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COIN CONTROLLED GAME TABLE

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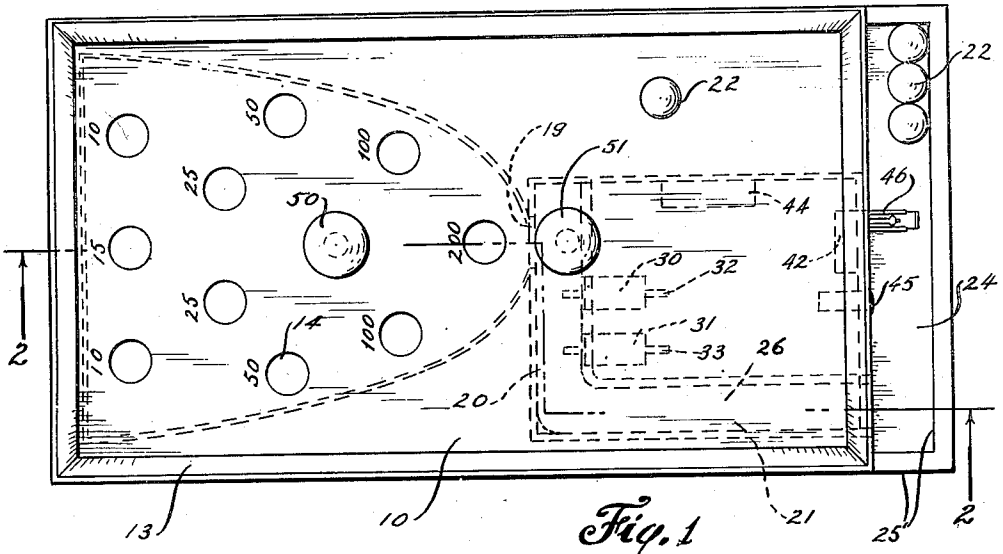


Fig. 1

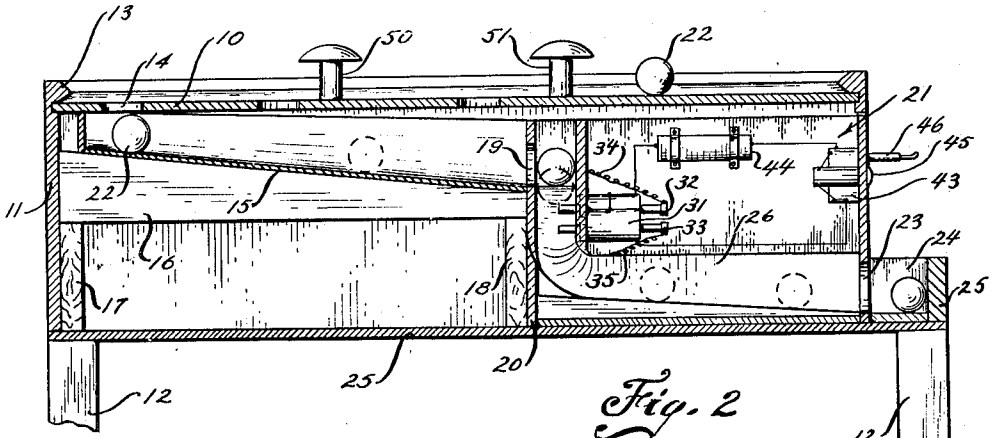


Fig. 2

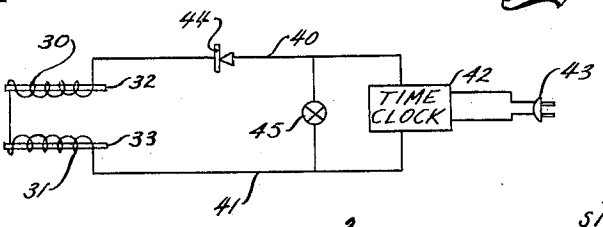


Fig. 3

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COIN CONTROLLED GAME TABLE

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7 Claims. (Cl. 273—125)

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This invention relates to game tables on which games combining skill and chance may be played for recreation and amusement, particularly to coin-controlled game tables of the type including a horizontal bed having a plurality of spaced holes therethrough into which balls are propelled by cues or other devices according to the rules of the games, the issuance of balls to a player being controlled by a control device.

One of the objects of the invention is to produce a novel and improved game table of the general type, above referred to.

Another object of the invention is to provide a novel and improved game table permitting the playing of a variety of interesting and amusing games combining skill and chance.

Another object of the invention is to provide a novel and improved coin-controlled game table comprising a control device releasing balls to a player for a predetermined period of time in response to the insertion of a token or coin.

Another more specific object of the invention, allied with the preceding one, is to provide a novel and improved control device which releases balls for a predetermined period of time independently of the number of balls played by the player during said period.

Another object of the invention is to provide a novel and improved game table of the general type, above referred to, which is reliable in operation, rugged and simple in design, and offers the player the opportunity of using a number of balls largely controlled by the player's own speed while conventional coin-controlled game tables, as hitherto known, supply a fixed number of balls.

Other and further objects, features and advantages of the invention will be pointed out hereinafter and appear in the appended claims forming part of the application.

In the accompanying drawing, a now preferred embodiment of the invention is shown by way of illustration and not by way of limitation.

In the drawing:

Fig. 1 is a plan view of a game table according to the invention.

Fig. 2 is a section along line 2—2 of Fig. 1, and

Fig. 3 shows a typical circuit diagram of the control device of the table.

Referring now to Figs. 1 and 2 in detail, the illustrated game table according to the invention comprises a bed 10, preferably covered with felt similarly to a billiard or pool table. Bed 10 constitutes the cover of a box-like structure 11 horizontally supported by legs 12. The bed is confined by cushions 13, preferably of the type used

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for billiard or pool tables. Approximately one half of the bed is provided with a plurality of spaced holes 14 which may be of equal or unequal size and are distributed in any manner suitable for the purpose of the game to be played on the game table. Different values may be assigned to the holes as indicated on Fig. 1.

Beneath bed 10 and within box 11, there is provided a trough 15 having preferably the cross-section of a comparatively shallow cup. Trough 15 is supported on a wedge shaped bracket 16 resting upon posts 17 and 18. As can be seen on Figs. 1 and 2, the trough is tapered and sloped toward a ball entrance opening 19 of the casing 20 of a control device, generally designated by 21. As a result, any ball dropping through one of the holes 14 will be caught by trough 15 and guided toward and into control device 21. The control device, all parts of which are preferably disposed within casing 20, comprises, in addition to the previously mentioned ball entrance opening 19, a ball discharge opening 23, one of the casing walls constituting also a front wall of box 11. Balls leaving the control device are caught and collected in a trap 24 provided in front of the casing or box wall including opening 23. The trap is formed by an extension of bottom wall 25 of box 11 and side walls 25'. The trap may extend along the entire width of the game table as can best be seen on Fig. 1. Entrance opening 19 and discharge opening 23 are connected by a trough 26 which may be knee-shaped. The trough is sloped toward discharge opening 23 so that a ball fed into the control device will roll through trough 26 into trap 24.

In order to control the passage of balls through the control device and hence the balls available to a player, one or more solenoids 30 and 31—two being shown—are provided. Each of the solenoids has an axially slidable core 32 and 33 respectively extended at one end through a hole in the wall of trough 26 into the path of balls rolling through the said trough. There is provided for each core a spring 34 and 35 respectively. Each spring is fastened at one end to a core and at the other end to one of the trough walls or any other suitable stationary part within casing 20. The springs are loaded to bias cores 32 and 33 into the positions as best shown on Fig. 2 in which the protruding ends of the cores will block the passage of any ball entering trough 26 through opening 19.

The provision of two solenoids spaced in the direction of the travel of balls through the trough serves to secure stopping of balls in the trough,

Practical tests have shown that it is advantageous to make the width of the trough considerably larger than the cross-section of the balls to avoid clogging of balls within the trough. As a result, when a ball jumps the first protruding core, this core will slow down the ball so that the second core will safely arrest a ball having jumped the first core. The protruding ends of the cores are preferably arranged at different heights relative to the trough bottom, thereby further improving the certainty of an arrest of balls within the trough without danger of jamming or clogging.

The solenoid coils are connected in series by leads **40** and **41** respectively through a timing device **42** to a conventional two-pole plug **43**. In case, the available source of current is an A.-C. source, suitable rectifying means such as a dry rectifier **44** is preferably provided. As is well known, it is preferable to energize solenoids with direct current to avoid humming. A step-down transformer may be included in the circuit if desirable. Furthermore, a pilot lamp **45** may be connected in parallel with the solenoid coils to indicate whether the circuit system is supplied with current.

Timing device **42** which is indicated by a rectangular with the legend "time clock" includes a coin or token controlled switch, the coin slot being designated by **46**. Timing devices of this type are well known in the art and it is believed that a detailed description is not necessary for the understanding of the invention.

When a coin or token of the proper value or size is inserted into the coin slot, the time clock will be actuated and close its switch for a predetermined period of time at the end of which the switch will be automatically reopened. The last inserted coin or a previously inserted one is released into a coin box from which the coins can be removed by the operator of the game table. As previously mentioned, arrangements of this kind are well known in the art, as are also means for adjusting the value of the coins to be used and the time for which the switch is maintained closed.

As will be evident, the series connected solenoid coils and also pilot lamp **45** are energized when and while the switch of the timing device is closed. As a result, the solenoid coils attract their respective cores against the action of springs **34** and **35**, thereby clearing the passage through trough **26**. Consequently, any ball dropping through one of holes **14** will roll through the control device **21** into trap **24** and is again available for playing. As soon as the solenoids are de-energized, springs **34** and **35** will return cores **32** and **33** into their locking positions, thereby blocking the passage of balls through the trough.

To provide for a greater variety of games that can be played on the game table, hazards shown as one or more mushroom-shaped pins **50** and **51** may be provided to be placed in any desired position relative to holes **14** according to the rules of games to be played on the game table.

The operation of the game table, as herein-before described, is as follows:

A player who wants to play a game inserts a suitable coin or token into coin slot **46**. As previously described, solenoids **30** and **31** are now energized thereby withdrawing their respective cores from trough **26**. A supply of balls now rolls into trap **24** from which they can be removed by the player. Any ball dropped through one of the holes **14** will return into the trap as long as the switch of the timing device **42** is closed and the solenoids are energized. At the end of this period, no more balls will return into the trap so that the game comes to an end when the supply of balls in the trap is exhausted. As will be apparent, the number of balls available to a player is indefinite and largely controlled by the speed with which the player plays and causes balls to drop through the holes.

Any variety of rules may be provided. Generally, it is intended that all balls are played from a point or a line adjacent to the table end or head at which trap **24** is located.

While the trap is shown extended across a short side of the table, it is also feasible to provide the trap at one of the long sides of the table. The balls are preferably propelled by means of cues such as billiard cues. The rules may provide that the balls are propelled into a hole by the impact of a second ball rather than directly. Furthermore, the knocking over of one of the hazards may entail a penalty in the scoring.

Prizes may be awarded to the players in accordance with the score.

While the invention has been described in detail with respect to a certain now preferred example and embodiment of the invention it will be understood by those skilled in the art after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention.

What is claimed as new and desired to be secured by Letters Patent is:

1. A game table of the type including a substantially horizontally supported bed having a plurality of spaced holes therethrough, a control device controlling the issuance of playing balls to a player, and guiding means mounted below said bed for guiding playing balls falling through said holes toward and into the control device, wherein the said control device comprises a casing having a ball entrance opening and a ball discharge opening, a guiding trough connecting said openings and sloped toward the discharge opening, a solenoid having an axially slidable core arranged to extend into the trough and to block the passage of balls when said solenoid is deenergized, and a coin controlled timing device including a switch connected in circuit with the solenoid coil, said timing device being arranged to close said switch for a predetermined period of time in response to the insertion of a coin into the timing device, thereby energizing said solenoid and causing the core of the same to clear the trough for the passage of balls for said predetermined period.

2. A game table as described in claim 1, wherein a spring is operatively connected with said core and loaded to bias the core into its passage blocking position.

3. In a game table of the type including a substantially horizontally supported bed having a plurality of spaced holes therethrough, a control device controlling the issuance of playing balls to a player, and guiding means mounted below said bed for guiding playing balls falling through said holes toward and into the control device, the said control device comprising a casing having a ball entrance opening and a ball discharge opening, a guiding trough connecting said openings and sloped toward the discharge opening, a pair of solenoids disposed within said casing, each solenoid having an axially slidable core arranged to extend into the trough and to block the passage of a ball when the solenoids are

deenergized, the cores of said solenoids being disposed spaced apart in the direction of the travel of balls through said trough so as to form a double barrier within the trough, a spring operatively connected with each of said cores and loaded to bias the respective core into its passage blocking position, and a coin controlled timing device including a switch connected in circuit with the solenoid coils, said timing device being arranged to close said switch for a predetermined period of time in response to the insertion of a coin in the timing device, thereby energizing the solenoids and causing the cores of the same to clear the trough for the passage of balls for said predetermined period.

4. A game table as described in claim 3, wherein said solenoid coils are connected in series with the switch.

5. A game table comprising an elongated bed having a plurality of spaced holes at one end for the passage of playing balls therethrough, support means supporting said bed in a substantially horizontal position, a control device supported beneath the opposite end of the bed, said control device including a casing having a ball entrance opening and a ball discharge opening, a guiding trough supported beneath the bed portion containing said holes for receiving balls falling through said holes, said trough communicating with the entrance opening of the casing and being sloped toward the same for feeding balls into the control device, a second guiding trough connecting the entrance opening and the discharge opening of the casing and sloped toward the discharge opening, a solenoid having an axially slidable core arranged to extend into the second trough and block the passage of balls when said solenoid is deenergized, a spring operatively connected with said core and loaded to bias the core into its passage blocking position, and a coin controlled timing device including a switch connected in circuit with the solenoid coil, said timing device being aranged to close said switch for a predetermined period of time in response to the insertion of a coin in the timing device, thereby energizing the solenoid and causing the core of the same to clear the second trough for the passage of balls for said predetermined period.

6. A game table comprising an elongated bed having a plurality of spaced holes at one end for the passage of playing balls therethrough, support means supporting said bed in a substantially horizontal position, a control device supported beneath the opposite end of the bed, said control device including a casing having a ball entrance opening and a ball discharge opening, a guiding trough supported beneath the bed portion containing said holes for receiving balls falling through said holes, said trough communicating with the entrance opening of the casing and being sloped toward the same for feeding balls into the control device, a second guiding trough connecting the entrance opening and the discharge opening of the casing and sloped toward the discharge opening, a pair of solenoids disposed within said casing, each solenoid having an axially slidable core arranged to extend into the second trough and to block the passage of balls when the solenoids are deenergized, the cores of the solenoids being disposed spaced apart in the direction of the travel of balls through the second trough so as to form a double barrier within the said trough, a spring operatively connected with each of said cores and loaded to bias the respective core into its passage blocking position, and a coin-controlled timing device including a switch connected in circuit with the solenoid coils, said tming device being arranged to close said switch for a predetermined period of time in response to the insertion of a coin into the timing device, thereby energizing the solenoids and causing the cores of the same to clear the second trough for the passage of balls for said predetermined period.

7. A game table as described in claim 6, wherein the first trough has a substantially cup-shaped cross-section and is tapered toward the entrance opening of the casing of the control device.

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