

March 31, 1942.

A. ROSENZWEIG

2,278,024

GAME APPARATUS

Filed April 1, 1940

2 Sheets-Sheet 1

FIG. 1.

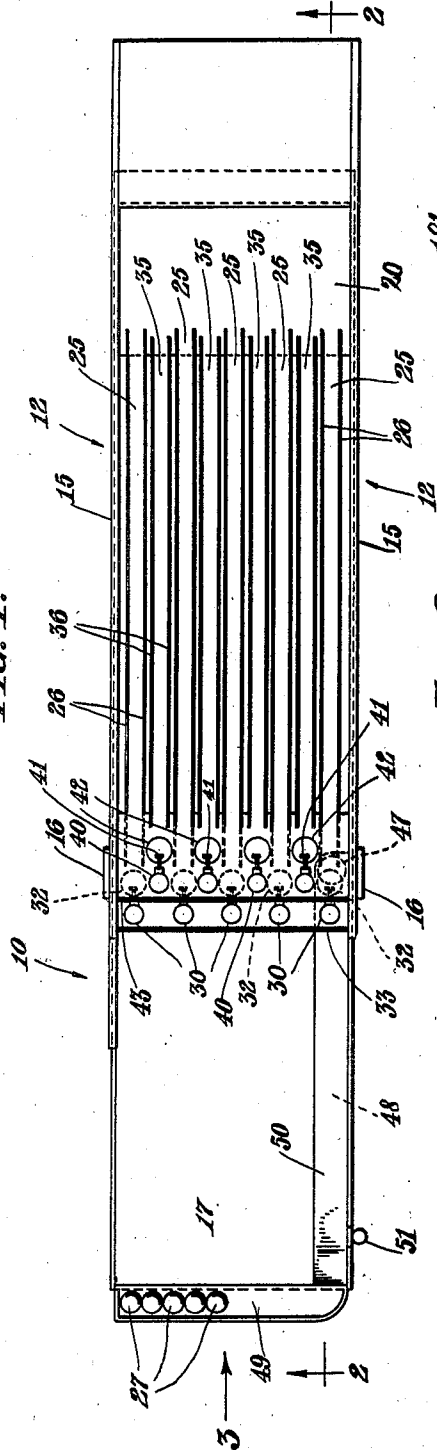
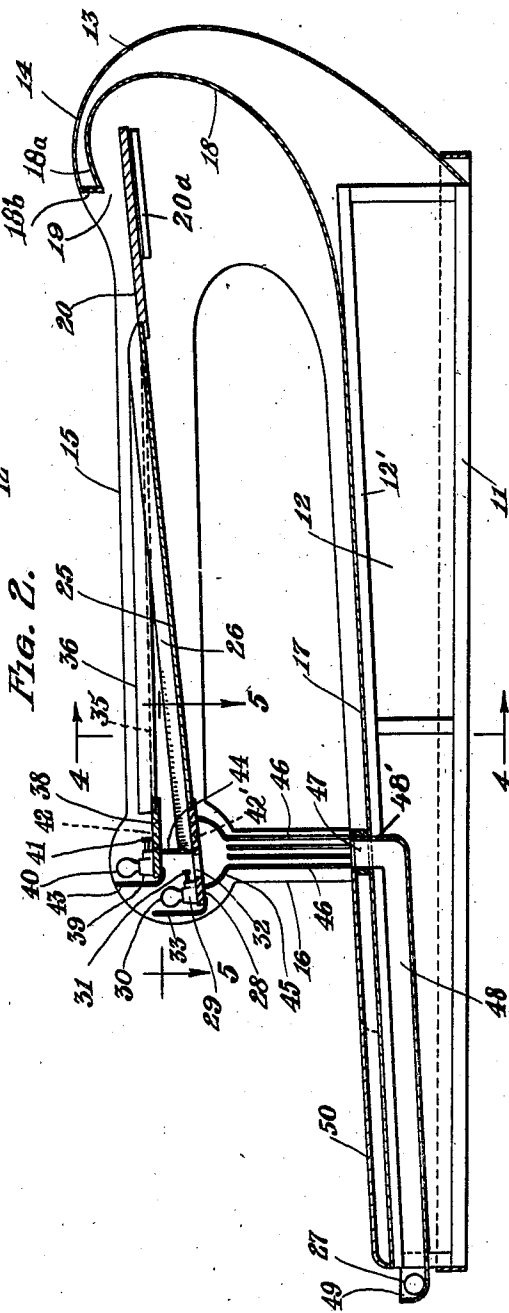


FIG. 2.



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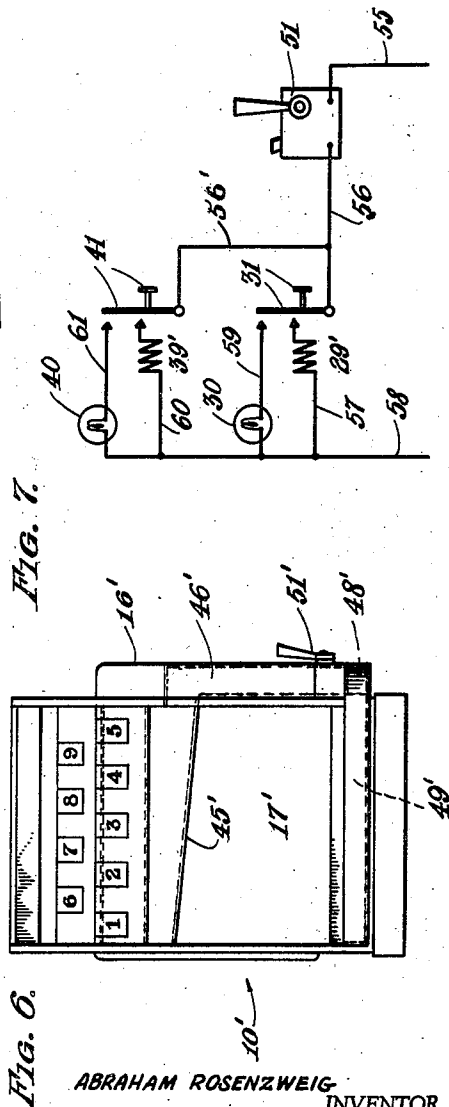
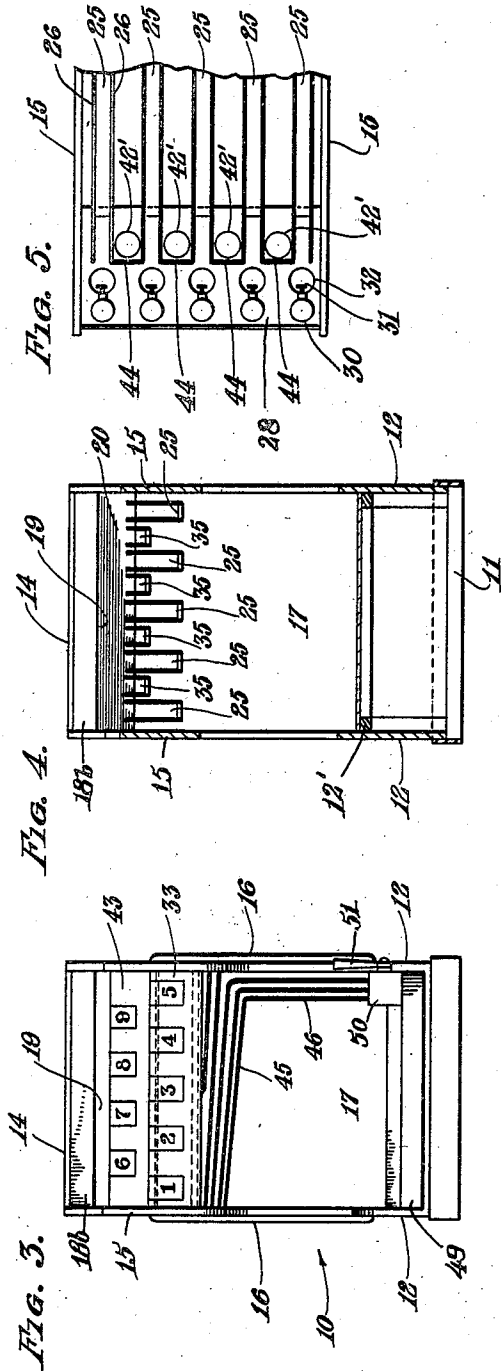
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2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

2,278,024

## GAME APPARATUS

Abraham Rosenzweig, Brooklyn, N. Y.

Application April 1, 1940, Serial No. 327,302

5 Claims. (Cl. 273-125)

This invention relates generally to games, but more specifically to a hand ball rolling game wherein both the control of the speed and direction of the projected ball determine the return course thereof along any one of a plurality of return channels, each channel being provided with means for registering a value.

The main object of the invention resides in the provision of a game structure having an inclined main runway, a vertically extending concave rear member extending off said runway and being provided with an upper and lower group of channels to serve as return courses for any projected ball. The speed and direction of throw determine the return rolling course of the ball in any one particular channel, each channel having scoring means actuated by the striking of the ball thereagainst.

Another object of the invention resides in the provision of a game structure wherein each ball is adapted to roll on its return course by reason of the provision of a concave return member associated with an inclined plate from which plate the return courses proceed.

A still further object of the invention resides in the provision of a game apparatus which is designed to take up little space and the results of which are predicted on the skill of the player.

These objects and other incidental ends and advantages of the invention will hereinafter appear in the progress of the disclosure and as pointed out in the appended claims.

Accompanying this specification are drawings showing preferred forms of the invention wherein corresponding reference characters designate corresponding parts throughout the several views and wherein:

Figure 1 is a plan view of the game apparatus.

Figure 2 is a vertical section thereof along the plane 2-2 of Figure 1.

Figure 3 is an end view in elevation in the direction of the arrow 3 of Figure 1.

Figure 4 is a sectional view of the apparatus along the plane 4-4 of Figure 2.

Figure 5 is a partial plan view along the plane 5-5 of Figure 2.

Figure 6 is an end view in elevation of an alternative form of the game.

Figure 7 is a schematic wiring diagram showing scoring operation during playing of the game.

In accordance with the invention and the preferred forms shown, the game apparatus generally designated by numeral 10 is provided with a conventional framework including a base mem-

ber 11, side members 12, 12 and inclined supporting rails 12', 12' on which a main runway 17 is secured as will hereinafter appear. The rear portion of the framework includes a vertically extending and curved member 13 having a forwardly protruding portion 14. Extending forwardly from member 13 are lateral extensions 15, 15 forming in conjunction with the side members 12, 12 the side walls of the apparatus, said extensions 15, 15 terminating adjacent the forward half of the apparatus. The framework is also provided with two lateral supporting members 16, 16 adapted to abut extensions 15, 15 and to support transverse platforms 28 and 38 containing the scoring apparatus as will hereinafter appear.

The main incline runway 17 proceeds rearwardly and develops into an upwardly extending and concave members 18 terminating forwardly in a downwardly projecting guide portion 18a, member 18 and portion 18a being secured together by the extension members 15, 15 and by a front cross piece 18b as best shown in Figure 2. Across the rear end of extensions 15, 15 and adjacent concave member 18 is an inclined plate 20 supported by bracket 20a, the distance between the forward edge of guide portion 18a and plate 20 being slightly greater than the diameter of any one of balls 27, whereby after a ball has negotiated curves 18 and 18a the same will roll down inclined plate 20 and be prevented from bouncing. Extending off plate 20 are an upper and lower group of channels. In the lower group, the channels are each designated by numeral 25, the side walls thereof being designated by numeral 26. Channels 25 all incline downwardly and forwardly and are disposed in spaced relation across the width of the apparatus and terminating in a co-extensive and inclined transverse platform 28. A scoring apparatus is adapted to be supported on the forward edge of platform 28 and at the end of each channel 25, the said apparatus including a lamp socket 29, a signal lamp 30 contained therein, an actuating plunger 31 and a relay 29' associated therewith. An opening 32 adjacent each of plungers 31 is provided in the platform 28 so that the ball 27 rolling along any channel 25 may strike against plunger 31 at the end of its course and drop through said opening 32. At the striking of plunger 31, signal lamp 30 becomes illuminated and relay 29' becomes energized. In order to view the registration of values for each of the channels 25, there is secured across the front edge of platform 28 and in front of signal lamps

30 a translucent surface 33 having scoring members thereon opposite the ends of each of the channels 25, the said scoring numbers standing out on the illumination of the signal lamps 30. Between each of the channels 25 on platform 28 and rearwardly disposed from openings 32 are openings 42' used for the ball return from the second and upper group of channels 35, now to be described.

The said upper group of channels 35 having side walls 36, extend off inclined plate 20 and are less inclined than channels 25, the said channels 35 alternating in position with channels 25 at the lower edge of plate 20. Channels 35 terminate at the lower ends in a transverse platform 38 disposed directly above and slightly behind platform 28. Platform 38 is provided with similar scoring apparatus at the end of each channel 35 such as a lamp socket 39, a signal lamp 40, an actuating plunger 41 and a relay 39' associated therewith. Each plunger 41 is contiguous to an opening 42 in platform 38 so that a ball rolling along any one channel 35 may strike against plunger 41 at the end of its course and drop through opening 42. At the striking of plunger 41, lamp 40 becomes illuminated and relay 39' becomes energized. It is to be observed that when a ball 27 falls through opening 42 in platform 38, it is necessary for the same to penetrate lower platform 28 to get to a return chute and for this purpose openings 42', as has heretofore been mentioned, are disposed rearwardly of openings 32 on platform 28 and between channels 25. The openings 42' are in alignment with openings 42 on platform 38 at the end of channels 35. At the forward edge of the upper platform 38 is also a translucent scoring surface 43 whereon scoring values are printed opposite the signal lamps 40.

As has been mentioned, in order to permit a ball 27 to drop from any channel 35 into a receiving chute, the ball must fall through aligned openings 42' on platform 28, but to prevent said ball from accidentally missing the opening 42' and rolling downwardly on platform 28, partitions 44 are set up at the forward end of openings 42' as seen in Figure 5 to insure the return thereof into the receiving chute.

Transversely disposed beneath lower platform 28 is an inclined and fabricated ball return chute 45 communicating with openings 42 and 42' and terminating in a vertically disposed chute portion 45. Portion 45 leads into an opening 47 which penetrates runway 17 through a lateral and raised wall 50 mounted on said runway 17. Extending off opening 47 is an inclined and forwardly extending reservoir chute 48 leading into a front transverse pocket 49 in which balls 27 roll from the reservoir chute 48 after the operation of a conventional coin ball release box 51 situated near the end of said reservoir chute 48.

The wall 50 narrows the width of the forward portion of runway 17 to conceal the projecting and vertical portion 48' of reservoir chute 48 above runway 17.

In the alternative construction shown in Figure 6, it is unnecessary to narrow the width of the forward portion of runway 17 because of the fact that the vertically disposed chute portion 46 is secured externally of the side walls of the apparatus. Thus, from Figure 6 the apparatus is generally designated by numeral 10'; numeral 16' represents a vertical supporting structure for the transverse platforms on

which the return channels and the scoring apparatus are mounted, and for the ball return chutes 46' and 48'. 51' represents generally a coin slot and ball release for balls in reservoir 48'.

The electrical connections shown in Figure 7 are conventional. Two main lines 55 and 58 leading from a source of power are interrupted by the coin box ball release construction 51 serving in the normal capacities of a switch and ball release mechanism. Numeral 56 indicates an electrical line from the ball release mechanism. All the signal lamps and relays on the platform 28 are connected in parallel to lines 58 and 55 by means of connections 59, 57 and 55 while all the lamps and relays on platform 38 are connected to the lines 58 and 55 in parallel by means of electrical connections 61 and 60 and 56'. The plungers and armatures situated on each of the platforms are connected to line 55 by connections 56 and 56'.

Upon the insertion of a coin in the coin box 51, the handle thereof is unlocked to permit a release of balls 27 from chute 48 to pocket 49 and to make electrical connections in preparation for the scoring of the balls in each particular channel. The game consists of rolling one ball at a time up the main runway 17, around extension 18, down plate 20 and into any one of the channels 25 in the lower group and 35 in the upper group. The ball necessarily must find its way into one of said channels and cause a registration of the value thereof by striking against one of the plungers 31, 41, the ball then proceeding downwardly into the reservoir chute 48. After five balls have been thrown in this way, the scoring is noted against the translucent plates 33 and 43. In order to play a second time, a coin is thrown into the coin box ball release 51 which causes the bulbs 30 and 40 to go out and permits the balls to roll into the pocket 49 or 49'. At this time the plungers 31 and 41 are ready to be struck by the balls going into the respective channels.

I wish it understood that minor changes and variations in the size, shape, construction, integration and material of the parts of the invention may all be resorted to without departing from the spirit of the invention and the scope of the appended claims.

I claim:

1. A game apparatus including a ball course, a vertically concave return course extending upwardly from one end of said ball course, an inclined plate leading off the forward end of said return course along which the ball rolls after negotiating the vertically concave return course, a plurality of inclined channels at different levels leading off the inclined plate at the forward edge into any one of which the ball may roll, and a common return chute disposed below said channels.

2. A ball-playing game apparatus including an inclined ball course, a vertically concave return course extending upwardly from one end of said ball course, an inclined plate placed below and leading off the forward end of said return course and forming a transverse opening therewith slightly larger than the diameter of a playing ball from which opening the ball rolls, a plurality of spaced and inclined channels at different levels leading off the lower end of the inclined plate into any one of which the ball may roll, and a common return chute disposed below said channels.

3. A ball-playing game apparatus including an inclined ball course, a concave return course extending off the end of said ball course, an inclined plate spaced below and leading off the forward end of said return course and forming a transverse opening therewith slightly larger than the diameter of a playing ball from which opening the ball rolls, a plurality of spaced and inclined channels at different levels spaced above the ball course and leading off the lower end of the inclined plate, a receiving chute communicating with the ends of said channels for the ball return.

4. A ball playing game apparatus including an inclined ball course, a concave return course extending off the end of said ball course, an inclined plate spaced below and leading off the forward end of said return course and forming a transverse opening therewith slightly larger than the diameter of a playing ball from which opening the ball rolls, a plurality of spaced and in-

5. A ball playing game apparatus including an inclined ball course, a concave return course extending off the end of said ball course, an inclined plate spaced below and leading off the forward end of said return course and forming a transverse opening therewith slightly larger than the diameter of a playing ball from which opening the ball rolls, groups of inclined and spaced channels at different levels disposed above the ball course and leading off the lower end of the inclined plate, and a common receiving chute communicating with the ends of said channels for the ball return.

6. A ball playing game apparatus including an inclined ball course, a concave return course extending off the end of said ball course, an inclined plate spaced below and leading off the forward end of said return course and forming a transverse opening therewith slightly larger than the diameter of a playing ball from which opening the ball rolls, groups of inclined and spaced channels at different levels disposed above the ball course and leading off the lower end of the inclined plate, and a common receiving chute communicating with the ends of said channels for the ball return.

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