Feb. 14, 1967 H. HEISS ETAL 3,304,085

COIN OPERATED POOL TABLE

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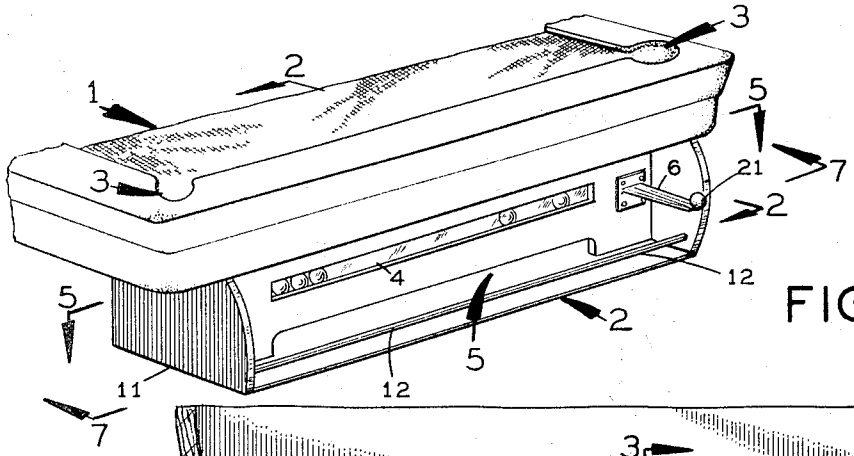


FIG. 1

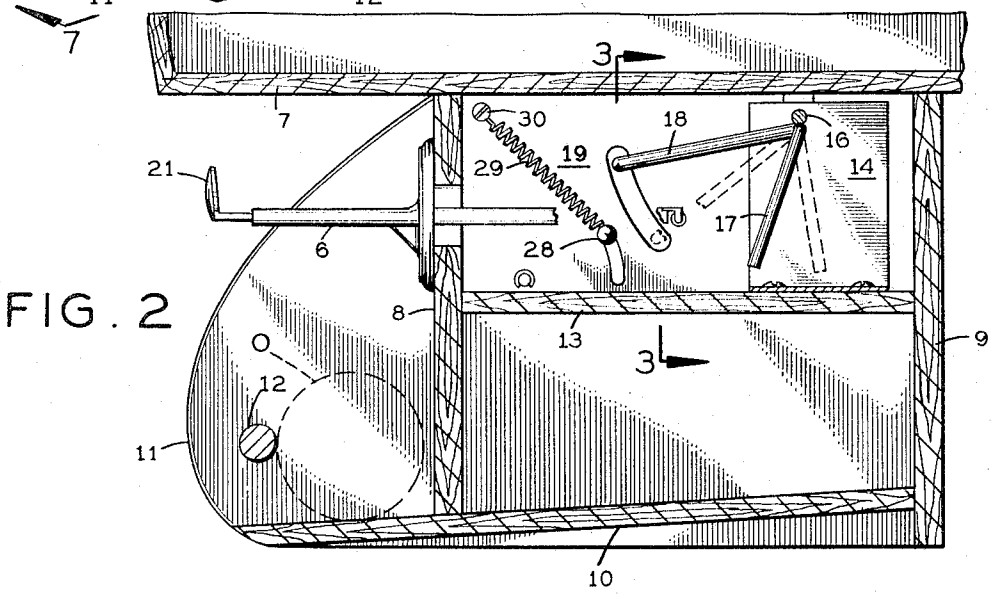


FIG. 2

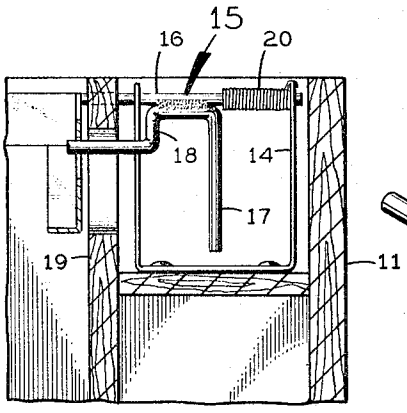


FIG. 3

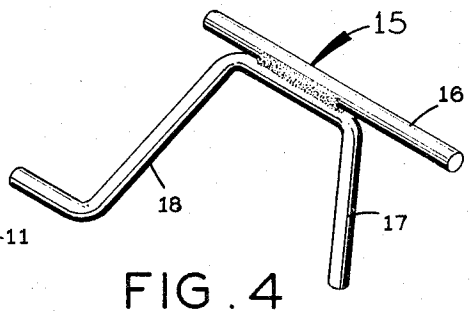


FIG. 4

INVENTORS
HARVEY HEISS
DAVID H. BRAUN

BY

Lloyd J. Andres

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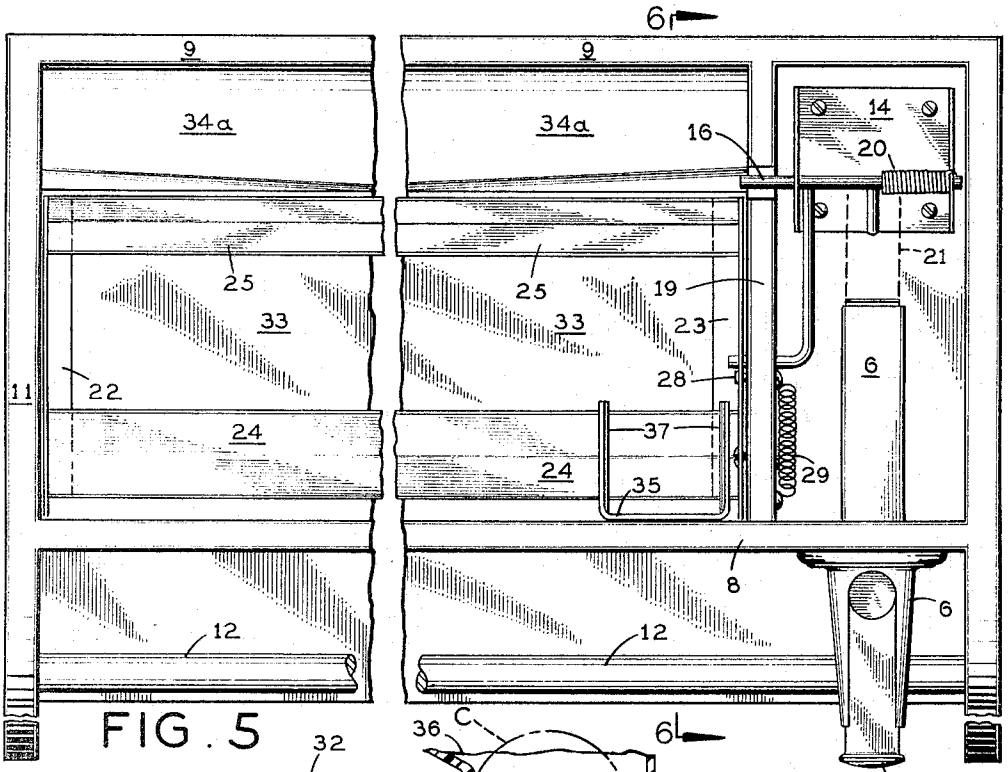


FIG. 5

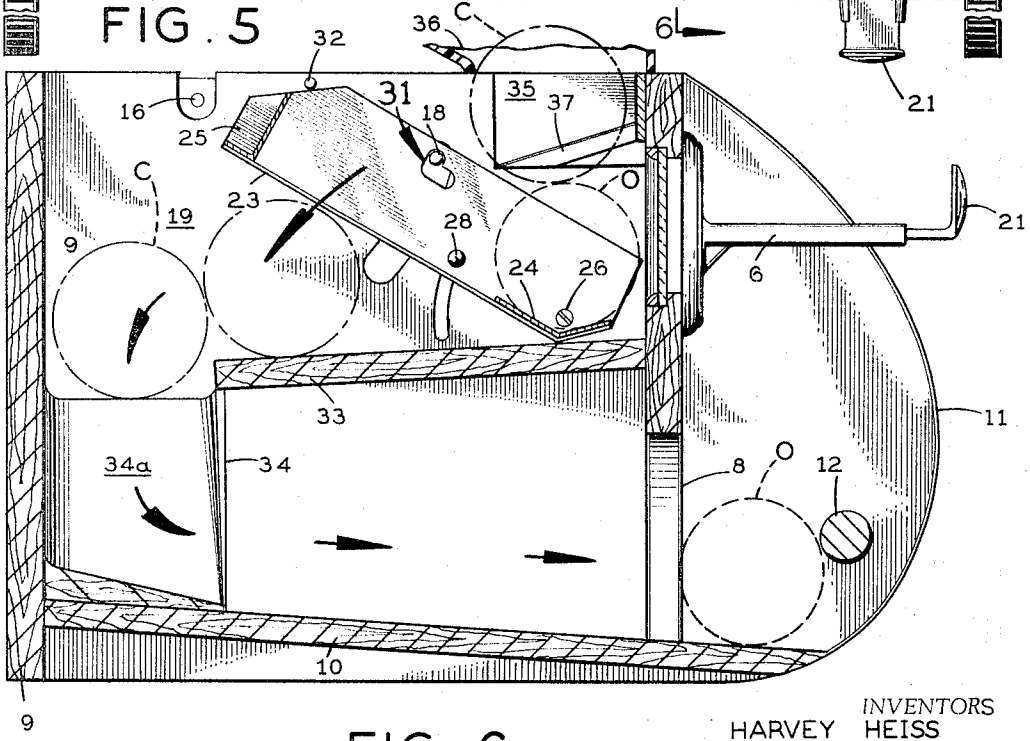


FIG. 6

INVENTORS
HARVEY HEISS
DAVID H. BRAUN
BY
Lloyd J. Andres

Feb. 14, 1967 H. HEISS ETAL 3,304,085

COIN OPERATED POOL TABLE

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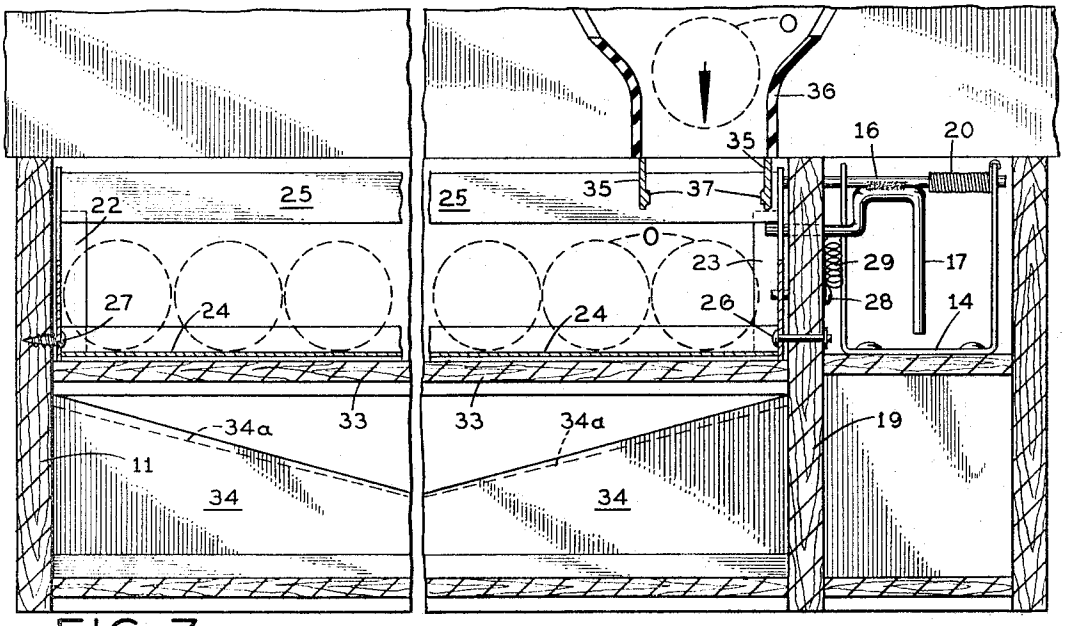


FIG. 7

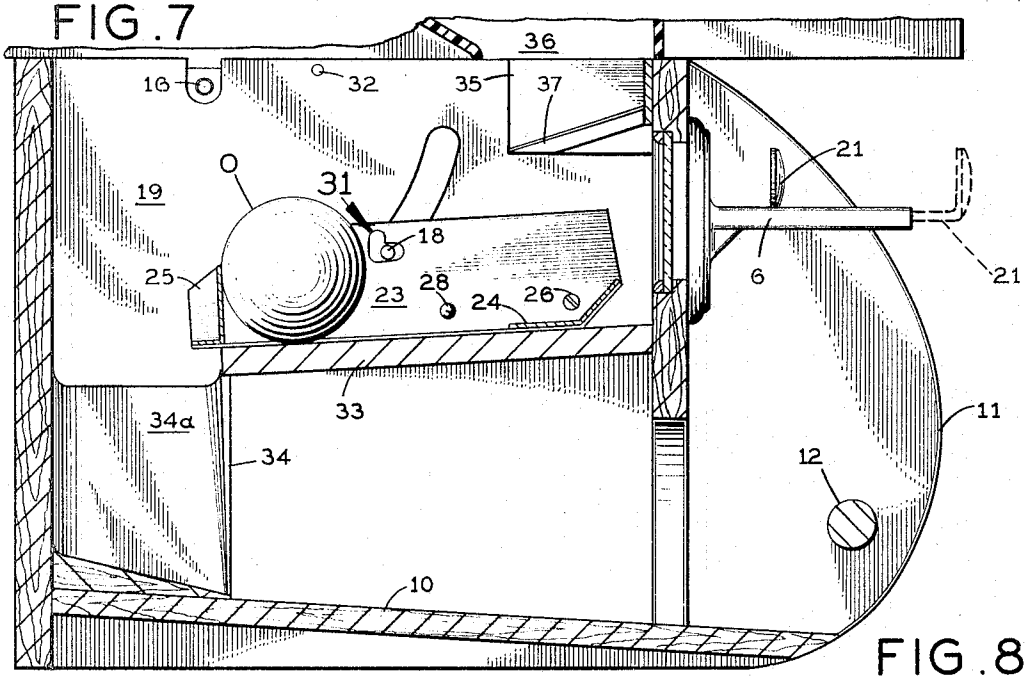


FIG. 8

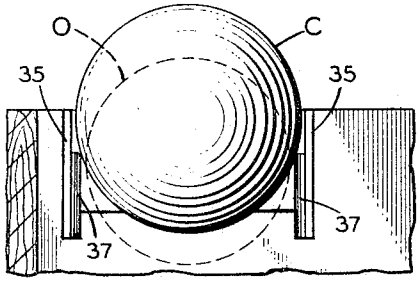


FIG. 9

INVENTORS
HARVEY HEISS
DAVID H. BRAUN
BY
Lloyd & Anderson

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3,304,085

COIN OPERATED POOL TABLE

Harvey Heiss, North Miami, and David H. Braun, Miami, Fla., assignors to All Tech Industries, Inc., Hialeah, Fla., a corporation of Florida

Filed Apr. 14, 1964, Ser. No. 359,593
1 Claim. (Cl. 273—11)

This invention relates in general to coin controlled pool tables and more particularly to an improved mechanism for displaying and coin releasing the balls which have gravitated from the pockets in the table.

Prior devices in pool tables for coin controlling the balls descended from the pockets in pool tables have been complicated and unreliable, in that their operation depended on the precise construction of elements related to and closely dependent upon the gravitational movement and frictional characteristics of the balls.

The present invention overcomes the above objections and disadvantages by the provision of a simple but effective means for sorting the cue ball from the object balls and positioning the latter by controlled gravity motivation in a compartment for easy observation including simple and effective coin operated means for releasing the balls into an open compartment for manual racking, which construction is a principal object of the invention.

A further object of the invention is the provision of a vertical orifice connecting the terminus of the ball runways in the table for receiving and conducting the balls from the pockets in the table in a downward path with the orifice including oblique guide means for diverting the larger diameter cue ball in a path divergent from the object ball path for the gravitational return to an open ball dispensing compartment.

Another object of the invention is the provision of a means for the gravity separation of the cue ball from the object balls and including additional means for returning the cue ball to the user when pocketed except after the play of the last or fifteenth object ball, when the cue ball is retained within the table for coin release with the object balls.

Another object of the invention is the provision of a tiltable elongated hopper in one end of the table having a sloping runway in a portion of the bottom thereof for receiving and retaining object balls in a row descended from a common orifice, said hopper means having a retaining wall in spaced relation to said runway for temporarily retaining said balls on a sloping panel when the hopper is oscillated for releasing the balls from said panel to descend by gravity into an open dispensing compartment for manual removal and racking.

These and other objects in one embodiment of the device are described and shown in the following specification and drawings, in which:

FIG. 1 is a fragmentary perspective view of a coin operated ball release secured to one end of a conventional pool table, in reduced scale.

FIG. 2 is a cross sectional enlarged end elevation taken through section line 2—2, FIG. 1.

FIG. 3 is a fragmentary cross sectional view taken through section line 3—3, FIG. 2.

FIG. 4 is a perspective view of a control element shown in FIGS. 2 and 3.

FIG. 5 is a fragmentary enlarged plan view taken through section line 5—5, FIG. 1.

FIG. 6 is a cross sectional view taken through section line 6—6, FIG. 5.

FIG. 7 is a fragmentary cross sectional enlarged view taken through section line 7—7, FIG. 1.

FIG. 8 is the same as FIG. 6 in changed position.

FIG. 9 is a vertical enlarged cross sectional view of the ball sizing elements shown in FIGS. 7 and 8.

Referring to FIG. 1, one end portion of a conventional pool table 1 is illustrated showing a housing 2 secured thereunder for receiving the balls which have descended in the pockets 3 in the table and carried to a single orifice over the housing by well known channels, not shown.

The housing is provided with an observation window 4 and an open compartment 5 for temporarily retaining the balls for manual removal. A conventional coin slide 6 is provided for releasing the balls in the housing for gravitation to the compartment when operated, as will be hereinafter described.

Referring to FIG. 2, the housing 2 is secured to the bottom panel 7 of the pool table and comprises a front wall 8, a rear wall 9, a sloping lower floor 10 and a pair of end members 11 with a round rod 12 retained therebetween for retaining the balls in compartment 5 in a linear row as illustrated by dotted line.

A shelf 13 supported by walls 8 and 9 has a U bracket 14 secured thereon for pivotally retaining a crank assembly 15 as shown in FIGS. 2, 3 and 4. The crank assembly comprises a pivot shaft 16 and lever 17 and a crank lever 18 for operating a hopper to be hereinafter described.

A partition 19 positioned parallel the end member 11 is provided with a clearance aperture for the lever 18 to project therethrough. A torsion spring 20 on shaft 16 is biased against bracket 14 for normally urging the crank assembly into the position shown in full lines in FIG. 3.

The coin releasable reciprocating member 21 of the slide 6 is positioned to engage lever 17 and move the crank assembly to the position shown in dotted lines in FIGS. 2 and 5 when operated.

Referring to FIGS. 5, 6, and 7, a tiltable hopper is pivotally supported between end member 11 and partition 19 and comprises left and right end plates 22 and 23, respectively, which plates are secured to the ends of a V trough 24 and a backstop 25. The hopper is coaxially pivoted for oscillation on a screw 26 through partition 19 and a screw 27 in end member 11, best shown in FIG. 7.

Referring to FIGS. 2 and 6, the end plate 23 has a stud 28 projecting therefrom and positioned through a suitable aperture in partition 19 and the end thereof secured to one end of a spring 29 with the opposite end thereof anchored to partition 19 by screw 30. The crank lever 18 shown in FIG. 2, is positioned to engage an L shaped aperture 31 in plate 23, shown in FIG. 6. A stop pin 32 projecting inward from partition 19 serves as a stop for plate 23 when the latter is rotated to its normal upward position.

Immediately below the hopper is a rearward sloping shelf 33 supported between the left end member 11 and the partition 19 as shown in FIGS. 6, 7, and 8. The inner edge of shelf 33 terminates above a support member 34 which has along the upper edge thereof a pair of descending convergent runways 34*a*—34*a* for conducting balls rolling from shelf 33 to the central portion of the lower floor 10 where they proceed to gravitate in a linear row in compartment 5 against rod 12, as illustrated in FIG. 6.

Referring to FIGS. 5, 6, and 7, a U shaped guide 35 is secured to the front wall 8 and is intended to be positioned a predetermined distance directly beneath an orifice formed by an outlet means 36 from which all balls are conducted from the pocket channels in the table, not shown. A pair of rearward sloping rails 37 project from inner opposite sides of the guide 35, as shown.

In operation and under the assumption that all of the balls are in playing position on the top of the table, then as each of the object balls enter any one of the pockets 3 it will gravitate into the guide 36 and the send-through guide 35 onto the trough 24, as illustrated in dashed lines in FIGS. 6 and 7.

Since the trough is slightly tilted toward the left, each ball likewise rolls to the left which ultimately forms a row

of balls behind the window 4, as illustrated in FIG. 1 and shown in FIGS. 6 and 7.

It is well known that in the event the cue ball inadvertently drops into a pocket, or is "scratched," then the ball must be returned to the player. Referring to FIGS. 6 and 9, the cue ball C, shown in dot-dash lines in FIG. 6 and in full lines in FIG. 9, being larger in diameter than the object balls 0, shown in dashed lines in FIGS. 6 and 9 and in full lines in FIG. 8, will not descend through guide 35, but the downward movement thereof will be arrested by rails 37 and it will roll rearward between the rails and then fall by gravity between the trough 24 and the backstop 25 of the rocker and onto shelf 33 and then by the further action of gravity roll onto the right hand runway 34*a* and descend to compartment 5 against the rod 12 for manual removal.

Following the play of all of the object balls, in practice fifteen balls, they will come to rest in a linear row on trough 24 and occupy the entire space between the end plates 22 and 23 and will be visible through the window 4, as shown in FIG. 1.

After the play of the last object ball, the cue ball is pocketed and will descend by gravity into the orifice formed by guide 36 and will come to rest upon the object ball positioned beneath the guide 35 and thus is prevented from returning to the open compartment 5.

A new game is initiated by depositing the proper coin in slide 6 and reciprocating member 21 which will engage lever 17 and oscillate the crank assembly 15 and rock the hopper to its rearward tilted position, as shown in FIG. 8, thus permitting all of the object balls to roll rearward against the backstop 25. The manual return of member 21 will permit the hopper and the crank assembly to return to its normal upward tilted position shown in full lines in FIG. 2 by virtue of springs 20 and 29, thus positioning the hopper in its upward rest position, as shown in FIG. 6, which movement will release all of the object balls to roll off of shelf 33 for descent to floor 10 via runways 34*a* and thence to linear alignment against rod 12 for manual removal for racking; simultaneously, the cue ball which was resting on an object ball prior to the release thereof will now roll by gravity rearward on rails 37 and descend through the

hopper onto shelf 33 and then further descend to the compartment 5, as previously described.

It is understood that certain modifications in the construction, using the features above described, are intended to come within the scope of the appended claim.

Having described our invention, we claim:

In a pool table of the character described, a passage means for sequentially gravitating a predetermined number of object balls and a cue ball having a diameter larger than said object balls in a downward path when conducted thereto,

a tiltable hopper means positioned a predetermined distance under said passage for movement from a receiving to a discharge position,

said hopper means constructed and adapted to form a row of only said number of object balls descended in said downward path from said passageway,

deflecting means in said passage for engaging and deflating said cue ball in a return path,

an open compartment means communicating with said return path and said hopper means for receiving and retaining said balls whereby said cue ball descended in said passageway will be deflected into said return path and gravitate into said compartment when less than said number of object balls are in said hopper means and whereby said cue ball descended in said passage will come to rest on one of said object balls and remain in said passage when said number thereof are in said hopper and whereby the tilting of said hopper will release said object balls and said cue ball to gravitate into said compartment when said hopper is tilted.

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RICHARD C. PINKHAM, *Primary Examiner.*

L. J. BOVASSO, *Assistant Examiner.*