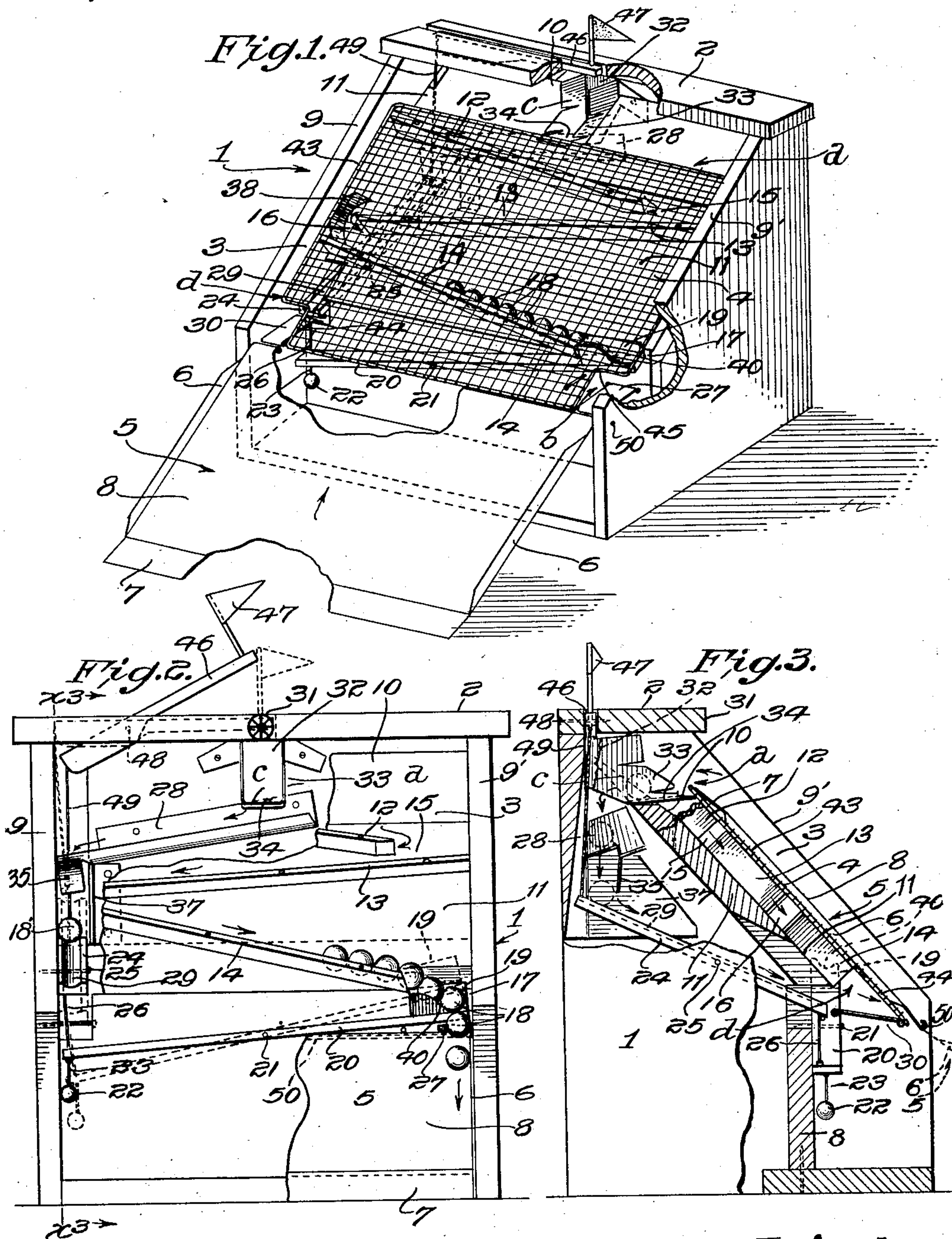


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 GAME APPARATUS.
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GAME APPARATUS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM LAMMERSEN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Game Apparatus, of which the following is a specification.

The invention is of the nature of a bowling alley having automatic means for returning the balls with which the game is played. Said balls may be in the form of marbles or may be any form of balls suitable for bowling.

An object of the invention is to provide a novel game apparatus adapted for solitary and for competitive playing in which the skill of the player is tallied or rewarded by the return of winning and losing balls in an interesting manner.

Other objects and advantages may appear from the subjoined detail description.

The accompanying drawings illustrate the invention.

Figure 1 is a perspective view of a game apparatus constructed in accordance with this invention. Portions are broken away to expose parts that would otherwise be hidden from view. A number of losing balls are shown entrapped. Fig. 2 is a front elevation omitting the gang plate and upper alley plate, and showing the entrapped balls of Fig. 1 as they are being released by a winning ball. A part of the inclined backing is broken to show the winning ball chute and the tripping lever. Fig. 3 is a side elevation partly in section on line α^3 , Fig. 2. Some of the parts are further broken away for better illustration.

1 is a broad based case having a narrow top plate 2 and a rearwardly sloping open front 3 in which an upper inclined alley plate 4 is mounted extending from side to side and from near the bottom to a line somewhat below the top plate 2, thus providing an open space which forms an inlet α to the ball passage and ball return way hereinafter described. An apron 5 is hinged inside the case close to the lower edge of the upper inclined alley plate 4, and is adapted to fold over upon said alley plate 4 to form a closure for the front of the case when the device is not in use for playing purposes. The apron 5 is adapted to be unfolded to extend downwardly away from the case at a different angle from the plate 4 to form

the gang plate, or lower alley plate on which a ball may be rolled upwardly from the floor or other surface upon which the case stands, thus to direct the ball to enter the case through the inlet α . The apron 5 may be made of any suitable material as sheet metal bent up at the edges to form side walls 6 to keep the balls from rolling off sidewise, and also to stiffen the apron. The lower margin 7 of the apron is bent at an angle to the main body 8 of said apron below the walls 6 so as to lie more nearly flat upon the floor or other surface, thus to receive and direct the ball upwardly without bounding. The main body of the apron is also arranged to stand aslant relatively to the upper plate 4 for the same purpose, and the plate 4 is sunk in the case 1 to allow side walls 9, 9', of said case to project upward to form guards to prevent the balls from rolling off sidewise.

Extending across the case underneath the upper alley plate 4 is a sloping plate having an upper part 10, that extends aslant rearwardly above the level of the top of the alley plate 4, and a lower portion forming a backing 11 that extends aslant behind the alley plate 4. The part 10 forms a target at which the balls are to be directed, and has a target port or passage-way c for balls located below the middle of the top plate 2, and constituting the bull's-eye of the target. The portion of the rear wall 32 of the case which is behind the passage-way c forms a stop adjacent to the target for the balls which may pass through the passage-way c . The balls that enter the passage-way c are termed winning balls and those which strike the target part 10 are termed losing balls. The backing 11 is spaced apart from the alley plate 4 to form a ball return-way for the losing balls in front of the stop 32.

The upper plate 4 is so constructed that it may be seen through, and may be made of any transparent structure, as a sheet of glass or wire netting so as to allow the players to see the losing balls as they roll down the ball return-way and become entrapped behind the plate, thus to add interest to the game. In the drawing the wire netting form is shown for the reason that the same is cheaper and easier to make and is also less liable to break than glass. Said ball return-way is interrupted or made zigzag by bars formed in three sections, 12, 13 and 14,

fastened aslant to the face of the backing 11; the upper section 12 extending from one wall 9 aslant downwardly part way across the slanting backing 11 and leaving an opening 15 above the intermediate section 13, which extends from the opposite wall 9' downwardly aslant across the backing 11 nearly to the wall 9, leaving a passage 16 through which the ball may pass to the lower section 14 that extends from the wall 9 downwardly aslant across the backing toward and terminating short of the wall 9 to leave an outlet space 17 for paying out the missed balls 18. Said outlet space is normally closed by ball-retaining means formed by the outlet block 19 carried by the paying lever 20 which is pivoted to the case at 21 and is normally held in ball-retaining position by suitable means, as a weight 22, suspended by a cord 23, from the end of the lever 20 opposite the block 19. Said block is adapted to normally obstruct the ball return-way. When a ball is rolled over the upper edge of the plate 4 in such a manner that it does not enter the passage *c*, but strikes upon the target 10 at one or the other side of said passage, thereby becoming what is termed a losing ball, it will find its way down the ball return-way to the block 19, by which it will be stopped in position to intercept in turn a second losing ball, and so on; the losing balls, successively, being thus stopped so long as the retaining device 19 remains in its normal position.

24 is a tripping lever pivoted at 25 and connected by suitable means, as a cord 26 with the lever 20, so that when the upper end of the lever 24 is moved downward, thereby raising the lower end of said lever, the connection 26 will pull up the lower end of the paying lever 20, thus lowering the block 19 in the outlet space 17 and allowing the balls 18 to roll down over the top of the block to a paying way 27 that will direct the balls through the paying port *b* in the alley plate 4 onto the apron 5.

The bull's-eye *c* is large enough to allow the balls to pass therethrough singly to a runway 28 which leads from the bull's-eye or target port *c* to the upper end of the ball-actuated tripping lever 24 which is constructed and arranged to be actuated by any ball which passes through said port, and is provided on its top with a forwardly and downwardly slanting passage way formed by a groove 29 to guide the ball on its downward course and deliver it to a winning way 30, which leads through a winning port *d* onto the apron 5 for the purpose of returning the winning ball to the player. In Fig. 2, 18' indicates a winning ball. The runway 28 constitutes means to direct the ball from the target to the slanting passage way 29.

31 is a target spot located on the top

plate 2 above the passage-way *c* to form a mark at which the balls are to be rolled by the player.

Guards are arranged at different places to direct the ball as required.

33 designates adjustable guards which may be bendable sheet-metal wings projecting forwardly from the back wall above the side margins of the target port *c*, thus preventing a truly aimed ball from bounding laterally, and missing the target port after striking truly on the stop formed by the back wall 32.

34 designates a bridge extending forwardly from the front margin of the target port and terminating below the rim of the upper plate 4 so that a ball entering between the guards 33 and bounding forwardly from the back wall 32 will be returned to the target-port.

35 designates a guard at the end of the runway 28 to direct the ball down onto the upper end of the tripping-lever 24. This guard is formed by slitting the front wall of the runway to form a tongue forwardly above the tripping-lever, and bending said tongue down.

37 is a side guard at the upper end of the lever 24 to direct the ball into the way 30.

38 is a deflector at the lower end of the chute section 13 to turn the ball down the chute-section 14 without liability of clogging.

The block 19 is provided in its upper surface with a run 40, one end of which is at that end of said block which is next the end of the chute-section 14, and the other end of said run is at the front side of said block so that when the block is depressed the run will register with and form a continuation of the ball return-way so that a ball may roll from the section 14 onto the end of the block, and thence off at the side of the block to the paying-way 27 and onto the apron 5. The length of the run 40 is preferably equal to or greater than twice the diameter of one of the playing balls 18 so that while a ball is rolling thereover a following ball may roll thereonto to depress the block while another ball rolls thereon, and so on until all the balls are discharged from the chute.

In practice, one or more players may use the apparatus in a game. When a ball is rolled up the apron 5 and plate 4 it may pass to either side of the target-port *c* and thus fall upon the backing 11 down which it will roll until caught by one of the chute-sections 12 or 13, and then it will pass on downward until retained by the block 19. When a ball enters the target-port *c* it will roll down the chute 28 and onto the long upper arm of the tripping-lever 24, which immediately tilts under weight of the ball, thus operating through the connection 26

to tilt the paying-lever 20 so as to remove the block 19 from the outlet 17, and thereupon all the missed balls that have accumulated above the block will be released 5 and will roll down the apron, and together with the winning ball will return to the player. Where two or more players are engaged in the game, the player whose ball releases the paying-lever, will be entitled 10 to hold the winning ball and whatever ball or balls may be released by the paying-lever. The interest of the solitary player is increased by the pay to him of the balls which are released whenever a winning ball 15 is thrown, as above related. The interest is also heightened by his ability to see the balls as they roll down the chute and accumulate above the block, and also by the operation of releasing the paying balls when a winning ball is passed through the target-port 20 onto the lever 24.

By bending the guards 33 toward each other, the entrance to the target-port may be narrowed to increase the difficulty of the 25 game, and by spreading them apart the difficulty of shooting a ball into the target-port may be decreased for the benefit of less skilful players.

The connection between the tripping and 30 the paying lever is preferably a flexible cord 26 so that the tripping lever may tilt to delivering position while the paying lever is in paying position. The mechanism comprising the two levers and the connection is 35 thus made flexible and adapted to deliver both the losing balls and the winning ball simultaneously.

When the device is to be put away the balls 18 may be housed in the chute and 40 covered by turning the apron up.

The weight 22 serves through the connections between the paying-lever and the tripping-lever, to hold the tripping-lever as well as the paying-lever in normal position 45 in which the paying-lever blocks the paying-outlet and the tripping-lever is ready to receive and be tilted by a winning ball. The weight for holding the levers in normal position should be such that a single ball 50 will tilt them both from normal to paying positions.

In case the alley-plate 4 is made of wire-netting it may have a marginal wire frame 43 bent at the lower corners as at 44, 45, to 55 form the paying and winning ports *b* and *d*.

46 designates a signal lever provided with a suitable signal as a flag 47, and pivoted at 48 to the top plate 2 and connected by a cord 49 with the upper end of the tripping lever 60 24, so that when the upper end of the tripping lever is moved downward the signal will be thrown up as shown in Fig. 2, thus giving notice of the result of the shot an instant before the payment of the missed 65 balls begins. The flag may be placed directly

in line with the target port, thus making the same a more prominent mark.

The apron 5 may be made of a sheet of metal or other material hinged by a wire 50 set in the side walls 9, 9', so as to swing 70 down for the player's use or up to form a cover for storage. The alley plate frame 43 may be formed of a stiff wire bent to fit inside the walls 9, 9' and to rest on the tops of the cleats that form the chute sections 75 12, 13 and 14. The wire mesh of the plate 4 may be fastened to the frame 43 by bending or by any appropriate means.

The upper incline 10 of the inclined backing is designed to afford a surface to extend 80 aslant at a less angle with the horizon than does the alley plate 4 so that a ball striking the part 10 will not rebound over the edge of such plate 4 but will roll down to the portion of the backing that is behind the 85 plate. The surface of the main body of the backing is parallel with the alley plate 4. The backing may be made of a single board beveled at the top to form the slanting surface 10. 90

By providing a visible course for the losing balls and an invisible course for the winning ball and making provision whereby the concealed winning ball will release the visible entrapped losing balls, the interest 95 of the players in the game is increased.

The slant of the apron 5 is such that balls rolling down the same will be given sufficient impetus to return them over a level surface, as the surface of a floor, to the 100 player who may be stationed at a considerable distance therefrom, say twelve or fifteen feet, more or less.

When it is desired to store the game apparatus, the balls may be dropped into the 105 open space *a* at the sides of the target port *c*, and will roll down upon and be accommodated by the chute section 13, 14, and thereupon the apron 5 may be turned up over the plate 4 and the game is thus closed 110 and the balls secured against loss.

The deflector 38 is arranged to narrow the space around the end of the inclined intermediate chute-section 13 so as to allow one ball at a time to pass the same, thus to insure 115 against the balls wedging at the turn. The deflector may be of any suitable material. In the form shown it is a piece of sheet metal bent into a curve and fastened to the wall of the case. 120

I claim:—

1. A ball target having a passage way for balls, a ball stop adjacent to the target, a ball return way in front of the stop, retaining means at the end of such way, a 125 ball actuated releasing device for the retaining means, and a ball runway leading from the target passage way to the releasing device.

2. A target provided with a passage way 130

for balls, a stop for balls, a return way for balls that miss the passage way, a block for retaining the balls in said return way and ball-actuated means to operate the block to
5 release the balls from the return way.

3. A game apparatus comprising a slanting plate, an inclined backing, a target at the upper end of the backing and above the level of the upper edge of the plate, said
10 target being provided with a passage way forming the bull's eye, a ball return way on the backing below the plate, an apron to direct the ball onto the plate, means to direct balls from the target in one course, and
15 means to direct a ball from the passage way in another course.

4. A game apparatus comprising a transparent slanting plate, an inclined backing, a target above the level of the upper edge
20 of the plate and provided with a target port, a ball return way on the backing below the plate, an apron to direct the ball onto the plate, means to direct balls from the target to the ball return way, and means to direct
25 a ball from the target port in another course.

5. A game apparatus comprising a transparent slanting plate, a target rearwardly of the plate and above the level of the upper
30 edge thereof, an inclined backing below the target and plate and behind the plate, a ball return way on the backing below the plate, an apron to direct the ball onto the plate, means to direct the balls to the return
35 way behind the transparent plate, a forwardly and downwardly slanting passage way, and means to direct a ball from the target to the slanting passage way.

6. A ball game device comprising a slanting plate, an inclined plate forming a backing behind the plate and extending above
40 the level of the top of the plate to receive balls shot over the top of the plate, there being an outlet between the slanting plate and the backing, a ball return way leading
45 to said outlet, a block for the outlet, a target provided with a passage way to receive a ball, a ball to pass through the passage way, a lever capable of being actuated by said

ball, and means between and operably connecting said lever and the outlet block whereby the operation of the lever causes the withdrawal of the block from the outlet.

7. In a ball game apparatus provided with a target, the combination of a lever, a
55 block operatable by said lever, a ball-way in front of the target leading to said block, a second lever, a connection between said levers, a ball, and means to deliver the ball from the target onto said second lever to
60 operate the first lever for the purpose of withdrawing the block from its ball way.

8. In a ball game apparatus provided with a target, the combination of a ball-way, a lever operatable as a signal, another lever
65 operatable to block and unblock the ball way, a third lever connected with the first two levers, means to deliver balls from the target to the ball-way where they may be blocked by the second lever, a ball, and
70 means to deliver said ball onto the third lever for the purpose of operating the signal and unlocking the ball-way.

9. In a ball game apparatus provided with a target, the combination with a slanting
75 backing, of bars arranged aslant to form a staggered way on said backing, a block to stop balls on one of said bars, a ball, and means operatable by said ball to remove said block from its blocking position.
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10. In a ball game apparatus, the combination with a ball return way, of a movable outlet block arranged to normally obstruct the way and provided with a run, one end of which is at that end of said block which
85 is next to the ball return way, and the other end of which run is at one side of said block, and means to lower the outlet block to bring the run into line with the ball return way to form a continuation of said way, substantially as and for the purpose set forth.
90

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 19th day of October, 1908.

WILLIAM LAMMERSEN.

In presence of—

JAMES R. TOWNSEND,

M. BEULAH TOWNSEND.