April 15, 1969 H. L. THOMAS 3,438,633

GRAVITY-TYPE ROLLING BALL GAME DEVICE

Filed April 17, 1967 Sheet 1 of 3

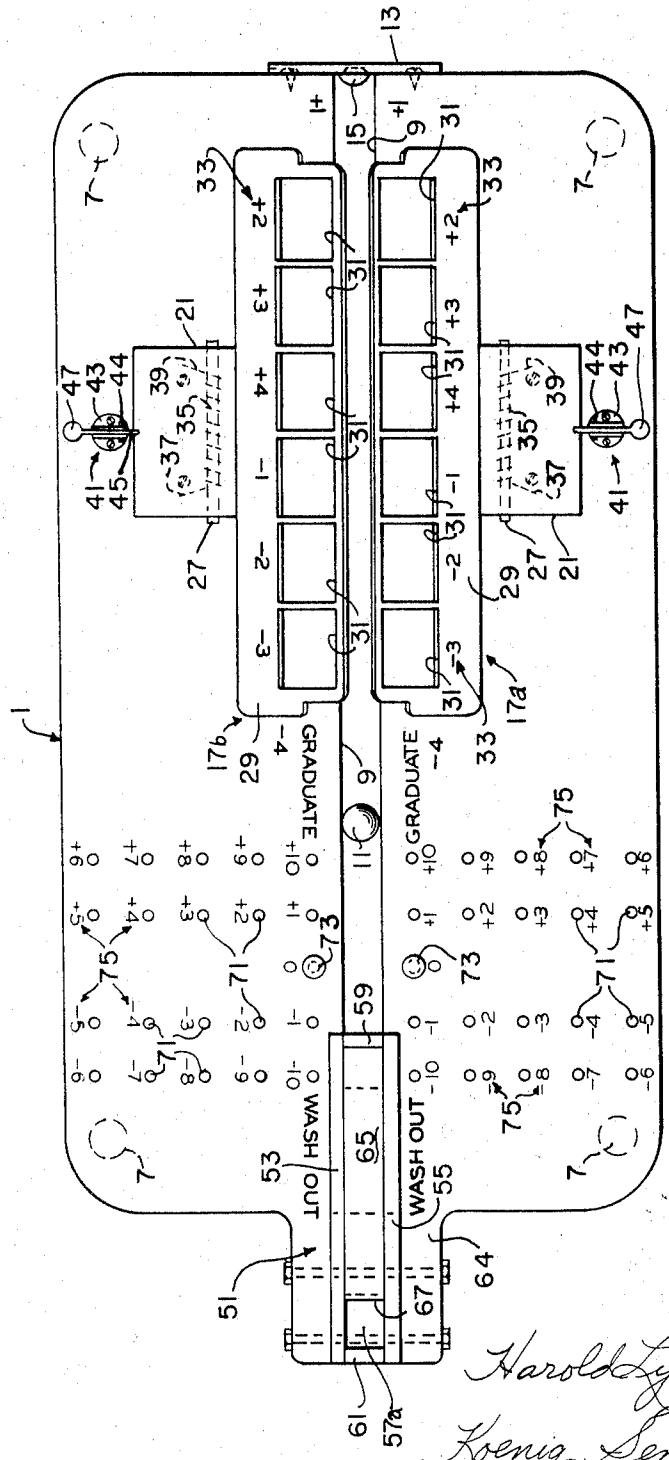


FIG. 1.

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FIG.2.

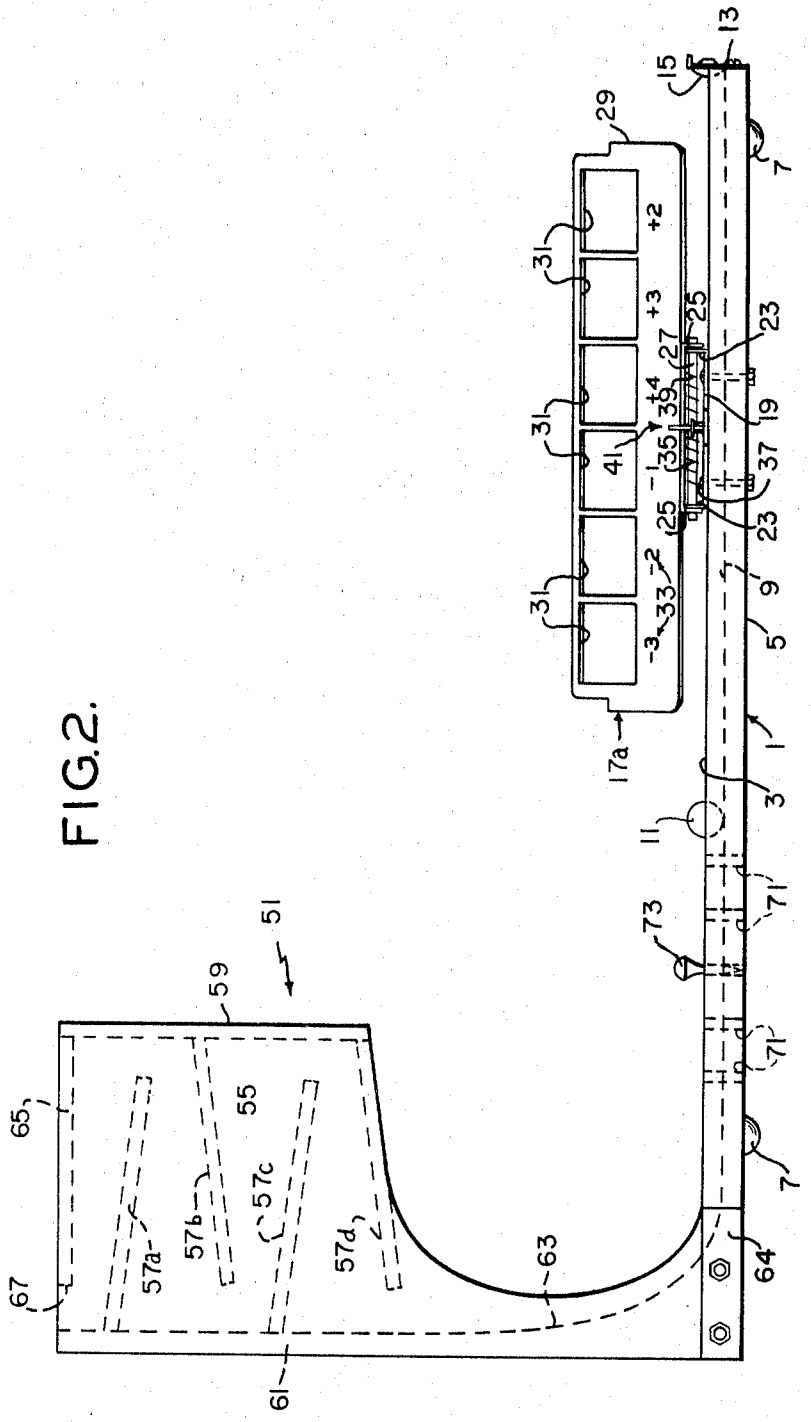
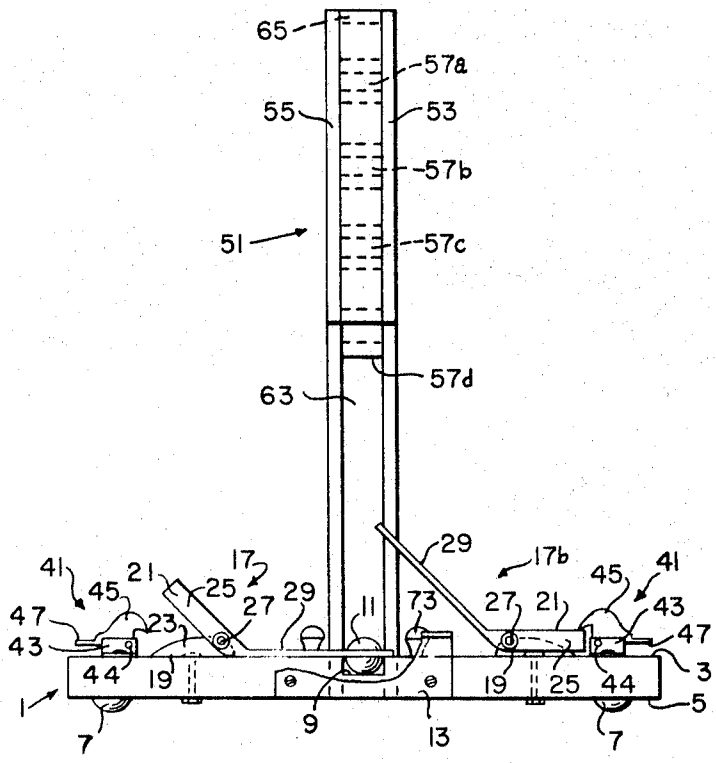


FIG. 3.


65
57a
55
53
57b
51
57c
63
57d
29
17b
41
45
21
17
25
27
29
11
73
27
21
45
41
43
47
47
43
23
44
19
19
25
44
3
1
5
7
9
13
7

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GRAVITY-TYPE ROLLING BALL GAME DEVICE

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U.S. Cl. 273—120 9 Claims

ABSTRACT OF THE DISCLOSURE

A game for two contestants includes a game board having a slot in it defining a track. A ball is propelled into the slot by traveling back and forth along a plurality of inclined runways and then down an inclined chute into the slot. Part of the ball projects out of the slot. Two trap members located on opposite sides of the slot are independently operated by each of two players. The trap members each include a series of apertures or openings positionable above the slot to allow free movement of the ball in the slot and are operable for trapping the ball in one of the openings as it travels along the slot. Each opening is marked with either positive or negative scoring indicia. As the ball travels along the slot between the trap members, each player tries to be first in trapping the ball in the opening in his trap member having the highest scoring indicia associated therewith. The contestant who first reaches a predetermined positive score or forces his opponent to accumulate a perdetermined negative score is the winner.

BACKGROUND OF THE INVENTION

The present invention is in the field of games and more particularly in the field of games designed to test the skill and coordination of the contestants.

SUMMARY OF THE INVENTION

Among the several objects of the invention may be noted the provision of a game which is adapted to improve the coordination and skill of a player by rewarding the player's speed and accuracy in responding to movement of a game member; and the provision of such a game which is simple in construction, economical to produce and interesting to play. Other objects and features will be in part apparent and in part pointed out hereinafter.

A game of the invention comprises a playing board which has a track and a game member which moves along the track between two directly opposite trap members on the game board at opposite sides of the track. Each of the game members has at least one opening therein large enough to trap the game member and stop its movement along the track. Each trap member is mounted for movement between a first position wherein its opening is spaced from the track a sufficient distance to permit uninterrupted travel of the game member along the track and a second position wherein its opening is directly over the track for trapping the game member and preventing further movement thereof along the track. Separate latch means independently hold each of the trap members in their first postion. The trap members are biased toward their second position from their first position so that when the latch means is released, the trap members move to their second position. Means are provided for propelling the game member along the portion of the track between the trap members.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a game of the invention;

FIG. 2 is a side elevation of the game of FIG. 1; and

FIG. 3 is an end view from the right end of FIG. 1 with one of the trap members shown in a moved position.

Corresponding reference characters indicate corresponding parts throughout the several views of the drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A game of the invention generally designated **1** comprises a generally rectangular game board having an upper face **3** and a lower face **5**. A plurality of resilient cushions or feet **7** are fastened to the lower face **5** near the corners of the board and are adapted to engage the upper surface of a table or the like supporting the board. An elongate slot **9** in the upper face **3** of the game board extends substantially the entire length of the board and forms a track which receives a ball **11** constituting a game playing member. The diameter of the ball is greater than the depth of the slot so that part of the ball projects above surface **3** as shown in FIG. 2. The slot is closed at one end by a bracket **13** secured to the end of the game board and by a resilient recoil button **15** carried by bracket **13** and positioned in the slot **9**.

Two trap members **17***a* and **17***b* are located on the upper surface **3** of the board directly opposite each other and at opposite sides of slot **9**. Since the trap members are identical to each other except for a reversal of the numerical scoring indicia thereon, the same reference numerals have been used to indicate the same parts of each member. Each trap member comprises a lower plate **19** which is secured to face **3** of the game board and an upper plate **21**. The lower and upper plates each have two end flanges shown at **23** and **25**, respectively, positioned side-by-side. A shaft **27** extends through all four of the flanges **23** and **25** thereby to pivotally mount the upper plate on the lower plate. The shafts **27** of both trap members are substantially parallel to the length of slot **9** and are spaced therefrom so that both upper plates pivot about axes generally parallel to the length of the slot. Each upper plate has a wider portion generally designated **29** and it contains a plurality of holes or openings **31** spaced from each other in a line along the outer edge of the plate. Holes **31** are larger than ball **11**.

Referring to FIG. 3, the plates **21** are movable about the axis of shaft **27** between first and second positions. In the first or raised position, as shown by the plate at the right in FIG. 3, the openings **31** are above the slot **9** a sufficient distance to permit travel of the game member **11** along the slot without interference from the plate. In their second or lowered position, as shown by the plate **21** at the left in FIG. 3, the part **29** of the plate **21** contacts board surface **3** and the openings **31** of the plate are directly over the slot **9**. Thus, the outer portions of the traps overlap when both traps are in their second position. The ball can be trapped within holes **31** as the plates move to their second position, thereby preventing further movement of the ball.

The part **29** of each trap member preferably has numerical indicia designated **33** beside each hole **31** for the purpose of assigning a scoring value to each hole **31**. In the drawings the holes are marked with values ranging from minus 3 to minus 1 and from plus 4 to plus 2, but it will be understood that other suitable scoring values could be employed. It will also be noted that the portion of the slot to the left of the trap members as viewed in FIG. 1 may be designated minus 4 and the portion of the slot to the right of the trap members may be designated plus 1. This arrangement of scoring values rewards the player with the greatest coordination and penalizes the player who prematurely operates his trap member.

Each upper plate 21 is biased from its first position (shown at the right in FIG. 3) toward its second position by a torsion spring 35 wrapped around the respective shaft 27 and having end portions 37 and 39 bearing against the lower plate and upper plate, respectively. The parts 29 of plate 21 are held in their raised positions above slot 9 by conventional latches 41 each of which comprises a base 43 fixed to surface 3 of the game board and a pivot 44 which supports a latch member 45. One end of each latch member normally engages the top of its respective plate 21 near the edge thereof opposite the wider part 29 of the plate to hold the plate in its raised position. Latch member 45 is biased into engagement with the plate 21 by a spring (not shown). By depressing the end 47 of a latch member against its spring the member is raised up off its respective plate 21 to allow swinging movement of the plate about the axis of shaft 27, thereby allowing plate part 29 to swing down against surface 3 with the holes 31 over portions of the slot 9. The plates 21 are returned to their latched positions by pressing down on end 47 of latch members 45, then depressing the smaller end of the plate 21 against the biasing force of springs 35 and releasing members 45 when the plates are under the latch.

Structure for propelling the ball 11 from left to right in slot 9 is generally designated 51. The propelling means comprises a pair of spaced generally parallel side walls 53 and 55 having rectangular upper portions which confine a plurality of vertically spaced runways 57*a*, 57*b*, 57*c* and 57*d*. An end wall 59 between the side walls 53 and 55 engages the upper end of the runways 57*b* and 57*d*. The upper ones of the runways have their lower ends positioned above and offset from the next lower runways so that a ball can roll off one runway onto the next lower one. Another end wall 61 between the side walls engages the upper end of the runways 57*a* and 57*c*. Wall 59 is spaced from the lower end of runways 57*a* and 57*c* and the wall 61 is spaced from the lower end of runways 57*b* and 57*d*. As shown in FIG. 2, the lower portion of the end wall 61 has a curved surface 63 which begins adjacent the lower end of the runway 57*d* and merges smoothly into the bottom of slot 9. The lower portion of the side walls 53 and 55 together with surface 63 form a curved chute which guides delivery of the ball into slot 9. Walls 53 and 55 are secured to a neck 64 on the game board to support the propelling structure on the game board.

The top of the propelling structure may be partially closed by a cover 65, the cover being spaced from wall 61 to form a hole 67 through which the ball 11 can be dropped onto the upper end of the runway 57*a*. The ball then rolls along the inclined runway 57*a*, drops off the lower end thereof onto the upper end of the runway 57*b* and rolls along the runway 57*b* until it drops off the lower end thereof onto runway 57*c*. This back and forth movement continues until the ball drops off the lower end of runway 57*d* and engages and rolls along the surface 63 into slot 9. The propelling structure 51 may be covered or formed from a nontransparent material so that the players cannot anticipate the exact time of delivery of the ball to slot 9, or if desired, the structure 51 may be left uncovered to allow the contestants to observe movement of the ball therethrough.

In order to maintain a cumulative score for each player, the game board has a plurality of holes or openings 71 at each side of the slot 9. A scoring peg 73 is provided for each player and it can be placed in any of the holes 71 to mark that player's score during the course of the game. The various holes 71 are marked with numerical indica 75 which as shown in FIG. 1, may run from minus 10 through zero to plus 10. However, it will be understood that other indicia may be used, as previously indicated. Also, it will be understood that the game board may have imprinted or inscribed thereon a simulated football or baseball field or the like with appropriate indicia for

scoring a simulated football, baseball or other game in the conventional manner.

In playing the game, two contestants or players take places at opposite sides of the board. Both of the trap members 17*a* and 17*b* are moved to their raised positions wherein the latch members 41 are engaging the upper surfaces of plates 21 and wherein the parts 29 are elevated so that they do not interfere with free movement of the ball 11 along slot 9. Ball 11 is then dropped onto the inclined runway 57*a*. The ball rolls back and forth along the upper surfaces of the various runways and finally drops onto surface 63. The ball is accelerated as it travels along surface 63 and it is propelled into slot 9 toward the trap members. As the ball travels between the trap members the players depress the end 47 of their respective latches to release the upper plates 21 and allow the spring 35 to swing them from the normal raised position shown at the right in FIG. 3 to a lowered position shown at the left in FIG. 3. The object of the game is to trap the ball 11 within the hole 31 designated with the highest numerical indicia, that is, the third hole from the right as viewed in FIG. 1 for the particular arrangement of numerical indicia shown. The ball 11 can be trapped as it moves from left to right as viewed in FIG. 1 or, for an interesting variation, the players can agree to allow the ball 11 to travel the entire length of the slot, engage the recoil button 15, and then rebound along the slot 9 between the trap members before the traps are sprung to trap the ball. This latter variation may be particularly desirable when very young children are playing the game since their reaction time is somewhat slower than older children and adults.

The player whose trap member swings downwardly first is awarded a score according to the markings or indicia 33 on part 29 of the trap which are associated with the hole within which the ball has been trapped. He removes the peg 73 from its zero or start position and inserts it into the hole marked with the appropriate indicia 75. For example, during the first play, one player may receive a score of plus four by trapping the ball within the confines of the hole 31 which is third from right as viewed in FIG. 1. During a subsequent play, if the ball is trapped in any of the three holes 31 to the left of the plus 4 hole, then this score is deducted from his total score and the peg 73 is accordingly moved to a lower numbered hole. Ties are not possible since the portion 29 of one of the traps is always beneath the corresponding parts of the other player's trap. This also avoids scoring disputes.

When one player reaches a predetermined score, such as plus 10, or when the other player reaches a predetermined lower score, such as minus 10, the game is at an end. The winning score has been designated "graduate" and the losing score designated "wash-out" in FIG. 1. However, it will be understood that other designations can be used if desired.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As various changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A game comprising,

a playing board having a track therealong,

a game member movable along the track,

two directly opposite trap members on the game board at opposite sides of the track, each of said members having at least one opening therein large enough to trap the game member and stop its movement along the track, each trap member being mounted for movement between a first position wherein its opening is spaced from the track a sufficient distance to permit

uninterrupted travel of the game member along the track and a second position wherein its opening is directly over the track for trapping the game member in said opening and thereby prevent further movement of the game member along the track,

seperate latch means for independently holding each of the trap members in their first position,

means biasing the trap members from their first position to their second position so that when the latch means is released the trap members move to their second position,

and means for propelling the game member along the track between the trap members.

2. A game according to claim 1 wherein the propelling means comprises an inclined chute at one end of the track for receiving the game member and propelling it along the track.

3. A game according to claim 2 further comprising a plurality of flat runways confined between a pair of spaced walls, the runways being vertically spaced from each other and being inclined downwardly from one end to the other end thereof with each of the upper runways having its lower end positioned above and offset from the upper end of the next lower runway so that the game member can be dropped on the upper runway and rolled along successive runways dropping from the lower end of one onto the upper end of the other, and the lower end of the lowermost runway being positioned to drop the game member into the chute for delivery to the track.

4. A game according to claim 1 further comprising means on the game board for scoring the game, said means comprising a plurality of holes and a scoring member positionable in the holes.

5. A game according to claim 1 wherein the propelling means is at one end of the track, the game further comprising resilient means at the other end of the track engageable by the game member for reversing movement of the game member on the track.

6. A game comprising,

a playing board having an elongated slot in the upper face thereof forming a track,

a ball movable along the slot, the diameter of the ball being greater than the depth of the slot whereby part of the ball projects above the upper face of the board,

two directly opposite trap members on the game board at opposite sides of the slot, each of said members having a plurality of openings therein each of which is large enough to receive the ball and stop its movement along the slot, each trap member being pivotally mounted on the board for movement between a first position wherein its openings are spaced from the upper face of the board a sufficient distance to permit uninterrupted travel of the ball in the slot and a second position wherein part of the trap member abuts the upper face of the board and said openings are directly over the slot for trapping the ball and preventing further movement thereof along the slot,

scoring indicia adjacent each opening in each trap member,

separate latch means for independently holding each of the trap members in its first position,

a spring with each trap member biasing the trap members from their first position to their second position so that when the latch means is released the trap members each move to their second position,

and an inclined chute at one end of the slot for propelling the ball along the slot between the trap members.

7. A game according to claim 6 further comprising a plurality of flat runways above the chute, the runways being vertically spaced from each other and being inclined downwardly from one end to the other end thereof with each of the upper runways having its lower end positioned above and offset from the upper end of the next lower runway, the lowermost runway having its lower end positioned immediately above the entrance to the chute whereby the ball can be dropped onto the upper runway and roll along successive runways dropping from the lower end of one runway onto the upper end of another and finally into the chute for delivery to the slot.

8. A game according to claim 7 further comprising a plurality of scoring holes in the upper surface of the game board at opposite sides of the slot, and a pair of scoring pegs positionable in each of said scoring holes for recording scores made by each of two players.

9. A game according to claim 8 further comprising a resilient button at the end of the slot opposite from the chute, the ball being engageable with the button for reversing movement of the ball in the slot.

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U.S. Cl. X.R.

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