure 6 where the dog 97 is spring pressed to engage the ratchet wheel, and its nose 99 holds the pawl 100 in proper position to engage the ratchet wheel.

The coin slide 51 is of that type having its guide 52 carry a turn table 106' provided with four coin pockets 107 (see Figures 1, 3, and 4). The periphery of the table 106' is notched in four places 108 and a dog 109 is pivotally connected to the slide 51. Thus when a first coin is handled it is received by a pocket 107 and as the slide is retracted to normal position the dog or pawl 109 turns the table 106' one quarter turn counterclockwise, as viewed in Figure 1. The second coin handled by the slide then drops into the next pocket 107 in line with the slide and as the slide is thereafter retracted, the pawl 109 turns the table 106' another quarter turn which places the first coin directly over the token or coin magazine 94 where it drops into the magazine; or, if the tube 94 is filled with its maximum thirty coins or tokens, then the same merely drops on top of the stack of coins and rests there for the time being. When a third, or succeeding operation of the slide is then made a member 110 moves with the slide 51 to sweep the surplus coin off the top of the magazine and into any suitable storage container, not shown, and appropriately placed inside the box 10. This much description of the coin slide mechanism, it is thought, will suffice, particularly so, in that

this mechanism is not part of the present invention.

In playing and operating the improved mechanism the slide 51 must first receive an authentic token or coin, this permitting the slide 51 to be pushed inwardly its full stroke. This causes the extension 53 to push on the post 42 to slide the panel 37 ahead; said panel, in a manner not herein shown, having means to engage the trips 15 to open the trap doors 14 to expose the holes 13 for play. Simultaneously, the movement of the panel 37 causes the pockets 47 to release the balls accumulated thereon, which balls then gravitate into the trough 50 down which they roll to the lifter 25, said balls, however, being prevented for the moment from getting into the path of the lifter by the stop 45 which moves ahead with the panel 37. The forward movement of the panel 37 carries the loop 48 ahead which sets the ten register segments in non-indicating position in the opening 30 and separates the electrodes 57 from the plungers 61 and wires A<sup>1</sup> to A<sup>4</sup> inclusive. At the same time the slide 51 moves the lever 105 to set the ratchet wheel 101 free as seen in Figure 5, whereupon the spring 82 winds the commutator drum 80 back to starting position. In such starting position as shown in Figure 8 the first brush 71<sup>a</sup> reading from left to right, is in electrical contact with the drum through its gap or cut out 85; the brush 77 at the opposite end contacts the exposed flange 80; and the remaining brushes 66<sup>a</sup> to 76<sup>a</sup> inclusive contact the insulated cover 83. As the slide 51 is retracted the parts assume the position shown in Figure 6. The panel 37 is also spring urged, in any conventional way, so that as the slide 51 retracts the panel 37 simultaneously is also pushed back to assume the position shown in Figure 2. The game is now set for play, because, as the panel 37 moved back, the balls in the trough chute 50 were freed from the hold back action of the member 45, to be successively lifted by the lifter 25.

The balls are then successively projected by the shooter 18, which has associated with it a graduated gauge, not shown, to enable the player to gauge every shot with the utmost skill and accuracy. We will assume that the first five balls, in any random order, have been played through the five holes having the numerical values of 1000, 900, 800, 700, and 600, each ball having rolled through its hole 13, closed its door 14, rolled down its alley 38 and engaged the leg 32 of its segment 31, thus moving the segment register into view under the opening 30 to show the numbers 1000, 900, 800, etc., as above listed. In any random order we will assume five balls have been played to build up the circuit from the plunger 62 and its lead 72, through the successive wires A-A<sup>4</sup> inclusive to the clip 64 for the circuit 71. This means that the 1000, 900, 800, 700, and 600 holes 13 have been played and their respective segments 31 have been ball actuated. No circuit is complete until all five of these holes are played. With the 600 hole circuit completed the wire 72 is in circuit with the motor 76 and through the lead 79' to the battery 79. Also the lead 71 connects in circuit with the drum 80 through brush 71<sup>a</sup>, the drum 80 always being in circuit with the battery 79 through the brush 77 and wire 78. The circuit thus described is closed or completed now, causing the motor to operate. This drives the gearing 86, 87; the wheel 89 and pin 90; to slide the wall 92 and slide 93 from the position of Figure 4 to that shown in Figure 6. The slide therefore passes under the tube 94 to push out two

tokens or coins. The reward so paid out drops through the tube 95 to the pay out box 94 from whence the player takes his reward. The motor drive parts return the slide 93 to the position shown in Figure 4, the spring 102 assisting such movement. As the slide returns the ratchet wheel 101 is driven one step by the pawl 100 which turns the drum to remove brush 71<sup>a</sup> onto the insulated cover 83 and lodge the brush 70<sup>a</sup> on its cut out portion 85. This breaks the complete circuit 71, which had been established and the motor thus stops. Nothing further can happen now until the next ball played establishes a new circuit 70.

Now, when the 500 segment is next ball operated to close its corresponding contacts 57, 61 the circuit 70 is closed and energized. As the brush 77 is always electrically in contact with the conductor part of the drum 80 and the brush 70<sup>a</sup> is contacting its short cut out 85 in the insulated cover 83, the motor is again caused to operate. This once more turns the gearing 86, 87, the wheel 89, and causes the pin 90 to move the wall 92 and the slide 93 from the position shown in Figure 4 to the position shown in Figure 6. As a consequence the slide 93 again passes across the bottom end of the magazine 94 to push out two tokens or coins, or similar reward, such as a trade check, said tokens or the like being moved to the pay out tube 95 down which they fall to the box 96 from whence the player takes his additional reward. As the spring 102 and motor drive return the parts to the position of Figure 4 the pawl 100 moves the ratchet wheel 101 one step, thus turning the drum 80, causing the brush 70<sup>a</sup> to pass off its cut out 85 and into engagement with the insulated cover 83. This opens the circuit 70 and stops the motor 76, the parts now coming to rest with the brush 70<sup>a</sup> contacting and resting on its cut out 85 in the cover 83.

Next, let us assume that the succeeding ball played passes through the hole 13 marked 400. The 400 register segment moves to display and contact position closing circuit 69. As the cut out 85 for the brush 69<sup>a</sup> is of the same length as the cut out for the brushes 70<sup>a</sup> and 71<sup>a</sup> the motor is operated for the same length of time heretofore described, thereby causing the mechanism to work as before, to dispense two additional coins, tokens, or trade checks.

When the succeeding ball moves the segment for the 300 hole, the circuit 68 is closed and as its brush 68<sup>a</sup> is resting on its cut out 85 just twice as long as the cut outs 85 for the brushes heretofore mentioned, the motor continues to operate for a duration sufficient to permit two full strokes of the slide 93, each stroke paying two coins, for a total of four additional coins.

When the 200 hole 13 and segment 31 come into play, the circuit 67 is energized and as the brush 67<sup>a</sup> is lodged on a cut out 85 three times as long as the cut out 85 for the brush 71<sup>a</sup>, the motor 76 is caused to run long enough to cause three full strokes of the slide, each stroke dispensing two coins, or for a total of six additional rewards.

The tenth ball, if extreme skill is displayed closes the contact, and circuit 66 for the brush 66<sup>a</sup> and a relatively long cut out 85 in the drum insulator 83, thus causing the motor 76 to operate for a duration permitting seven strokes of the slide 93, each stroke dispensing two coins for a grand total of fourteen additional rewards.

The play of ten balls ends the game and the parts thereof cannot again be played until the slide 51 receives another coin to reset the mech-

anism for another play as described at the beginning.

The interesting thing about the novel control above described is that the balls may be trapped by the holes in any haphazard or random order; the pay out circuits being established whenever the holes 13 for the values of 1000, 900, 800, 700 and 600 have been played. Of course, the arrangement herein described is purely optional and it could assume other desired combinations and forms.

Further the coin slide 51 with its turn table 106 keeps the magazine 94 supplied with tokens or other rewards, to insure proper functioning in the event of many successive plays and pay outs.

The improved coin dispenser has herein been particularly associated with a game of skill, although it quite obviously has many other uses, such for example as a coin handling apparatus for sundry purposes.

From this disclosure it will now be clear that a reward paying device for games, and the like, has been provided which achieves all of the desirable objects heretofore recited.

It is the intention to cover all such changes and modifications of the game combination, or pay off device, per se, which do not depart from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. Control means for a check dispensing mechanism comprising an upright magazine containing the checks, a reciprocatory slide associated with the lower end of the magazine for ejecting the checks from the magazine, said control means including a motor having connections for operating the slide, a plurality of contacts adapted to be individually closed for operating the motor, and means in circuit with the contacts for causing the slide to operate one or more times depending upon which of the contacts has been closed.

2. Control means for a check dispensing mechanism comprising an upright magazine containing the checks, a slide associated with the lower end of the magazine for ejecting the checks from the magazine, said control means including a motor having connections for operating the slide, a plurality of contacts including circuits adapted to be individually closed for operating the motor, and a commutator drum driven from the motor and having segments of varying lengths and equal in number to the number of contacts, the segments having brushes associated therewith and connected to the contacts and said circuits whereby said commutator mechanism controls the motor and slide and causes the slide to operate one or more times depending upon which of the contacts has been closed and the length of the segment associated therewith.

3. Control mechanism for a check dispensing mechanism adapted for use with ball projecting games and the like, said control mechanism comprising contacts adapted to be closed by balls, a check magazine having associated therewith a member to eject checks therefrom, said control means comprising means to operate said member including a motor, and commutator means in circuit with the contacts for causing the ejector member to operate one or a number of times.

4. Control mechanism for a check dispensing mechanism adapted for use with ball projecting games and the like, said control mechanism comprising electrical contacts adapted to be closed by balls, a check magazine having associated

therewith a reciprocatory member for ejecting checks from the magazine, the control mechanism including a motor connected to operate said reciprocatory member, and a timer in circuit with the contacts for governing the time of operation of said motor whereby the reciprocating member may be caused to operate one or more times.

5. Control mechanism for a check dispensing mechanism adapted for use with ball projecting games and the like, said control mechanism comprising electrical contacts and circuits adapted to be closed by balls, a check magazine having associated therewith a reciprocatory member for ejecting checks from the magazine, the control mechanism including a motor connected to operate said reciprocatory member, a rotary timer for governing the period of operation of said motor whereby the member may operate one or more times, and means operable with the reciprocatory member to operate the timer.

6. Control mechanism for a check dispensing mechanism comprising an upright magazine with an ejector at the bottom end thereof to eject checks from the magazine, said control mechanism comprising a motor, connections between the motor and ejector to operate the latter, and timing mechanism driven by the motor to regulate the number of ejector operations performed by the ejector.

7. Control mechanism for a check dispensing mechanism comprising an upright magazine with an ejector at the bottom end thereof and movable relative to the magazine to eject checks therefrom, said control mechanism comprising a motor, driving connections from the motor to move the ejector, a timer to regulate the number of operations to be made by the ejector, and means carried by and movable with the ejector to operate the timer.

8. Control mechanism for a check dispenser having a magazine, a check ejector, and electric motor for operating the ejector, said control mechanism including the motor and a source of electric energy, a bank of contacts one of which is always in circuit with the motor, a movable commutator having a number of contacts, said commutator also being in circuit with the source of energy, certain of the contacts in the aforementioned bank having circuits respectively leading therefrom, each said last mentioned circuits being connected to a brush, said brushes being respectively associated with the commutator contacts and adapted individually to contact the same, means for electrically connecting a predetermined number of the aforementioned bank of contacts without energizing the motor, and means for closing the remaining contacts of said bank and their circuits individually to cause operation of the motor, said commutator being driven by the motor and its contacts serving to make and break the said individual circuits to control operation of the ejector.

9. Control mechanism for a check dispenser having a magazine, a check ejector, and electric motor for operating the ejector, said control mechanism including the motor and a source of electric energy, a bank of contacts one of which is always in circuit with the motor, a movable commutator having a number of contacts, said commutator also being in circuit with the source of energy, certain of the contacts in the aforementioned bank having circuits respectively leading therefrom, each said last mentioned circuits being connected to a brush, said brushes being respectively associated with the commutator con-

tacts and adapted individually to contact the same, means for closing individually the contacts in said bank and their circuits to cause operation of the motor, said commutator being driven by the motor and its contacts serving to make and break the said individual circuits to control operation of the ejector.

10. In a pin ball game having a table provided with traps to receive projected balls; control mechanism for a check dispenser having a magazine with a movable check ejector and electrical means for operating the ejector; said control mechanism including the electrical means and a source of electrical energy, a bank of contacts one of which is in circuit with the electrical means, a movable commutator having a number of contacts, said commutator also being in circuit with the source of energy, certain of the contacts in the aforementioned bank having circuits respectively leading therefrom, each said last mentioned circuits being connected to a brush, said brushes being respectively associated with the commutator contacts and adapted individually to contact the same, means operable by the trapping of the balls for electrically connecting a predetermined number of the contacts in said bank without energizing the electrical means, other balls being trapped serving to close the remaining contacts of said bank and their circuits individually to cause operation of the electrical means, said commutator being driven by the electrical means and its contacts serving to make and break the said individual circuits to control operation of the ejector.

11. In a pin ball game having a table provided with traps to receive projected balls; control mechanism for a check dispenser having a magazine with a movable check ejector and an electric motor for operating the ejector; said control mechanism including the motor and a source of energy, a series of normally open contacts, a movable commutator having a number of contacts, said commutator being in circuit with the source of energy, the series of contacts having circuits leading respectively therefrom and adapted for connection with the commutator contacts, means operable by trapped balls to close said individual contacts and their circuits to energize the motor and drive the commutator, said motor driving the ejector to dispense checks from the magazine, and said commutator contacts serving to make and break the individual circuits.

12. In a pin ball game having a table provided with traps to receive projected balls; control mechanism for a check dispenser having a magazine with a movable check ejector and an electric motor drivingly associated with the ejector to operate the same; said control mechanism including the motor and a source of energy, a series of spaced normally open contacts, a movable commutator having a number of contacts, said commutator being in circuit with the source of energy, the series of contacts having circuits leading respectively therefrom and adapted for successive connection with the commutator contacts, means operable by trapped balls to close said individual contacts and their circuits to energize the motor and move the commutator, said motor driving the ejector to dispense checks from the magazine, said commutator contacts being of different lengths whereby certain of the individual circuits remain closed longer than others, and said commutator contacts serving to make and break the individual circuits.

13. Control mechanism for a check dispenser having a magazine and a movable check ejector associated with the magazine and also an electric motor connected to drive the ejector; said mechanism adapted to be associated with a pin ball game having traps for receiving played balls; said control mechanism including the motor and a source of electric energy, a bank of contacts one of which is always in circuit with the motor, a rotary commutator having a number of contacts, said commutator also being in circuit with the source of energy, certain of the contacts in the bank having circuits respectively leading therefrom, each of said last mentioned circuits being connected with a brush, said brushes being respectively associated with the commutator contacts, means operable by the trapping of the balls for electrically connecting a predetermined number of the contacts in the bank without energizing the motor, and means operable by the trapping of other played balls for closing the remaining contacts of said bank and their circuits individually to cause operation of the motor, said commutator being rotated by the motor and its contacts serving to make and break the said individual circuits to control operation of the ejector.

14. Control mechanism for a check dispenser having a magazine and a movable check ejector associated with the magazine and also an electric motor connected to drive the ejector; said mechanism adapted to be associated with a pin ball game having traps for receiving played balls; said control mechanism including the motor and a source of electric energy, a bank of normally open contacts, a rotary commutator having a number of contacts, the bank contacts having circuits leading therefrom for respective connection with the commutator contacts, the trapped balls serving individually to close the open bank contacts and the circuits therefor to energize the motor and cause operation of the ejector and commutator, said commutator contacts serving to make and break the said circuits to control operation of the ejector.

15. Control mechanism for a check dispenser having a magazine and a movable check ejector associated with the magazine and also an electric motor connected to drive the ejector; said mechanism adapted to be associated with a pin ball game having traps for receiving played balls; said control mechanism including the motor and a source of electric energy, a bank of normally open contacts, a rotary commutator having a number of contacts of varying size, the bank contacts having circuits leading therefrom for respective connection with the commutator contacts, the trapped balls serving individually to close the open bank contacts and the circuits therefor to energize the motor and cause operation of the ejector and commutator, said commutator contacts serving to make and break the said circuits to control the number of operations of the ejector.

16. Control mechanism for a check dispenser having a magazine and a movable check ejector associated with the magazine and also an electric motor connected to drive the ejector; said mechanism adapted to be associated with a pin ball game having traps for receiving played balls; said control mechanism including the motor and a source of electric energy, a bank of contacts, one of which is in circuit with the motor, a commutator in circuit with the source of energy, circuits connecting the bank contacts and commutator, trapped balls serving to close certain of the contacts to build up a circuit without energizing

the motor, and other balls serving to close the circuits between the remaining bank contacts and commutator to energize the motor and operate the ejector, said commutator serving to make and break the circuits and thereby control operation of the ejector.

17. A check dispenser for games and the like comprising a magazine and a slidable ejector associated therewith, an electric motor, a wheel including an eccentric pin driven from the motor, said slide ejector having a slotted wall portion cooperable with the eccentric pin to slide the ejector to and fro relative to the magazine to eject checks therefrom, a control commutator drum including a ratchet, a pawl on the slide to turn the ratchet and drum, said drum governing the operation of the motor.

18. A check dispenser for pin ball games and the like, said dispenser comprising a magazine for the checks, a reciprocable slide associated with an end of the magazine to eject checks therefrom, an electric motor having connection with the slide to reciprocate the same, a rotary timer including a spring and ratchet, a pawl on the slide to engage the ratchet and turn the timer one step for each stroke of the slide and to store power in the spring, and means for disengaging the pawl from the ratchet whereby the spring returns the timer to an initial starting position, said timer being associated with circuits that cooperate with ball closed contacts to cause and stop operation of the motor.

19. A check dispenser for pin ball games and the like, said dispenser comprising a magazine for the checks, a reciprocable slide associated with an end of the magazine to eject checks therefrom, an electric motor having connection with the slide to reciprocate the same, a movable timer including a spring and ratchet, a pawl on the slide to engage the ratchet for advancing the timer one step for each stroke of the slide, thereby placing said spring under tension, a manually operable means for disengaging the pawl from the ratchet whereby the spring returns the timer to an initial starting position, said timer being associated with circuits and contacts to cause and stop operation of the motor.

20. A check dispenser for coin released pin ball games and the like, said dispenser comprising an upright magazine for the checks, a reciprocable slide associated with the lower end of the magazine to eject checks therefrom, an electric motor operatively connected with the slide to reciprocate the same, a rotary timer including a spring and ratchet wheel, a pawl associated with the slide to engage the ratchet and turn the timer one step for each stroke of the slide and to store power in the spring, a back lash preventing dog associated with the slide and engaging the ratchet wheel adjacent said pawl, and coin released means for disengaging the dog and pawl from engagement with the ratchet wheel whereby the spring acts to return the timer to an initial starting position, said timer being associated with circuits and ball closed contacts to cause and stop operation of the motor.

21. A check dispenser for coin released pin ball games and the like, said dispenser comprising an upright magazine for the checks, a reciprocable slide associated with the lower end of the magazine to eject checks therefrom, an electric motor operatively connected with the slide to reciprocate the same, a movable timer including a spring and ratchet member, a pawl associated with the slide to engage the ratchet member and

move the timer one step for each stroke of the slide and to store power in the spring, and coin released means for disengaging the pawl from the ratchet member whereby the spring acts to return  
 5 the timer to an initial starting position, said timer being associated with circuits and ball closed contacts to cause and stop operation of the motor.

22. A check dispenser for pin ball games and the like, said dispenser comprising an upright  
 10 magazine for the checks, a reciprocable slide associated with the lower end of the magazine to eject checks therefrom, an electric motor, an eccentric driven thereby, said slide including a wall having a connection with the eccentric to  
 15 reciprocate the slide, a rotary timer including a spring and ratchet wheel, a pawl associated with the slide to engage the ratchet wheel and turn the timer one step for each stroke of the slide and to store power in the spring, and means for disengaging the pawl from the ratchet wheel whereby  
 20 the spring returns the timer to an initial starting position, said timer being associated with cir-

cuits and contacts to cause and stop operation of the motor.

23. A check dispenser for pin ball games and the like, said dispenser comprising an upright  
 5 magazine for the checks, a reciprocable slide associated with the lower end of the magazine to eject checks therefrom, an electric motor, an eccentric pin driven thereby, said slide including a wall having a slot to receive said pin whereby to reciprocate the slide, a timer including a spring  
 10 and ratchet member, a pawl associated with the slide to engage the ratchet and move the timer one step for each stroke of the slide and to store power in the spring, and means for disengaging the pawl from the ratchet member whereby the  
 15 spring returns the timer to an initial starting position, said timer being associated with circuits and contacts to cause and stop operation of the motor.

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