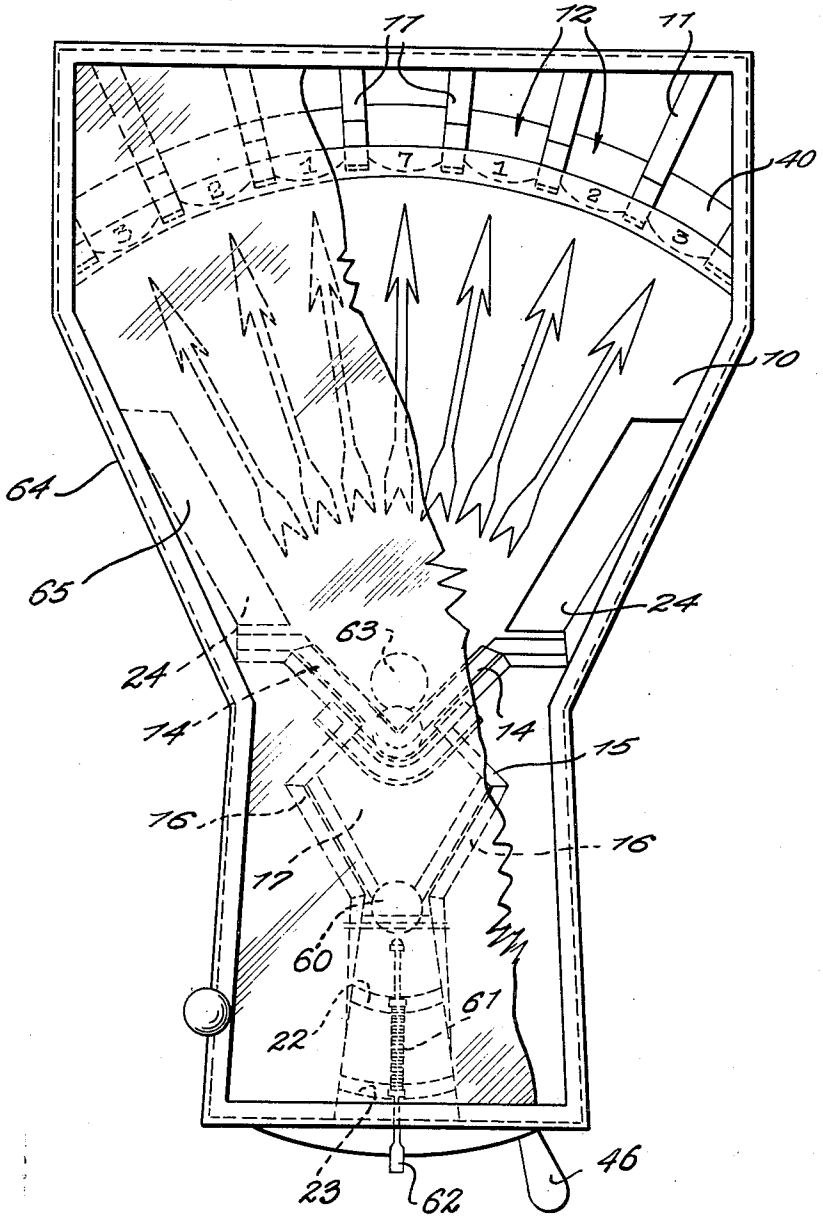
March 13, 1951 J. C. JACKSON 2,544,992

GAME APPARATUS, INCLUDING MECHANICAL PROJECTOR

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FIG. 1



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GAME APPARATUS, INCLUDING MECHANICAL PROJECTOR

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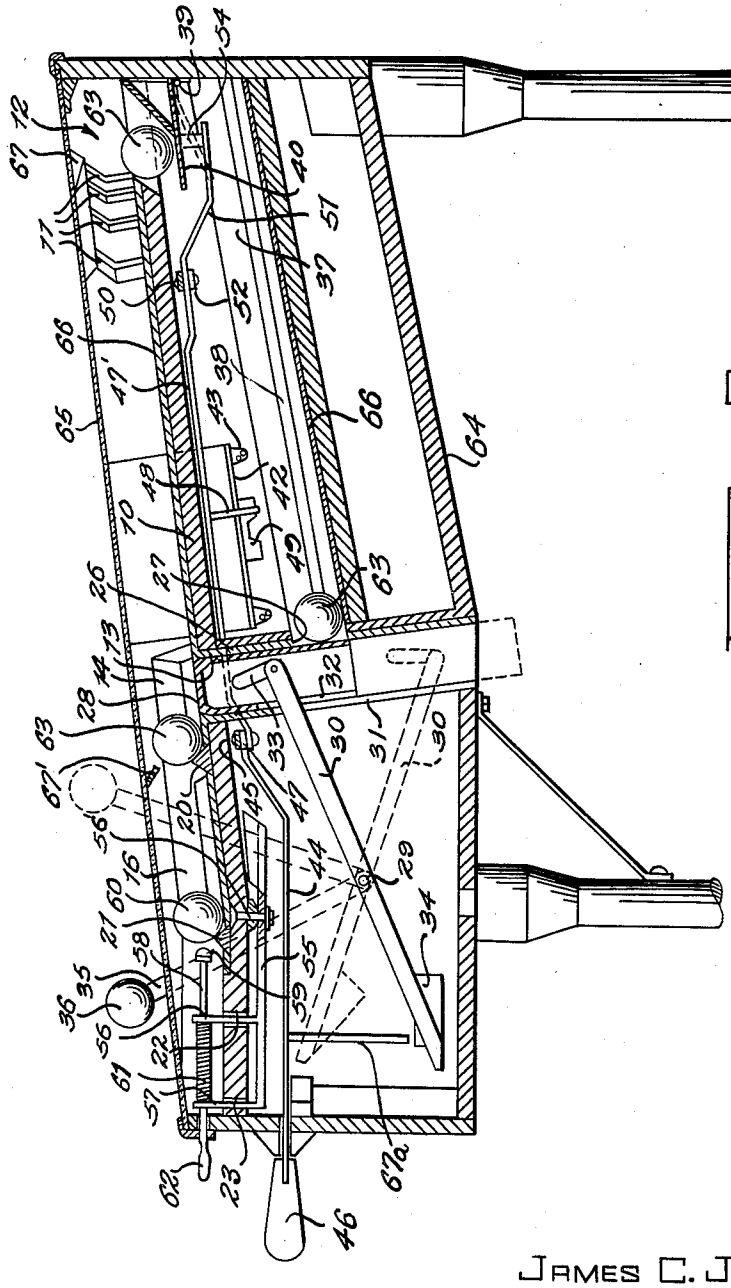


Fig. 2

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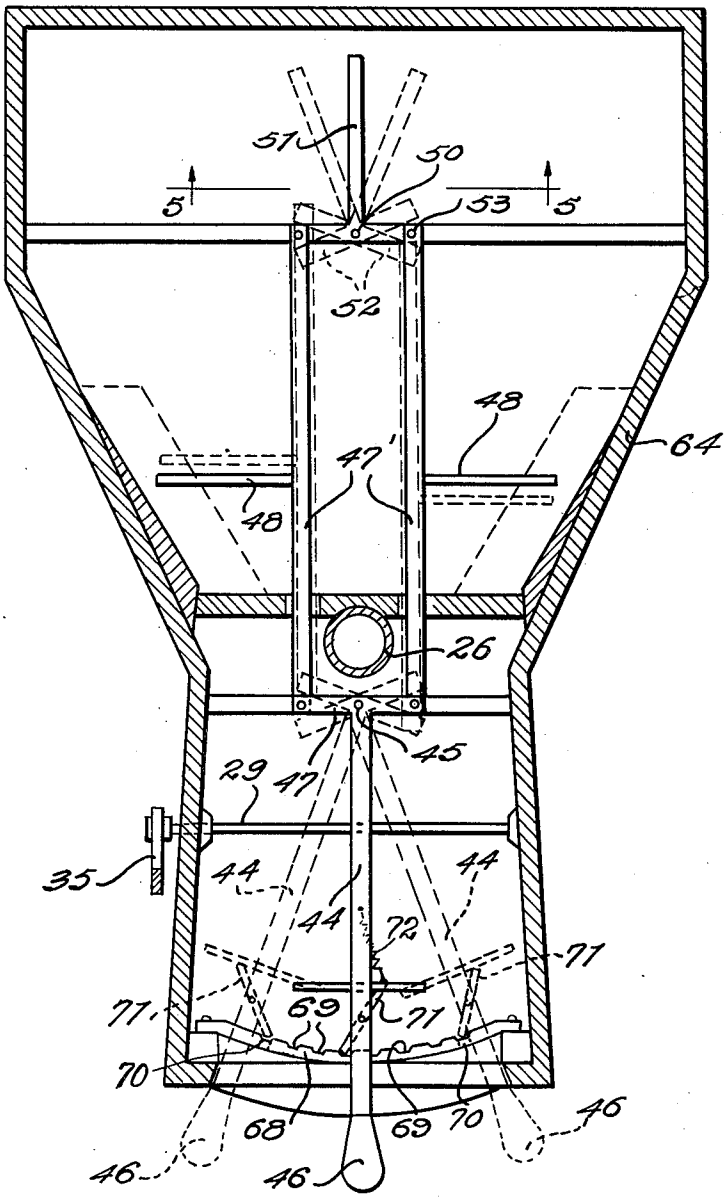
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GAME APPARATUS, INCLUDING MECHANICAL PROJECTOR

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FIG. 3



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GAME APPARATUS, INCLUDING MECHANICAL PROJECTOR

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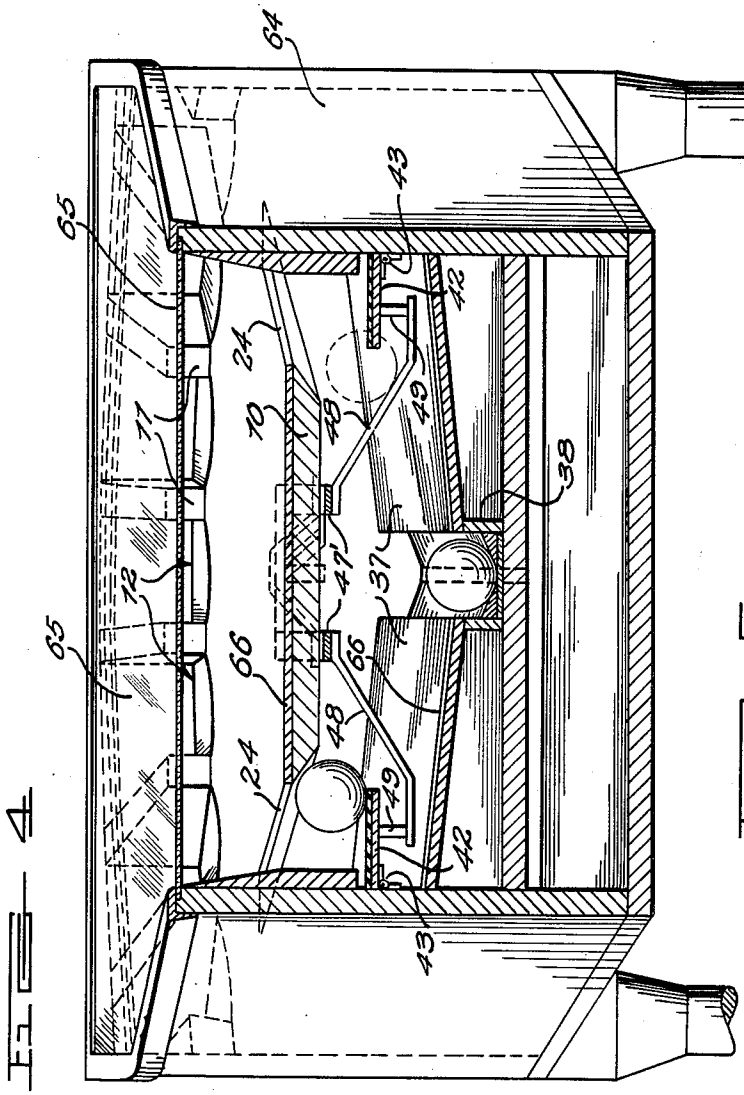


FIG. 4

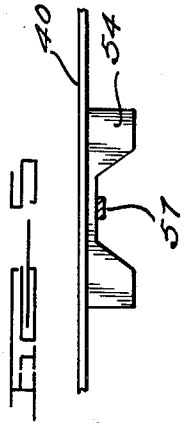


FIG. 5

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2,544,992

UNITED STATES PATENT OFFICE

2,544,992

GAME APPARATUS, INCLUDING MECHANICAL PROJECTOR

James C. Jackson, New Orleans, La.

Application June 20, 1946, Serial No. 677,977

1 Claim. (Cl. 273—122)

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This invention relates to a game apparatus and has for its primary object to afford entertainment and amusement for grown-ups and children alike.

Another object is to test the skill of a player properly to direct a scoring ball into a scoring pocket.

The above and other objects may be attained by employing this invention which embodies among its features a playing field having scoring pockets at one end, scratch pockets at opposite sides of the playing field, a cue ball, means to support a scoring ball in a position to be struck by the cue ball and driven towards the scoring pockets and manually operated means for causing the cue ball to strike the scoring ball.

Other features include a pivotally supported spring driven cue by which the cue ball may be struck a straight solid blow toward its center, from different angles which will impart a forward motion thereto so that when it strikes the scoring ball a desired direction of motion will be imparted to the latter to cause it to travel in the direction of a selected pocket.

Still other features include an inclined playing field so that a scoring ball which fails to enter one of the scoring pockets may be returned to playing position or may find its way into a scratch pocket.

Still other features include discharging from the pockets balls which may have collected therein and returning them to playing position on the playing field where they may again be struck by the cue ball and driven in the direction of the scoring pockets.

In the drawings:

Figure 1 is a top plan view of a game apparatus embodying the features of this invention, the transverse cover plate being broken away to more clearly illustrate certain details of construction,

Figure 2 is a longitudinal vertical sectional view through the game apparatus illustrated in Figure 1,

Figure 3 is a horizontal longitudinal sectional view through the game apparatus,

Figure 4 is an enlarged transverse sectional view through the device, and

Figure 5 is a fragmentary sectional view taken substantially along the line 5—5 of Figure 3.

Referring to the drawings in detail, my improved game apparatus comprises a bed 10 preferably sustained in an inclined position and having adjacent its upper end a transversely spaced row of partitions 11 forming ball receiving pockets

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12, it being understood that the bed 10 is cut away between the partitions to form passages for the playing balls as will be more fully hereinafter explained. Formed intermediate the ends of the inclined bed 10 and substantially midway between the side edges thereof is an opening 13 the purpose of which will be more fully hereinafter explained. Mounted on the upper surface of the bed near the opening 13 are convergent walls 14 which cooperate in forming a holder by which a scoring ball is held in position to be struck by the cue ball to be more fully hereinafter described. Also carried by the upper face of the bed 10 and spaced slightly below the convergent walls 14 are divergent walls 15 which cooperate with convergent walls 16 in defining an area 17 in which a cue ball 60 is confined. A barrier 20 extends between the lower ends of the convergent walls 14 and a like barrier 21 extends between the convergent lower ends of the walls 16 and these barriers are relatively low to enable the cue ball to be struck by a cue, and it in turn to strike a scoring ball which may rest against the barrier 20. Formed adjacent the lower end of the bed 10 in spaced relation to the barrier 21 is a transversely extending arcuate slot 22 which is concentric with a like slot 23 the purpose of which will be more fully hereinafter explained. Formed in the bed adjacent opposite sides are elongated openings 24 forming scratch pockets of the device so that a scoring ball which fails to enter a scoring pocket will either be returned to playing position or will enter one of the scratch pockets where it remains out of play for the remainder of the game.

Extending downwardly from the underside of the bed 10 and communicating with the opening 13 is a feed tube 26 through which scoring balls are fed to the playing surface directly in front of the convergent ends of the walls 14. This tube 26 extends perpendicularly with relation to the bed 10 and is formed intermediate its ends with ball admitting opening 27 which aligns with the ball return trough to be more fully hereinafter described. A plunger 28 is mounted to slide in the feed tube 26 and the head of the plunger is adapted to align with the playing surface of the bed 10 after a scoring ball has been delivered through the tube in order to present a smooth surface over which the ball may travel when struck by the cue ball. Extending transversely beneath the bed 10 and directly under the area over which the cue ball operates is a rock shaft 29 having fixed thereto intermediate its ends a lever 30 one end of which is projected

through longitudinal slots 31 and 32 formed respectively in the tube 26 and the plunger 28, and pivotally connected to the end of the lever which is contained within the interior of the plunger 28 is a link 33 the opposite end of which is pivoted to the plunger so that as the lever rocks under the influence of the rock shaft 29 the plunger will be raised or lowered within the tube 26 according to the direction of movement of the shaft. A counter-weight 34 is supported on the end of the lever 30 opposite that to which the link 33 is attached so as normally to hold the plunger in elevated position. Attached to one end of the shaft 29 is a hand lever 35 terminating in a hand grip 36 so that a player may grasp the hand lever and rock the shaft 29 to depress the plunger 28 to a position below the opening 27 so as to admit a scoring ball into the tube 26 for elevation into playing position. Upon release of the hand lever 35, the counterweight will restore the plunger to its initial elevated position as illustrated in Figure 2.

Supported below the bed 10 in spaced relation thereto is a substantially transversely V-shaped platform 37, opposite sides of which converge toward a longitudinally and centrally disposed trough 38 in which the scoring balls are stored preparatory to their delivery into playing position through the tube 26. It is to be noted that the platform 37 is also inclined downwardly toward the opening 27 in the tube 26 so that the scoring balls will gravitate toward the opening 27 to enter the same one at a time under the influence of gravity as the plunger 28 is lowered.

Pivotally supported as at 39 beneath the pockets 12 is a trap door 40 which when in playing position lies in a plane substantially parallel with the bed 10 to form a bottom for the pockets 12 so that when a scoring ball enters a selected one of the pockets it will be retained therein in such a position as to prevent a second scoring ball from entering the same pocket. Similar trap doors 42 are pivotally mounted as at 43 below the openings 24 in order to sustain scoring balls which may find their way into one or the other of the openings 24 against discharge into the trough 38, until such time as all trap doors are released.

In order to sustain the trap doors 40 and 42 in elevated position I employ mechanism best illustrated in Figure 3. This mechanism comprises a hand lever 44 which is pivoted at 45 beneath the bed 10 directly to the rear of the feed tube 26. The opposite end of the lever projects beyond the confines of the game apparatus and is provided with a knob 46 by means of which the lever may be swung about its pivot 45 in a horizontal arc. A cross member 47 is formed at the pivoted end of the lever 44 and pivotally connected to opposite ends of the cross member are longitudinally moveable links 47' each of which is provided with a laterally extending arm 48. Each arm cooperates at its free end with a cam 49 carried on the under side of its respective trap door 42 and each such cam is provided with spaced high points so that when the lever 44 is thrown into either of the dotted line positions illustrated in Figure 3 the trap doors 42 will be held in elevated or closed position but when the lever is moved into the full line position illustrated in Figure 3 the trap doors 42 may fall by gravity into open position so as to discharge the contents of the scratch pockets onto the platform 37. Pivoted as at 50 to the bed 10, and near the row of scoring pockets 12 is a lever arm 51 having formed at its pivoted end a cross bar 52 to which the ends of the links 47' are pivotally connected as at 53 so that when the lever 44 is rocked about its pivot 45 the lever arm 51 will move in unison therewith. This lever arm cooperates with a cam 54 carried on the underside of the trap door 40 so that as the lever arm 51 is rocked about its pivot 50 the trap door 40 will be elevated or lowered, it being understood that the cam 54 is provided with spaced high points so that this trap door works in unison with the trap doors 42 to discharge the contents of the scoring pockets at the same time that the contents of the scratch pockets are being discharged.

In order to manipulate the cue ball a bar 55 is pivotally supported as at 56' to the underside of the bed 10 directly beneath the point at which the cue ball comes to rest, between the convergent walls 16, and carried by this arm is a pair of guide brackets 56 and 57 which extend upwardly through the arcuate slots 22 and 23 respectively. These guide brackets 56 and 57 are provided with aligned openings through which a plunger 58 slides, and carried at the inner end of the plunger is a cue tip 59 for contact with the cue ball 60 when the latter is at rest against its stop 21. A compression coil spring 61 surrounds the plunger 58 between the guide brackets 56 and 57 and one end of said spring is connected to the plunger 58 while its opposite end abuts the bracket arm 57 so that when pull is exerted on the plunger by means of a thumb piece 62 carried by the plunger at the end opposite the tip 59, the spring will be compressed. When the thumb piece is released the plunger 58 will drive the tip 59 forcibly against the cue ball 60 to cause the latter to be propelled into contact with a scoring ball 63 which may be resting between the converging guides 14, so that the latter will be forcibly driven towards the pockets 12. Obviously by swinging the bar 55 about its pivot the plunger 58 may be aimed to cause the tip 59 to strike the cue ball 60 and thereby impart a spinning motion to the scoring ball as the cue ball strikes the latter off center.

The entire mechanism is preferably housed within a suitable casing 64 which is provided with appropriate slots through which the plunger 58 may project and through which the lever 44 may project for accessibility by the player. A transparent panel 65 encloses the upper side of the playing surface of the bed 10, and the playing surface of the bed 10 and the surfaces of the platform 37 and trough 38 are preferably covered as at 66 with any suitable sound deadening material such as felt. Deflectors 67 are secured to the underside of the transparent panel 65 at strategic points which will prevent the balls 60 and 63 from injuring or breaking the panel should they jump under the influence of the impact incident to their being driven.

A stop or further deflector 67' depends from the panel 65 slightly to the left of the abutment 20 as shown in Figure 2, to prevent the cue ball 60 from jumping over the abutment 20. The stop 67' therefore tends to retain the cue ball confined within the area 17.

It is preferable that the pockets 12 be numbered, as shown in Figure 1, that is, there will be two pockets numbered 1, two pockets numbered 2 and two pockets numbered 3 and one pocket numbered 7. There will be one scoring

ball **63** for each pocket **12** and the balls will be numbered in accordance with the numbering of the pockets. To make a perfect score with this game apparatus the balls numbered 2 must be driven into the pockets numbered 2, one in each pocket, the balls numbered 1 must be driven into the pockets numbered 1, the balls numbered 3 must be driven into the poockets numbered 3 and the ball numbered 7 must be driven into the pocket numbered 7. Should a ball enter a pocket already occupied by a ball, the second ball entering will roll from the pocket and pass back over the playing field or into one of the scratch pockets and be removed from the game or it may find its way back into position between the convergent walls in a position for replaying. If the ball fails to enter one of the scratch pockets and returns to a playing position it can be again played by the player.

The handle **46** is adapted to be moved from one side of the casing to the opposite side as indicated in full and dotted lines in Figure 3. When said handle **46** is in either of its dotted line positions the trap doors are held elevated to prevent balls from moving out of said pockets into the trough. The trap doors are lowered to open the pockets for the discharge of balls therefrom into the trough **38** when the handle **46** is in the full line position as shown in Figure 2. The cams of the trap doors each have a low portion and a pair of spaced high portions to permit the foregoing operation to be carried out.

A depending arm **67***a* is carried by the stem portion of the T-shaped lever **44** for the purpose of engaging the counterweight **34** when the handle **46** is in ball-releasing position so as to lock the plunger **28** against downward movement in the tube **26** during the discharge of the scoring balls from the pockets.

An arcuate bar **68** (Figure 3) is mounted in the casing **64** directly beneath the T-shaped lever **44** and this bar **68** is provided with spaced notches **69** and opening **70** adjacent opposite ends. A dog **71** is pivoted intermediate its ends on the lever **44** to co-act with the notches of the bar **68** to prevent a reverse movement of the handle during the latter's movement from one side of the casing to the other. A coil spring **72**, terminally secured to the lever and to one end of the dog **71**, tends to retain the dog **71** in longitudinal alignment with the lever **44**. When

the handle reaches either of its dotted line positions, as shown in Figure 3, the dog will enter the adjacent opening **70** to permit the dog to reverse its position and allow movement of the handle in a reverse direction.

Having described the invention, I claim:

In a game apparatus including a bed, means mounted adjacent one end of said bed for supporting a cue ball, means mounted on said bed adjacent said one end thereof for confining a cue ball to a limited area of the bed, means mounted on the bed intermediate the ends thereof and adjacent the cue ball confining means for supporting a scoring ball in position to be struck by a cue ball confined within the cue ball confining means, a support arm disposed beneath the bed, a pivot pin securing the arm to said bed directly beneath a cue ball supported by said first mentioned means, a pair of guide brackets projecting upwardly from said arm and being spaced along the arm, said bed having a pair of arcuate slots therein slidably receiving said brackets, and a spring urged plunger slidably mounted on said brackets and disposed above the bed for urging a cue ball supported on said first mentioned means toward a scoring ball.

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