

July 29, 1941.

P. C. SMITH
GAME APPARATUS

2,250,778

Filed March 16, 1940

2 Sheets-Sheet 1

Fig. 1.

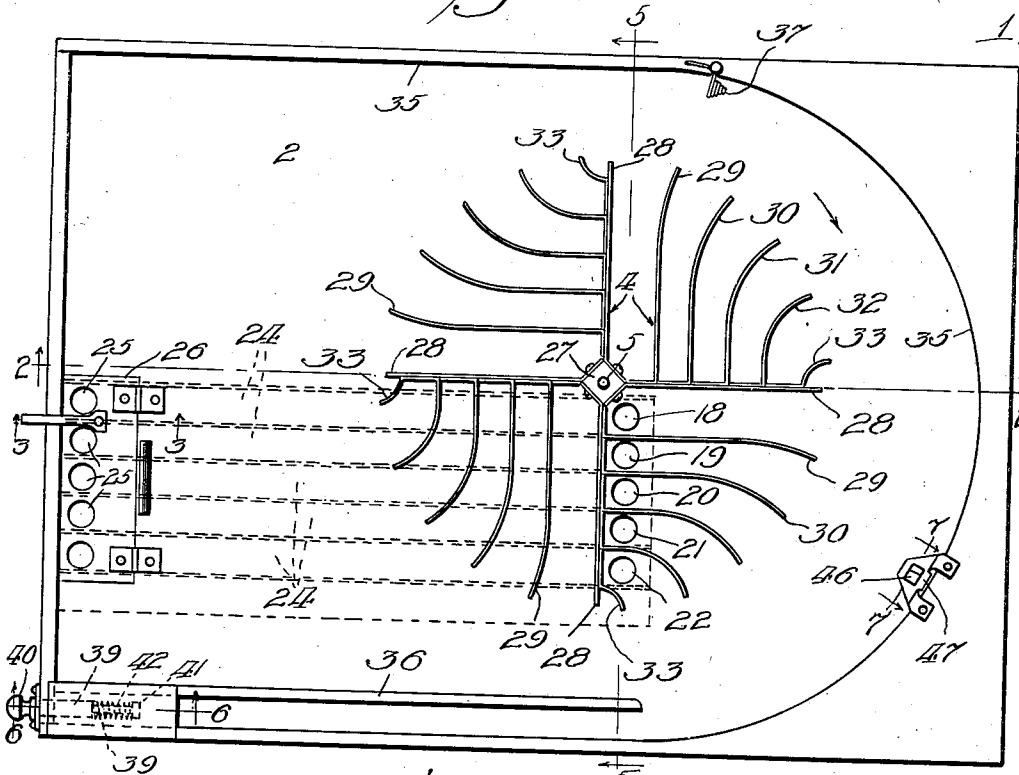


Fig. 2.

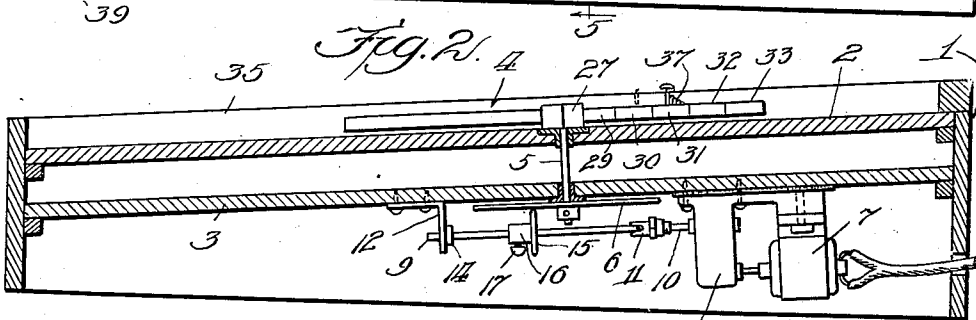
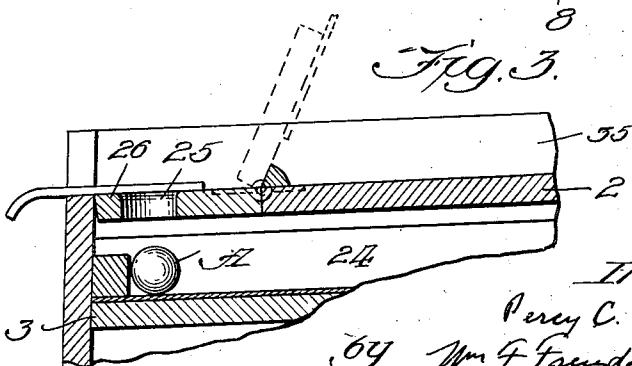


Fig. 3.



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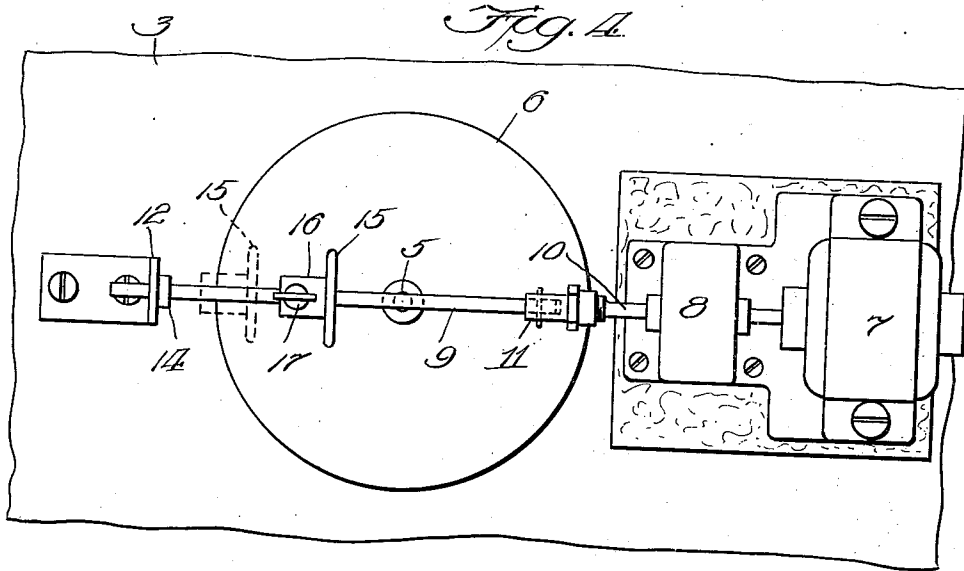
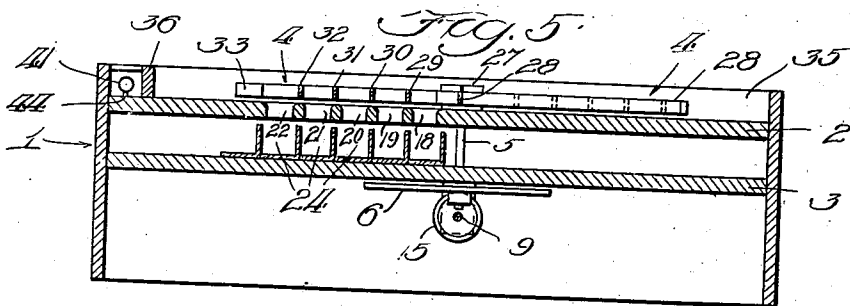
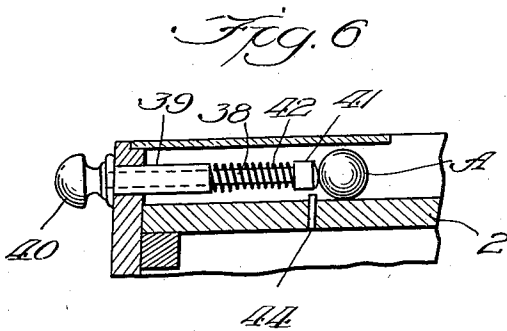
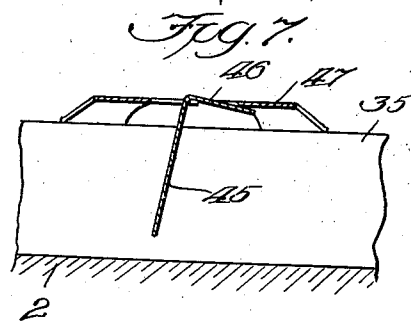
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GAME APPARATUS

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UNITED STATES PATENT OFFICE

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GAME APPARATUS

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Application March 16, 1940, Serial No. 324,257

3 Claims. (Cl. 273-124)

The present invention relates to that type of game apparatus or amusement device in which balls are propelled over a table and scoring is done in accordance with the destination which the balls achieve; and it has for its object to produce a novel destination-controlling means for the balls, whereby the result of a shot depends on the skill of the player.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a top plan view of a game table embodying the present invention; Fig. 2 is a section on line 2-2 of Fig. 1; Fig. 3 is a section on a larger scale on line 3-3 of Fig. 1; Fig. 4 is a bottom plan view of a portion of the table, on a much larger scale than Figs. 1 and 2; Fig. 5 is a section on line 5-5 of Fig. 1; Fig. 6 is a section on line 6-6 of Fig. 1, on the same scale as that of Fig. 3; and Fig. 7 is a section on line 7-7 of Fig. 1, on a scale still larger than that of Figs. 3 and 6.

Referring to the drawings, 1 is a table having a bed or top 2 sloping in the longitudinal direction. Below the bed is shown an auxiliary bed 3 parallel with the other and spaced a short distance apart therefrom. Overlying the bed 2 is a rotatable structure 4 which, as a whole, may be termed a wheel. The wheel is fixed to the upper end of a shaft 5 which extends down through the double bed and has fixed to the lower end, below the lower bed, a disk 6. Fastened to the under side of the auxiliary bed is a power device which, in the arrangement shown, consists of an electric motor 7 and a speed-reduction device 8. Underlying the disk 6 and parallel therewith, is a shaft 9 that is aligned with the output shaft 10 of the speed reduction device and is preferably connected to the latter by a coupling 11 that will provide an effective driving connection between the two shafts even though they be not exactly in alignment. What may be termed the free end of the shaft 9 extends through and is supported by a bracket 12 fixed to and depending from the auxiliary bed 3. A collar 14 on the shaft 9 and engaged with the side of the bracket holds the shaft 9 against endwise movement. On the shaft 9 is a small friction wheel 15 which engages with the under face of the disk 6. Preferably, the shaft 5 that carries the disk 6 and the wheel 4 has a little end play so that the weight of this unit will hold the disk in contact with the friction wheel. Any suitable means are provided for shifting the

speed of rotation of the shaft 5 for a given motor speed. In the arrangement shown, the friction wheel is provided with a hub 16 which may be fastened to the shaft by means of a suitable set screw 17 having a head in the form of a finger piece. The shaft 9 lies directly under the center of the disk 6 so that upon loosening the set screw, the friction wheel can be shifted so as to engage the disk anywhere between a point near the center of the disk and the periphery of the disk.

The wheel 4 is a member having therein a series of peripheral pockets which are adapted to receive balls while they are on the high side of the wheel, and deposit the balls, each at a different place according to the pocket in which any particular ball finds itself. In the arrangement shown, the stations for receiving the balls from the wheel consist of a series of holes 18, 19, 20, 21 and 22 arranged in the bed 2 in a row extending transversely across the table from a point near the axis of the wheel to a point adjacent to the periphery of the wheel. A ball brought into registration with any one of these holes drops down through the bed 2 and into a suitable trough or channel in the space between the two beds. There are shown five such troughs 24, extending from just below the series of holes to the low end of the table where the table top is provided with a row of holes 25, each overlying one of the troughs. The holes 25 permit the players to see each ball that has rolled down through the length of a trough. For game scoring purposes, each of the holes 25 may have a given scoring value so that a ball visible through one of these holes may score more points than if it had entered another trough and would therefore be visible through another hole.

If desired, the holes 25 may be formed in a door 26 in the table top 2; whereby, upon opening the door, the balls may be removed from the troughs and be again played.

The wheel 4 is shown as being divided into four similar quadrants, each having a complete series of pockets, so that there are four groups of pockets, spaced ninety degrees apart, each of which will carry a ball to the same hole in the series underlying the wheel. In the wheel 4 there is a central hub 27 from which extend four radial arms 28 spaced apart ninety degrees. From each arm extend five fingers 29, 30, 31, 32 and 33 distributed lengthwise of the arm and each lying more or less at right angles to the arm and parallel to each other at their inner or base ends. The four sets of fingers are of such lengths that a circle described about the center of the wheel will touch the outer ends of all of the fingers. Accordingly, the fingers decrease in length as their positions recede from the center of the wheel toward the periphery; the inner

finger 29 being the longest and the outermost finger being the shortest. Also, since the arc of the circle in which the outer ends of a set or series of fingers lie is longer than the radial distance from the center to the outermost finger, at the bases of the fingers, the fingers are gradually curved outwardly and away from each other so that the gap between any two adjacent fingers at the outer ends is wider than the distance between the inner or base ends of the fingers.

The parts are so proportioned that whenever one of the arms or spokes 28 of the wheel lies beside the series of holes 18—22, the finger 29 extends in the direction of the upper end of the table between the holes 18 and 19, the finger 30 lies between the holes 19 and 20, etc., the short finger 33 lying outwardly from the last hole 22 in the series. Consequently, since the table slopes downwardly from right to left, as viewed in Fig. 1, a ball entering any one of the pockets or compartments in what is the upper right-hand quadrant in Fig. 1, will be carried around by the wheel, assuming the latter to turn in the direction of the arrow, until that quadrant is somewhere near the position of the lower right-hand quadrant in Fig. 1; whereupon the ball will roll down through the hole with which the pocket or compartment in which it is being carried registers.

It will therefore be seen that if means are provided to shoot balls across the table in such a manner that they may drop into the high half of the wheel, any ball caught by the wheel will be dropped down through a hole in the table and will thus score points. Of course, if a ball should enter a quadrant after it has passed so far beyond the position of the lower righthand quadrant in Fig. 1, that the ball can no longer roll into one of the holes, there is a failure to score, and the ball simply rolls down on top of the table and can be picked up at the low end.

Any suitable means may be provided for delivering balls. In the arrangement shown, there is a ledge 35 extending upwardly entirely around the table, that part of the ledge at the high end of the table forming a semi-circle embracing the wheel 4 while the side sections are straight and tangential to the semi-circular portion. A long, straight ledge 36 extends parallel to and a short distance from the straight section of the ledge on the side of the table in which the holes are located; the distance between these two ledge members being substantially equal to the diameter of the balls A that are employed. Associated with the low end of the channel between the ledge 36 and the adjacent part of the ledge that surrounds the table, is a suitable driver by means of which a ball may be forcibly projected upwardly along the channel and be caused to strike the curved portion of the ledge 35 and be guided thereby past the wheel 4 onto the opposite side of the table where it will strike against a spring cushion 37 and be caused to bounce back into the wheel 4. It will be seen that with the wheel running at a given speed, a player may soon develop skill in his timing and with respect to the amount of force with which the ball is initially driven, to be successful in selecting the pocket or compartment which the ball is to enter.

The driving device shown consists simply of a rod 33 slidable through a sleeve 39 fixed to the table within the lower end of the channel along which the ball is initially driven; the rod having

at its outer end a button or head 40 and at its inner end a driving head 41. There is a compression spring 42 surrounding the rod beyond the inner end of the sleeve and engaged at one end with the end of the sleeve and at its other end with the driving head. A ball being placed in the channel, the rod or plunger need only be drawn outwardly and be then released, in order to drive the ball into the playing field. As is customary, I prefer to provide the channel with a suitable stop 44 which prevents the ball from rolling back with the driver or plunger as the latter is retracted; whereby the ball must be struck instead of being pushed in order to play it.

There is also preferably associated with the ledge 35 at a point which is reached by the ball shortly after it enters the semi-circular section, a baffle or trap that prevents retrograde movement of the ball. As best shown in Fig. 7, this device consists simply of a little swinging plate 45 located in the path of the ball and provided with a lateral projection 46 that strikes against a stationary part 47 in the event that a ball trying to roll backward strikes against it; the plate itself swinging freely to permit a ball to pass the same when struck by a ball on its way along the curved portion of the ledge toward the playing field.

It will thus be seen that I have produced a simple and attractive game which enables a number of players to test their skill and luck in competition with each other. By permitting a wide range of speeds for the revolving wheel-like member, the game can be made more difficult, because new timing in the driving of the balls is required for every substantial change in the speed of rotation of the said member. It will also be seen that the game is one which can be played and be fascinating to fairly young children as well as older persons, so that it is adapted for home use.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claims.

I claim:

1. A wheel for use in a game apparatus comprising a plurality of radial arms connected together at their inner ends, and a series of fingers projecting laterally from the same side of each of said arms in the plane of the wheel.

2. A wheel for use in a game apparatus comprising a plurality of radial arms connected together at their inner ends, and a series of fingers projecting laterally from the same side of each of said arms in the plane of the wheel, the fingers being of such lengths that their outer ends terminate approximately in a circle described about the juncture of the inner ends of said arms.

3. In a game apparatus, an inclined table, providing at its upper end an unobstructed playing field, a rotatably mounted wheel-like member overlying the table flatwise and having therein a series of pockets opening out through the periphery thereof for the reception of balls from the playing field, said table having therein a series of holes corresponding in number to said series of pockets, said holes being so located that balls in any of the said pockets may drop through said holes only when said member is in a predetermined angular position.

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