

April 2, 1940.

J. W. CULP

2,195,718

AMUSEMENT DEVICE

Filed Sept. 21, 1938

2 Sheets-Sheet 1

FIG. 1.

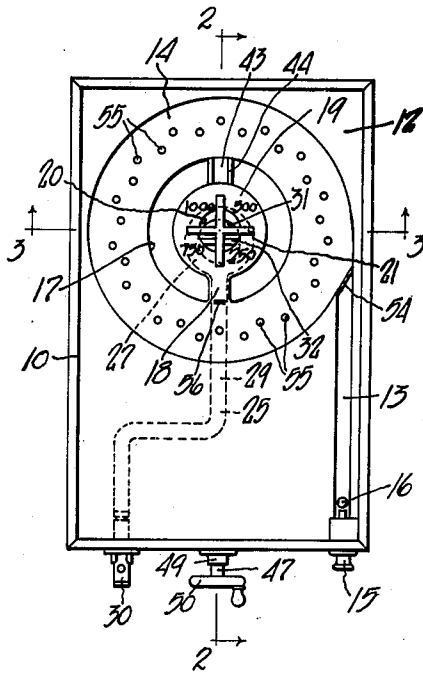


FIG. 3.

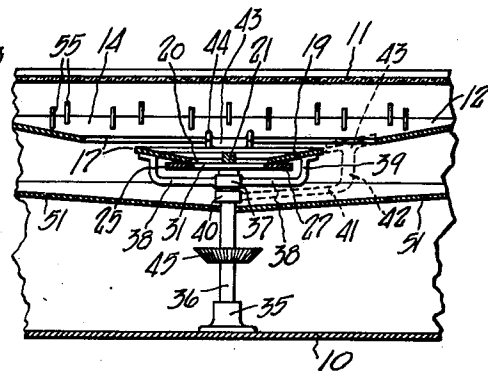
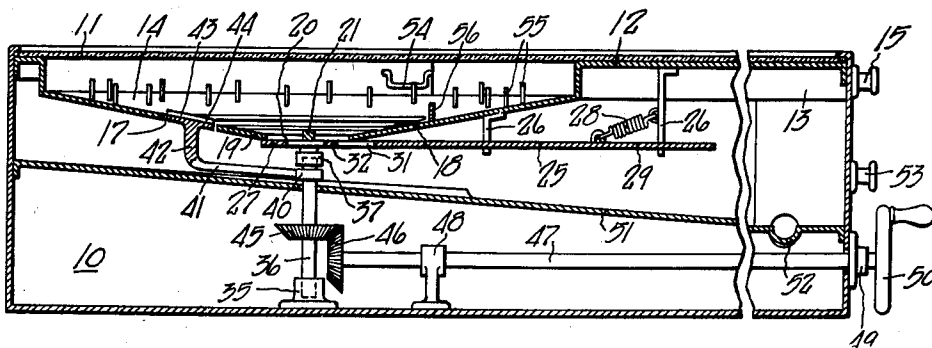


FIG. 2.



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FIG. 4.

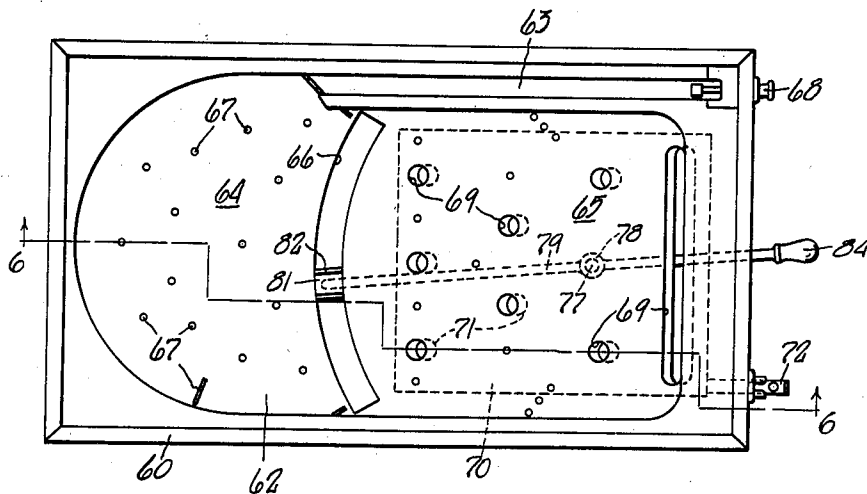


FIG. 6.

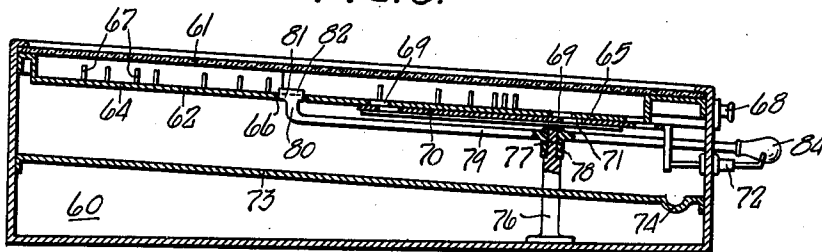
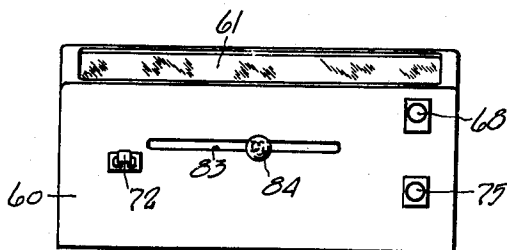


FIG. 5.



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2,195,718

AMUSEMENT DEVICE

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Application September 21, 1938, Serial No. 230,945

10 Claims. (Cl. 273-123)

This invention relates to amusement devices, and particularly to devices of this character in which a ball is propelled on a playing surface or board and toward a goal.

The primary object of this invention is to provide a device of this character having a playing surface interrupted by a gap or opening in which a member is shiftable to span or bridge the gap at any desired or selected point thereof.

A further object is to provide a device of this character which includes a playing surface having a ball discharge area and a goal, with a gap intermediate said discharge area and goal, and a member shiftable in said gap and adapted to permit a ball to roll thereover when properly positioned.

A further object is to provide a device of this character with a surface on which a ball is adapted to roll by gravity toward a goal and which surface is interrupted in spaced relation to said goal by a trap, and means controlled by a player to prevent the ball from lodging in said trap.

A further object is to provide a device of this character with manually operable means for completing the normally interrupted path of a ball on a playing surface.

Other objects will be apparent from the description and the appended claims.

In the drawings:

Figure 1 is a top plan view of the device.

Figure 2 is a fragmentary longitudinal vertical sectional view taken on line 2-2 of Fig. 1.

Figure 3 is a vertical transverse sectional view taken on line 3-3 of Fig. 1.

Figure 4 is a top plan view of a modified embodiment of the invention.

Figure 5 is a view of the modified embodiment in front elevation.

Figure 6 is a longitudinal vertical sectional view taken on line 6-6 of Fig. 4.

This invention contemplates the provision of a playing surface for a ball with a narrow gap positioned transversely of the normal path of movement of the ball to serve as a trap for the ball. Associated with the playing surface is a manually operable member including a portion flush with and spanning a portion of the gap. The objective of the player is to position this member in the path of movement of the ball to permit the ball to cross the gap to the goal. The invention may obviously be utilized in many structural variations, and for purposes of illustration is herein shown and described in two different forms or embodiments of the coin controlled or "pin ball" type of game.

Referring to the embodiment of the invention illustrated in Figs. 1 to 3, the numeral 10 designates a housing having a transparent top panel 11. In the upper portion of the housing is fixedly mounted a substantially horizontal game board 12 which is provided with a depressed guide way 13 which communicates tangentially with the outer or marginal portion of a depressed circular dished or concave portion 14 which forms the playing surface of the device. A conventional projector 15, as a spring pressed plunger, for a ball 16, is carried by the housing 10 and extends into guide way 13. Intermediate the center and the periphery of playing portion 14, the same is provided with a concentric arcuate opening or gap 17 whose ends are slightly spaced apart and define a web 18 between the outer portion of playing surface 14 and the central circular portion 19 thereof defined by said opening 17. In the center of portion 19 is formed an opening 20 which is the goal of the device. The center portion 19 preferably carries a plurality of radial ribs 21 which serve to divide said portion and goal.

A horizontal member 25 is supported by brackets 26 beneath game board 12 and terminates at its inner end in a circular portion 27 which bears against the under surface of center portion 19 of the game board at the edge of opening 20 therein, said portion 27 being of a radius less than the radius of center portion 19 of the game board, whereby objects dropped through opening 17 of the game board will not strike it. End portion 27 of member 25 is preferably normally positioned in eccentric relation to center portion 19 of the game board by a spring 28 which may be connected to one of the brackets 26 and to the stem portion 29 of member 25. The stem portion 29 of member 25 is preferably narrow and extends under web 18 of the game board. The forward end of stem 29 is positioned in the path of movement of the conventional coin receiving member 30 mounted in the front of housing 10. In the head 27 of member 25 are formed a pair of semi-circular apertures 31 separated by a narrow web 32, said apertures 31 being normally off-set or disaligned with respect to aperture 20 of the game board, whereby a game ball 16 lodging in aperture 20 will be retained therein.

Mounted on the bottom of housing 10 in vertical alignment with the center of playing surface portion 14 of game board 12 is a member 35 which journals the lower end of a vertical shaft 36 whose upper end is journaled in a bear-

ing 37. Lateral arms 38 are carried by bearing 37 and terminate in upwardly directed portions 39 which support the center portion 19 of the game board adjacent the periphery thereof, and which are spaced outwardly of the head 27 of the member 25. Below bearing 37 the shaft 36 fixedly mounts a collar 40 from which projects a lateral arm 41 below the level of arms 38 and terminating outwardly of said arms in an upwardly directed portion 42 which supports a plate or bridge 43 of a length approximately equal to the width of gap 17 of the game board and positioned radially of said game board and flush with the inner and outer portions 14 and 19 thereof. Bridge 43 is preferably provided with flanges 44 projecting from the opposite sides thereof and above the adjacent playing surface. Adjacent its lower end, the shaft 36 mounts a bevel gear 45 which meshes with a bevel gear 46 mounted on a horizontal shaft 47 extending longitudinally of the housing 10 to the forward end thereof. Shaft 47 is suitably supported and journaled in the housing by bearing brackets 48 and face plate bearing 49, and mounts a hand wheel 50 at its outer end.

Intermediate the gears 45, 46 and the collar 40 is positioned an inclined ball return member 51 suitably carried by the housing 10. Member 51 is preferably transversely dished, as illustrated in Fig. 3, and is provided with a groove 52 in its lower forward end for feeding the balls 16 to a suitable conventional elevator (not shown) operable by plunger 53 for raising the balls into guide way 13. It will be understood that the device is also provided with suitable means (not shown) associated with the coin receiver 30 for permitting only a predetermined number of balls to be fed to the projector 15 upon insertion of each coin in the device, as is well understood in the art.

The point of communication of the guideway 13 with the playing surface 14 is provided with a suitable swinging gate member 54 which will permit balls 16 to pass from the guideway to the playing surface, but which prevents reverse movement of said balls. The outer portion 14 of the playing surface is provided with a plurality of vertical pins or obstacles 55, as is conventional; and at the outer end of web 18 is mounted a transverse obstacle 56 which prevents a ball from rolling on said web to the center portion 19 of the playing surface.

In the operation of the device, a coin is inserted in the coin receiver 30 and the latter is pushed forwardly to deposit the coin within the housing, release the conventional ball retainer to feed the balls to the elevator, and to slide the member 25 to bring the openings 31 in the head 27 thereof into registration with openings 20 in the game board. This conditions the device for play in the usual manner preparatory to feeding the balls successively to the guide way 13 for propulsion by plunger 15. The propulsion of the balls through the guide way and onto the playing surface 14 tangentially of the latter results in circular movement of the balls on said playing surface coupled with a gradual inward movement imparted by the inclination or concavity of the playing surface. As the balls roll down toward the center of the playing surface they strike one or more of the obstacles 55 which are so spaced and positioned as to normally prevent unobstructed rolling of the ball. Upon striking an obstacle, the ball is diverted in erratic unpredictable movements, depending upon

the character of the impact, and may dart inwardly or outwardly on the playing surface, or rebound in a reverse direction. The ball will continue to roll until it reaches the outer edge of the arcuate or circular gap 17. The object of the player is to so position the bridge member 43 that the ball will roll thereon when it reaches the outer edge of gap 17 and then roll over the same onto the center portion 19 of the game board and into one of the divisions of aperture 20 defined by the ribs 21 thereof.

It will be obvious that considerable dexterity and skill is required on the part of the player to achieve success in positioning the bridge member to permit the ball to roll thereover to the central scoring portion 19 of the playing surface, particularly in view of the possibility of quick inwardly directed deflections of the ball after striking an obstacle, or because of a tangential approach of the ball to the gap 17. In this connection it will be noted that the flanges 44 of the bridge member serve a dual function of deflecting the ball from the gap in the event the bridge is improperly positioned to receive the ball, and to assist in retaining the ball when the same has once rolled thereon. It will be understood, of course, that the flanges, though projecting above the top face of the bridge member, may be of a height only a small fraction of the radius of a ball, so that proper manipulation of the bridge is necessary to insure retention of the ball thereon. The divisions of the center portion 19 of the playing surface are preferably marked with various values, as shown in Fig. 1, which make it advantageous for the player to manipulate the bridge member 43 while the ball is supported thereby to cause the ball to be discharged therefrom to the playing division of maximum value or score. To render this manipulation difficult, the flanges 44 of the bridge member are preferably of minimum height, so that sudden jerks of the bridge member in manipulating the same may result in discharge of the ball therefrom to fall through the gap 17. Those balls which are not intercepted by proper positioning of the bridge member drop through the gap 17, which is preferably of a width to prevent the balls from jumping thereover. The obstacle 56 prevents a ball from rolling over the web 18 to the scoring portion 19. It will be understood that the length, width and positioning of the gap 17, the construction and means of manipulating the bridge, the construction and positioning of the obstacles, which have been described are merely illustrative, and may be varied within wide limits as long as the operative relation of parts to achieve a game operating on the principle of a shiftable bridge for a gap in a playing surface is retained.

Another embodiment of the invention is illustrated in Figs. 4 to 6, and comprises a casing 60 having a transparent cover panel 61 and mounting a forwardly downwardly inclined game board 62 in its upper end. The game board is provided with a guideway 63 which communicates with an upper playing area 64, and with a playing area 65 at the forward lower end of the game board spaced from area 64 by an elongated curved transverse gap or opening 66. Suitable obstacles or pins 67 are carried by the upper playing area 64 to deflect a ball projected thereover from guideway 63 by a conventional projector 68. A plurality of apertures 69 of a size to receive a ball are formed in the lower playing area 65 of the game board.

Slidably mounted in casing 60 beneath game

board 62 is a board or plate 70 having apertures 71 therein arranged in complementary relation to the apertures 69. Plate 70 is normally positioned with the apertures 71 thereof disaligned with apertures 69, and is adapted to be slid to effect registration of said apertures 69 and 71 upon operation of a coin receiver 72, as is conventional in the art. The plate 70 terminates in rearwardly spaced relation to the gap or opening 66. In spaced relation below game board 62 and plate 70, a forwardly downwardly inclined panel 73 is fixedly mounted in casing 60, said panel being provided with a ball collecting and feeding channel or groove 74 to which the balls roll by gravity for feeding to a conventional ball elevator 75 upon placing the device in starting position by insertion of a coin in and subsequent actuation of the coin receiver 72.

An upright bracket or standard 76 is fixedly mounted centrally of the base of casing 60 adjacent the front thereof, and fixedly mounts a stub shaft 77 at its upper end, which shaft is substantially perpendicular to the plane of the game board 62. On shaft 77 is journaled a collar 78 which is fixedly carried by a lever 79 intermediate the length of said lever. Lever 79 terminates in an upwardly directed portion 80 at its inner end, and said portion 80 mounts a bridge member 81 positioned in the gap 66 of the game board with the upper surface thereof substantially in the plane of the faces of the playing areas 64, 65. The bridge member 81 spans the gap 66, and is preferably provided with upwardly projecting flanges 82 at its opposite sides. The outer end of lever 79 extends through an elongated horizontal slot 83 in the front panel of casing 60 and terminates in a handle member 84.

The operation of this embodiment of the invention is as follows: Operation of the coin receiver 72 after insertion of a coin therein serves to shift plate 70 to effect registration of apertures 71 thereof with apertures 69 of game board 62, and thereby to release all the balls for movement into groove 74 of panel 73 for successive feeding to elevator 75. The balls are then successively propelled through guideway 63 by projector 68. When the balls reach the upper playing area 64 of the game board they roll thereon toward the lower playing area 65. The obstacles 67 on portion 64 of the game board are so arranged that one or more thereof are struck by each ball as it rolls toward gap 66, thus providing erratic and substantially undeterminable movement of the ball on the game board. During the time each ball is rolling on the upper playing area 64, the player operates or is ready to operate lever 79 to position the bridge 81 carried thereby in position for the ball to roll thereon when it reaches gap 66. In this connection the flanges 82 assist to hold the ball on the bridge, but also serve as obstacles which may be struck by the ball if the bridge has not been positioned in precise required ball-intercepting position. Those of a series of balls which are intercepted and bridged to the lower playing area 65 eventually lodge in one of the apertures 69 of the game board which form the goals thereof, and the remainder fall through gap 66 and are lost. In order to retain balls falling through the gap 66 from returning to the feeding mechanism or elevator 75 until another coin is supplied to the device, suitable means (not shown) may be provided for operation by the coin receiver 72 in the manner well understood in the art.

I claim:

1. A game device comprising a member providing an inclined playing surface, said member having a relatively narrow opening intermediate thereof to define a goal portion at the lower portion thereof, a ball smaller than the width of said opening adapted to roll on said playing surface, and manually operable shiftable means for bridging a portion of said opening to permit said ball to roll thereover to said goal portion.

2. A game device comprising a member providing an inclined playing surface, said member having a relatively narrow opening intermediate thereof to define a goal portion at the lower portion thereof, a ball smaller than the width of said opening adapted to roll on said playing surface, manually operable shiftable means for bridging a portion of said opening substantially flush with said playing surface, and flanges projecting from the sides of said bridging means and extending above said playing surface.

3. A game device comprising a housing, a member in said housing providing a playing surface on which a ball is adapted to roll, said playing surface including a goal portion defined by an opening in said member of a size through which said ball may fall, a bridging member shiftable in said opening and substantially flush with said playing surface to span a portion of said opening, and means terminating exteriorly of said housing for shifting said bridging member.

4. A game device comprising a member providing a playing surface on which a ball is adapted to roll, said playing surface including a goal portion defined by an elongated opening in said member, said ball being of a size to fall through said opening and shiftable means operatively associated with said member and including a part substantially flush with said playing surface bridging a portion of said opening.

5. A game device comprising a member providing a playing surface over which a ball is adapted to roll and having an elongated opening therein of a width greater than the diameter of the ball to define a goal portion, a narrow bridge member substantially flush with and shiftable in said opening to span a portion thereof, and flanges projecting from the sides of said bridge member and projecting above the playing surface.

6. A game device comprising a member providing a playing surface over which a ball is adapted to roll and having a narrow elongated opening therein of a width greater than the diameter of the ball defining a goal portion, said goal portion having a plurality of apertures therein of a size greater than that of the ball, a shiftable member having a plurality of apertures therein similar to said first named apertures and positioned beneath said goal portion with the apertures thereof normally disaligned from the apertures of said goal portion, said shiftable member terminating in spaced relation to said elongated opening, and a member shiftable in said elongated opening to bridge a selected portion thereof.

7. A game device comprising a member providing a concave playing surface and a guideway communicating therewith, said member having a relatively narrow arcuate opening therein defining a central goal portion in said concave opening, a member journaled coaxially of said opening, and a bridge carried by said member and extending into and shiftable in said opening to bridge a portion thereof.

8. A game device comprising a member providing a circular concave playing surface and a guideway communicating tangentially therewith, a ball adapted to roll through said guideway to said playing surface, said member having an arcuate opening therein of a width greater than the diameter of said ball and defining a central goal portion in said concave surface, a member journaled coaxially of said opening, and a bridge carried by said member and extending into said opening to span a portion thereof.
9. A game device comprising a housing, a member in said housing providing an inclined playing surface over which a ball may roll and having an opening transverse thereof of a size larger

than the ball and defining a goal portion at the lower end of said playing surface, a member shiftable in said opening to bridge a selected portion thereof, and means extending exteriorly of said housing for shifting said member.

10. A game device comprising a housing, a member in said housing providing an inclined playing surface over which a ball may roll and having an arcuate opening transverse thereof of a size through which the ball may fall and defining a goal portion at the lower end of said playing surface, a lever pivoted in said housing, and a bridge carried by said lever and positioned in said opening.

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