May 12, 1936. D. E. HOOKER 2,040,310

GAME APPARATUS

Filed June 12, 1935

Fig. 1.

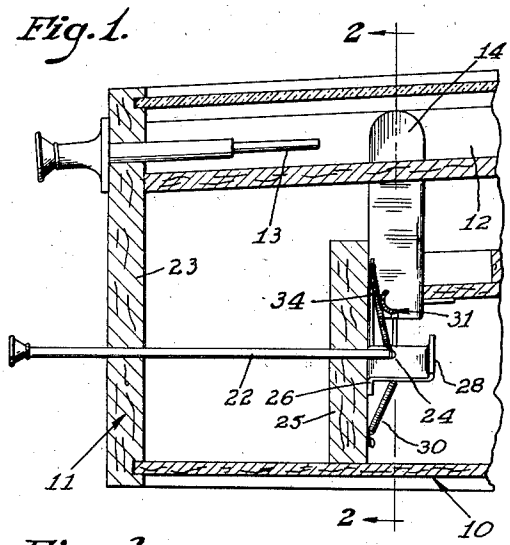


Fig. 2.

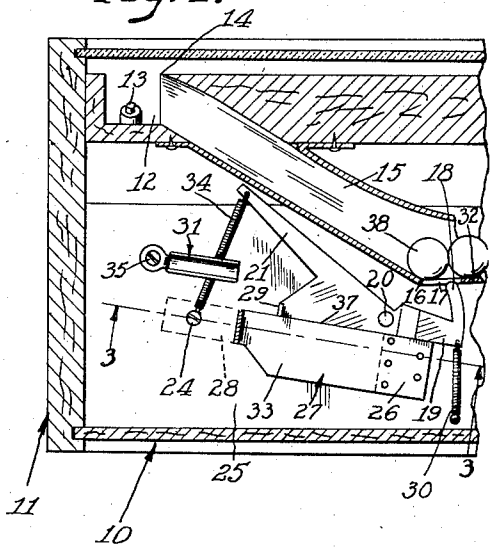


Fig. 3.

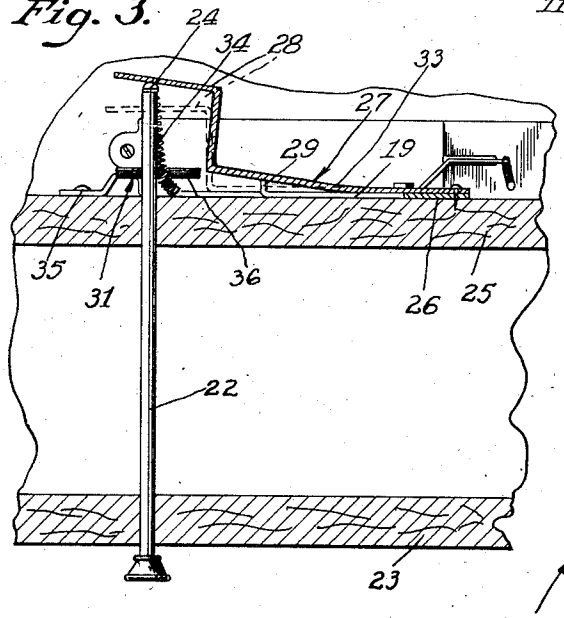


Fig. 5.

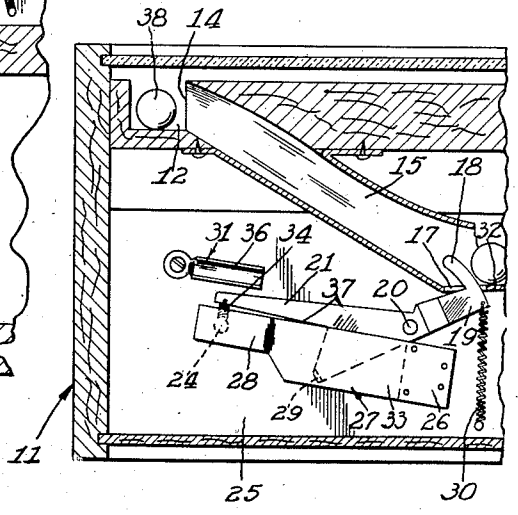
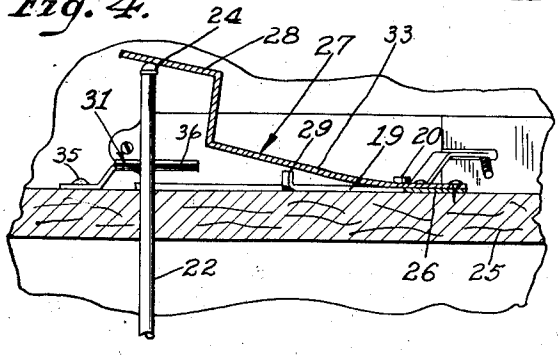


Fig. 4.



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GAME APPARATUS

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Application June 12, 1935, Serial No. 26,099

7 Claims. (Cl. 273—121)

This invention relates to 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 new and improved elevating device for game apparatus of the so-called pin and marble game type.

In amusement games of the so-called pin and marble game type it has been the customary practice, heretofore in the art, to employ elevating devices which are entirely under the control of the player, that is, these devices have been so constructed that the player may operate said elevating devices, by hand, so as to elevate the balls, one at a time, from a point below the playing surface up to the level of the same, either relatively rapidly or slowly.

There are a number of objectionable features incidental to the use of such elevating devices, which are entirely under the control of the player, and among these is the fact that in the use of such devices, the player may, if he so desires, elevate the ball very rapidly up into propelling position in the ramp or runway along which the balls are propelled onto the playing surface. This feature is particularly objectionable since if the player elevates the ball rapidly the ball will be discharged from the elevating devices into the ball runway or ramp with considerable force, thereby causing it to jam against the side wall of the runway and rebound against the glass top of the cabinet, thus causing a gradual wear or erosion of the walls of the runway as well as occasional breakage of the glass top of the cabinet.

Another objectionable feature of this type of elevating device is that if the player operates it rapidly it is apt to jam and break.

Another object of the present invention therefore is to provide an elevating device for amusement game apparatus of the so-called pin and marble game type which is so constructed that it will always elevate the balls up into propelling position at the same, that is, at a uniform rate of speed, and the relative speed of operation of which is entirely out of control of the operator, thereby eliminating the above-mentioned and other objectionable features of the prior art elevating devices.

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 best understood by reference to the accompanying drawing, showing the preferred form of construction and in which:

Fig. 1 is a fragmentary vertical sectional view of a game apparatus showing a preferred form of the present invention associated therewith;

Fig. 2 is a vertical sectional view, on line 2—2 in Fig. 1, showing a preferred form of the present elevating device in its normal or initial and ineffective position;

Fig. 3 is a sectional view, on line 3—3 in Fig. 2, showing the elevator operating rod of the present elevating device and the latching mechanism associated therewith;

Fig. 4 is a sectional detail view, similar to Fig. 3, but showing the parts in a different position from that in which they are shown in Fig. 3; and

Fig. 5 is a sectional view, similar to Fig. 2, but showing the parts in a different position from that in which they are shown in Fig. 2.

A game apparatus embodying a preferred form of the present invention is shown in the drawing, is therein generally indicated at 10, and comprises a cabinet 11 in which is arranged a ball runway or ramp 12 along which balls may be propelled onto the playing surface of the cabinet 11 by means of the ball-propelling device or plunger 13.

Arranged in the cabinet 11 is an inclined ball chute or guideway 15 which has an open upper end 14, and this open upper end of the guideway 15 opens into the ball runway or ramp 12. This guideway or chute 15 has an horizontally extending portion which provides a ball seat 16 and this ball seat 16 communicates with a ball return runway 32, the runway 32 being arranged in the cabinet 11 below the playing surface therein.

Formed in the horizontally extending lower end or ball seat portion 16 of the guideway or chute 15 is an opening or slot 17 and adapted to be projected into this opening or slot 17 is an angled end portion or arm 18 of a ball-elevating member 19, this elevating member 19 being pivotally mounted, between its ends, at 20, in the cabinet 11.

The elevating member 19 has an arm 21 and attached to this arm 21 is one end of an energy storing member, which, in the form of the invention shown, has the form of a coil spring 34; the other end of the coil spring 34 being attached to the end portion 24 of an elevator-operating rod 22 which is slidably mounted in the lower end wall 23 of the cabinet 11.

Arranged in the cabinet 11 is a vertical supporting wall 25 and having one end portion 26

mounted on this wall 25, on the inner side thereof, is a flat resilient metal latch strip 27 which has an angled or offset end portion 28, and this offset portion 28 is engageable with an angled extension or latch keeper portion 29 of the pivotal elevating member 19; the pivotal elevating member 19 being urged (in a clockwise direction, Figs. 2 and 5) by the action of a resetting spring 30, and against the action of the operating spring 34.

The main operating spring 34 works around a guide 31 which includes a portion 35 that is mounted on the inner side of the wall 25 this guide 31 including a portion 36 which is spaced from the wall 25 (Fig. 3).

Operation

When the parts are in their normal, that is, in their initial or ineffective position, as in Fig. 3, the body portion 33 of the latch member 27 is urged by its own resiliency, into a position wherein it lies substantially parallel to the wall 25 and against the inner side of the latter, and in this position of the parts the resilient latch member 27 projects under the arm or latch keeper portion 29 of the elevating member 19 and latches the same in ineffective position, as in Fig. 2.

However, when the player moves the elevator-operating slide rod 22 inwardly (left to right, Fig. 1), the inner end of the slide rod 22 engages the offset portion 28 of the resilient latch strip 27 and thereby moves the body portion 33 of latter (from dotted to full line position, Fig. 3). This movement of the latch strip 27 causes the body portion 33 of the same to move out of latching engagement with the elevating member 19, that is, out from under the angled arm or latch keeper portion 29 of the elevating member 19, and likewise during its inward movement or operative stroke (from bottom to top, Fig. 3) the elevator-operating rod 22 tensions or stores energy in the operating spring 34.

As the elevator-operating member is moved inwardly, and when the latch strip 27 is moved out by latching engagement with the latch keeper portion 29 of the elevating member 19 the tensioned operating spring 34 acts upon the ball-elevating member 21 to pivot the latter rapidly (counterclockwise, Figs. 2 and 5), against the action of the resetting spring 30. This movement of the elevating member 19 projects the arm 18 thereof up through the slot 17, which is formed in the ball seat portion 16 of the guideway or chute 15, and into the guideway 15, thereby projecting the ball 38 rapidly off from the ball seat 16 up the guideway 15 and into the runway or ramp 12; whereupon when the elevator operating slide rod 22 is released, the resetting spring 30 resets the elevating member 19 back into its initial position (clockwise, Fig. 2), against the action of the previously tensioned, but, at this time, operating spring 34.

It will be noted that when the elevating member 19 is moved into effective or ball-elevating position, as in Fig. 5, the arm or latch keeper portion 29 thereof moves into dotted line position, Fig. 5, and in this position the angled arm or latch keeper portion 29 bears against the inner side of the resilient latch strip 27. However, as the resetting spring 30 returns the ball-elevating member 19 back into its initial position, as in Fig. 2, the arm 29 of the elevating member 19 bears against and rides up, the side of the resilient latch strip 27, and when it reaches the upper edge 37 of the latter the resilient latch strip 27, acting by its own resiliency, returns to its initial position, (as in dotted lines, Fig. 3, full lines, Fig. 2), thus moving the upper edge 37 of the latch member 33 under the latching arm or keeper portion 29 of the elevating member 19, and thereby latching the latter in ineffective position (as in Fig. 2).

During the foregoing operation, that is, when the elevator operating rod 22 has been moved inwardly to its full stroke position and is released, the tensioned operating spring 34 returns the operating slide rod 22 back into its initial or normal position (as in Fig. 1), and when the energy stored in, or tension applied to, the operating spring 34 by the inward movement or operative stroke of the operating rod 22, has been spent the stronger resetting spring 30 acts upon the elevating member 19 to move the latter into its initial or normal position (as in Fig. 2) and into latching engagement with the latch member 29—33, in the manner hereinbefore explained.

It will be noted that in the use of the present elevating device balls will be elevated, one at a time, from a point below the playing surface up onto the same, by way of the chute 15, at a uniform rate of speed since the speed with which the elevating member 19 operates to elevate the ball is not under the control of the operator, as are the elevating members in the prior art devices, and hence the balls will always be elevated at a substantially uniform speed up the guideway or chute 15 into the runway 12. Hence the above-mentioned and other objectionable features of the prior art elevating devices are eliminated and a relatively efficient elevating device is provided.

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 a ball runway or ramp; a member for elevating a ball from a point below said ramp up into the latter; a manually operated member movably mounted in a wall of said cabinet; means tensioned by movement of said manually operated member for urging said elevating member in a direction to elevate a ball up into said ramp; and means released by movement of said manually operated member for latching said elevating member in ineffective position.

2. In a game apparatus, the combination of: a cabinet including a member providing a playing surface; a guideway for conducting spent balls up onto said playing surface from a point below the latter; means for elevating a ball up said guideway onto said playing surface; a manually operable member movably mounted in a wall of said cabinet; means tensioned by movement of said manually operable member for urging said elevating means in a direction to elevate a ball up said guideway onto said playing surface; and means released by movement of said manually operable member for normally latching said elevating means in ineffective position.

3. In a game apparatus, the combination of: a cabinet including a member providing a playing surface; a guideway for conducting spent balls

up onto said playing surface from a point below the latter; means for elevating a ball up said guideway onto said playing surface; a manually operable member movably mounted in a wall of said cabinet; means for urging said elevating means in a direction to elevate a ball up said guideway onto said playing surface; and means released by movement of said manually operable member for latching said elevating means in ineffective position.

4. In a game apparatus, the combination of: a cabinet including a member providing a playing surface; a guideway for conducting spent balls up onto said playing surface from a point below the latter; means for elevating a ball up said guideway onto said playing surface; means for urging said elevating means in a direction to elevate a ball up said guideway onto said playing surface; a member slidably mounted in a wall of said cabinet; and means released by movement of said slidably mounted member for latching said elevating means in ineffective position.

5. In a game apparatus, the combination of: a cabinet including a ball runway or ramp; a member for elevating a ball from a point below said ramp up into the latter; a manually operated member movably mounted in a wall of said cabinet; means tensioned by movement of said manually operated member for urging said elevating member in a direction to elevate a ball up into said ramp; means released by movement of said manually operated member for latching said elevating member in ineffective position; and means for resetting said elevating member into latching engagement with said latching means and into its normal or ineffective position.

6. In a game apparatus, the combination of: a cabinet including a member providing a ball playing surface; a guideway for conducting balls from a point below said playing surface up to the level of the same; a manually operable member movably mounted in a wall of said cabinet; and means including an energy storing device energized by movement of said manually operable member for elevating a ball up said guideway to the level of said playing surface.

7. In a game apparatus, the combination of: a cabinet including a member providing a ball playing surface; a guideway for conducting balls from a point below said playing surface up to the level of the same; a manually operable member movably mounted in a wall of said cabinet; and means coacting with said manually operable member for elevating balls, one at a time, up said guideway to the level of said playing surface at a speed which is independent of the relative speed of movement of said manually operable member.

DONALD E. HOOKER.