Oct. 20, 1931. A. H. EMENHISER 1,827,885

COIN CONTROLLED BASKET BALL GAME

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Fig. 1.

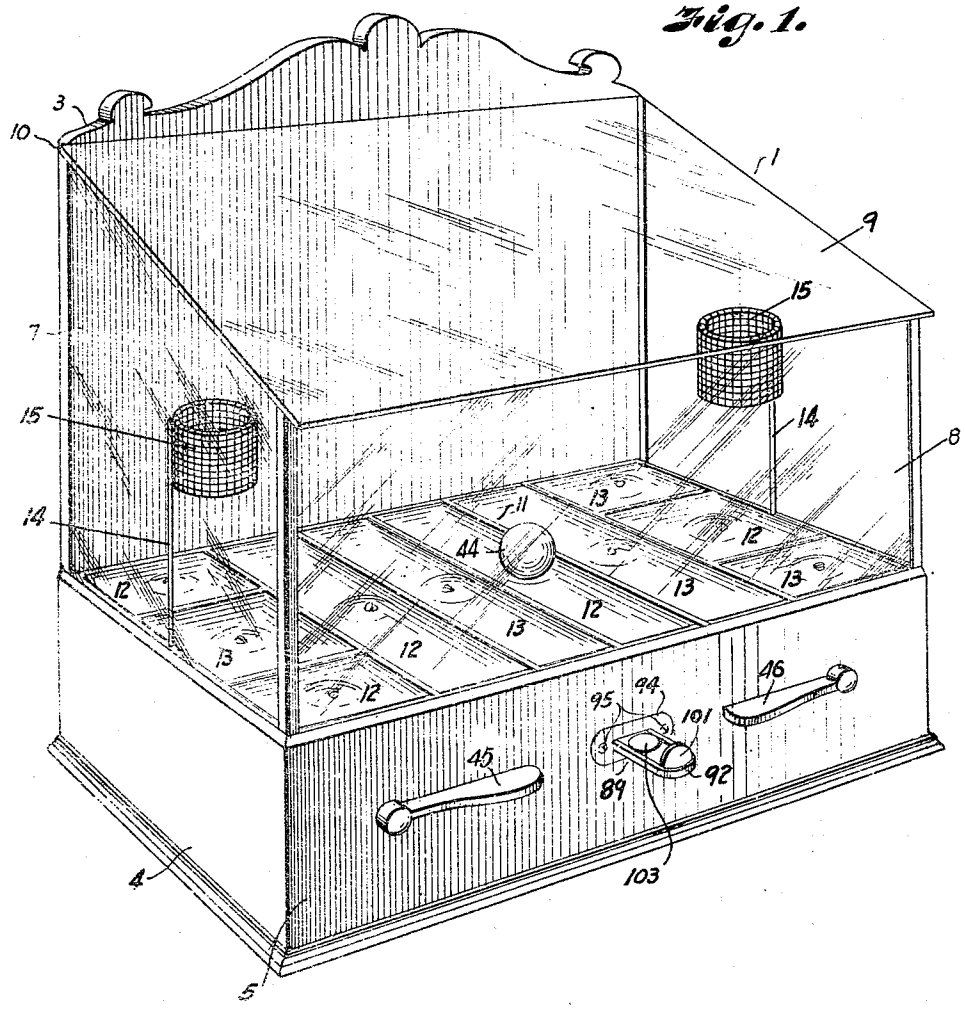
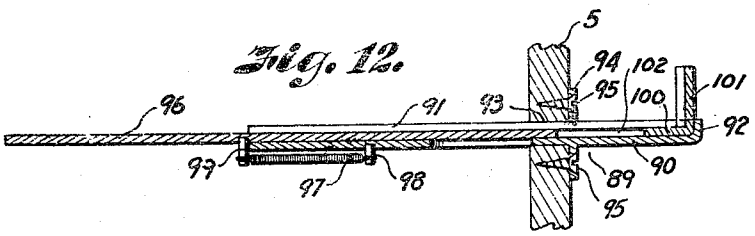


Fig. 12.



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Fig. 2.

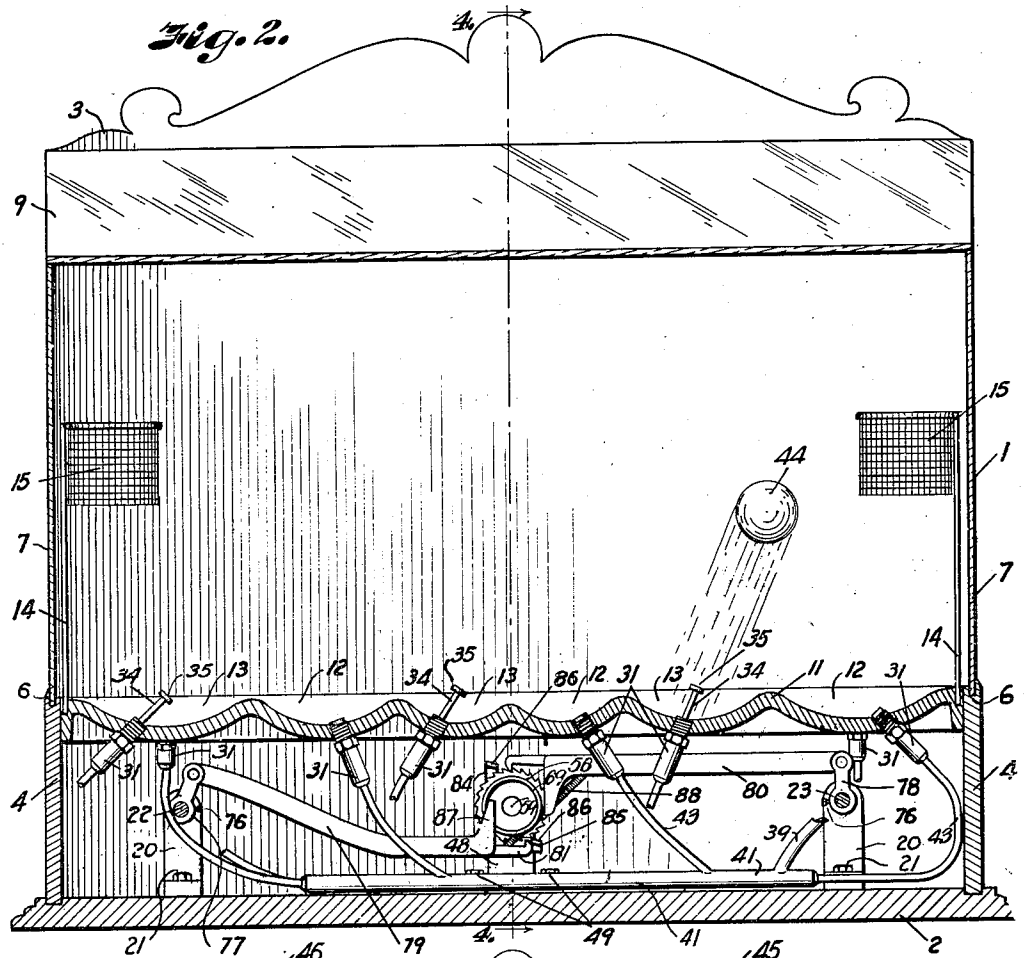
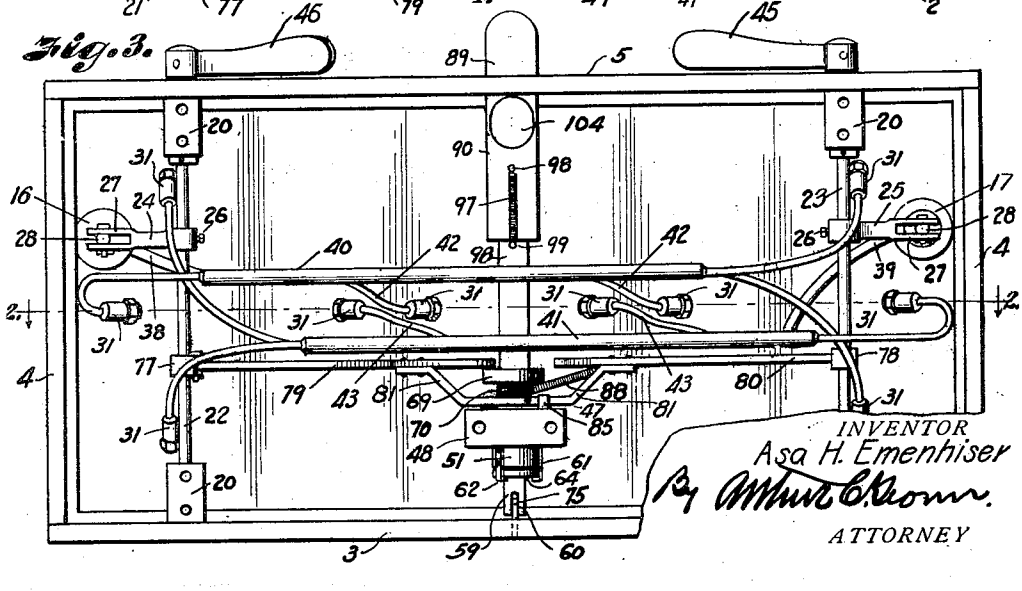


Fig. 3.



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Fig. 5.

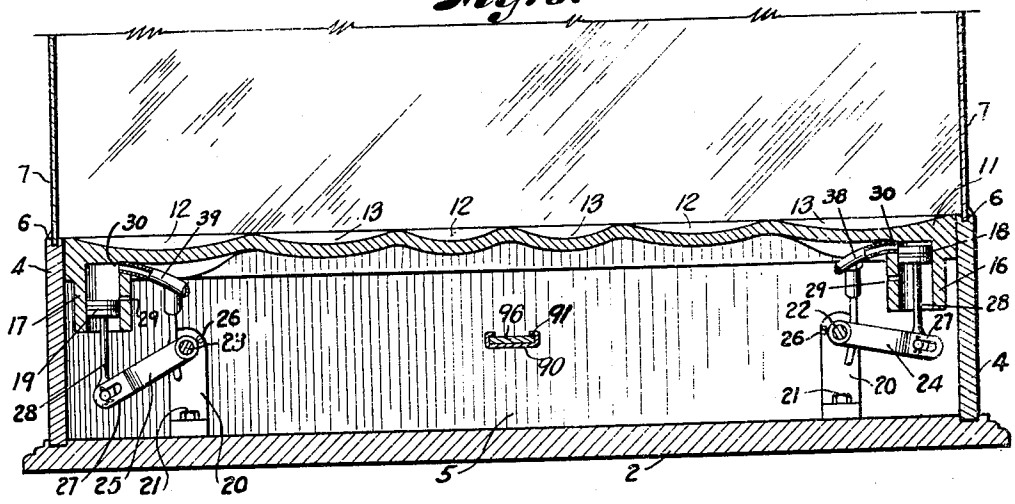


Fig. 4.

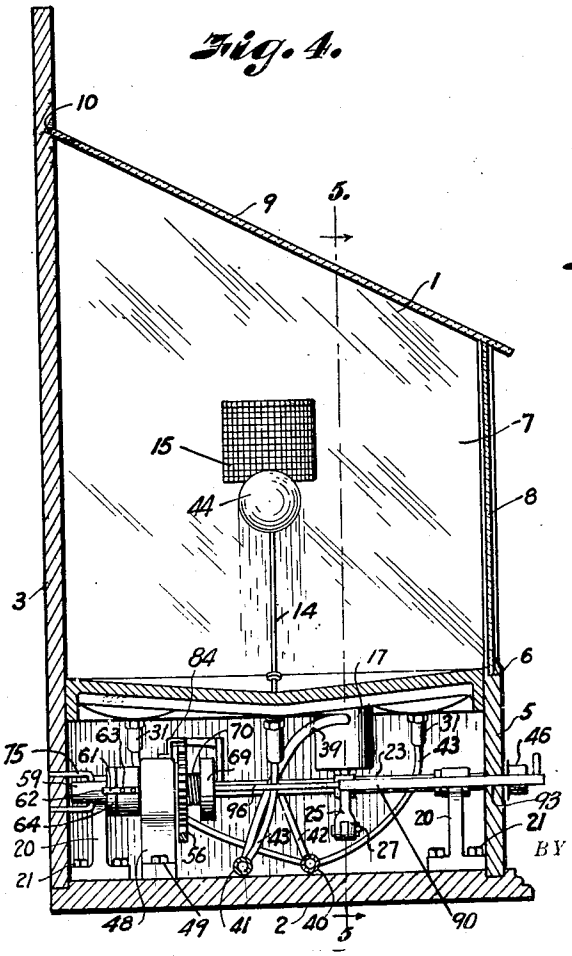


Fig. 7.

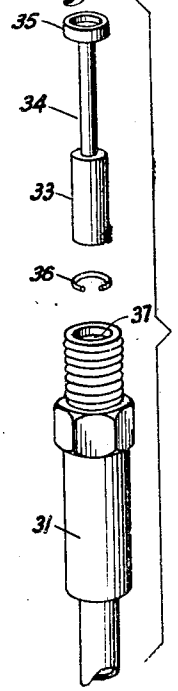
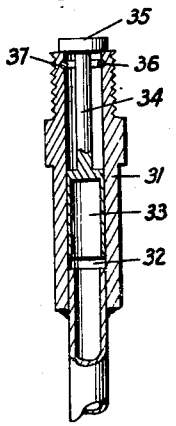


Fig. 6.



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COIN CONTROLLED BASKET BALL GAME

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Fig. 8.

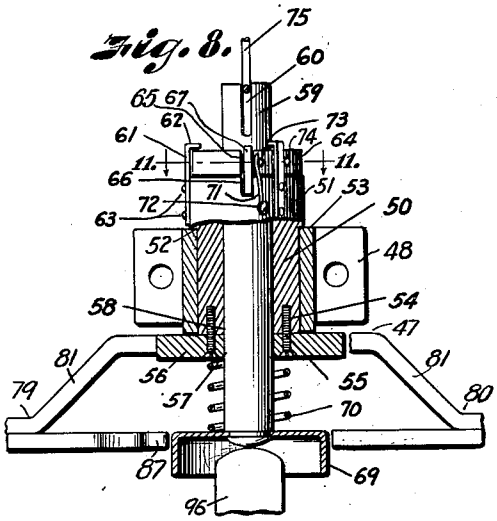


Fig. 9.

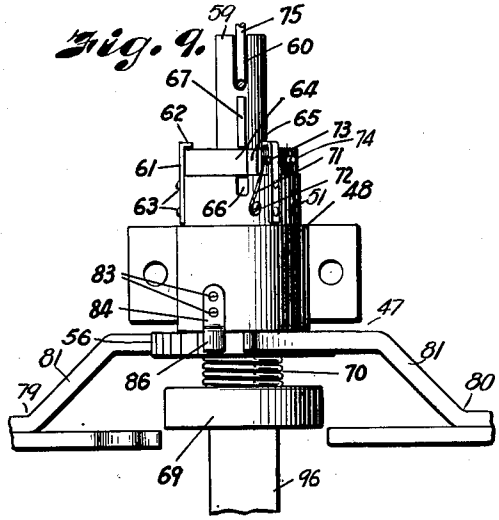


Fig. 10.

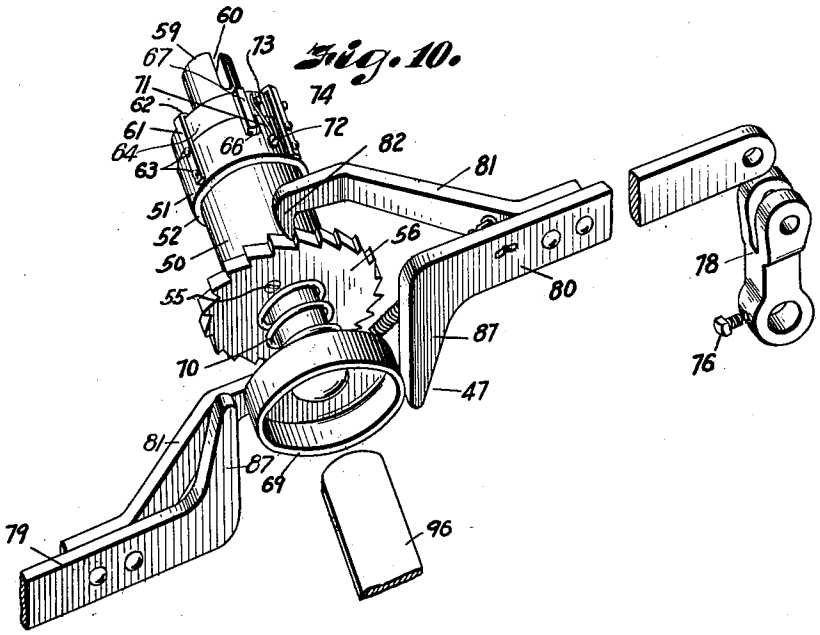
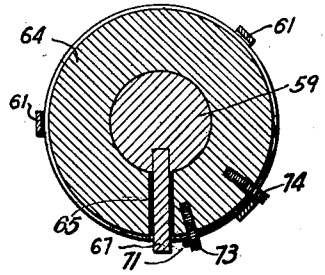


Fig. 11.



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UNITED STATES PATENT OFFICE

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COIN CONTROLLED BASKET BALL GAME

Application filed February 24, 1930. Serial No. 430,626.

My invention relates to amusement devices, and more particularly to a mechanical basket ball game, the principal object of the invention being to provide apparatus for simulating the game of basket ball with mechanism responsive to skill of individual players.

It is a further object of the invention to provide a game of the character described wherein coin controlled mechanism is employed for limiting play to a predetermined number of operations.

In accomplishing these and other objects of my invention, I have provided improved details of structure, the preferred form of which is illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view of a basket ball game embodying my invention.

Fig. 2 is a central longitudinal section on the line 2—2, Fig. 3, illustrating one of two sets of ball projecting plungers in projected position and the other set in retracted condition.

Fig. 3 is a bottom plan view of an intermediate floor in the apparatus, illustrating the pneumatic coin controlled mechanism.

Fig. 4 is a central vertical cross section on the line 4—4, Fig. 2.

Fig. 5 is a longitudinal section on the line 5—5, Fig. 4, illustrating the lower end of the machine, including the pistons for actuating the plungers.

Fig. 6 is a central vertical section of a plunger and plunger housing, the plunger being illustrated in retracted position.

Fig. 7 is a perspective disassembled view of the plunger, stop ring, and housing.

Fig. 8 is a plan view partly in section illustrating the operation controlling ratchet wheel in locked condition.

Fig. 9 is a plan view of the same parts illustrating the ratchet wheel in released condition.

Fig. 10 is a perspective view of the mechanism for controlling the number of strokes played for each coin entering the machine.

Fig. 11 is a cross section on the line 11—11, Fig. 8.

Fig. 12 is a central longitudinal section of the coin actuated bar.

Referring more in detail to the drawings:

1 designates a cabinet comprising a bottom 2, a rear wall 3, lower end wall sections 4 and a front wall panel 5, all preferably constructed of wood, the end and front wall sections being provided with upper grooves 6 for receiving the lower ends of extension side and end sections 7 and 8, respectively; the side and end sections 7 and 8, and the top 9, being formed of glass to provide clear vision of the interior of the playing field of the cabinet. A slanting cover 9, also preferably of glass, engages a groove 10 in the rear wall 3 and projects over the front wall 8.

On a line with the upper edges of the wood sections is a slightly concave intermediate floor 11 provided with individual sets of pockets 12 and 13, preferably distinguished by different colors, each set numbering five pockets.

Fixed on a longitudinal median line adjacent each end of the intermediate floor 11 are rods 14 for supporting baskets 15. Integral with the intermediate floor 11 and mounted on its lower side adjacent its ends are cylinders 16 and 17 for respectively receiving pistons 18 and 19.

Journaled in bearings 20, fixed to the floor 2 by bolts or the like 21, are parallel shafts 22 and 23 carrying arms 24 and 25 secured to the shafts by set screws 26, and provided with yokes 27 having transverse elongated slots for receiving cross pins integral with the lower ends of connecting rods 28 which extend outwardly from the pistons 18 and 19.

Each cylinder is provided with an inlet port 29 and an outlet port 30 so that when the shafts 22 and 23 are rocked, the pistons are reciprocated in the cylinders and compressed air is discharged from the ports 30.

Screw-threadedly mounted in each of pockets 12 and 13 at an angle corresponding to its position relative to a basket, is a plunger housing 31, having a cylindrical chamber 32 (Fig. 6), and reciprocably mounted within the cylindrical chamber is a piston 33 having an integral plunger 34 carrying a head 35, the piston being retained in the chamber by a stop ring 36 seated in an inter-

nal annular groove 37 adjacent the outer end of the chamber.

Mounted in the outlet ports 30 of the cylinders 16 and 17 are conduits 38 and 39, respectively, communicating with manifolds 40 and 41 preferably comprising tubular members, each provided with sets of branches 42 and 43 leading into the lower ends of respective plunger housings and secured thereto by solder or the like.

The pistons 18 and 19 are operated by cranks 45, 46 fixed on the outer ends of the shafts 22 and 23, respectively, to supply air for actuating a corresponding set of plungers for projecting a ball 44 from any of the pockets toward a goal, the direction of travel of the ball being determined by the specific inclinations of the plunger.

In order to sell privileges for playing the machine and to predetermine the number of times the machine may be played for a given coin value, I provide a coin-controlled mechanism generally designated 47 and supported in a bearing 48 secured to the floor 2 by bolts or the like 49.

Engaging the bearing 48 is a sleeve 50 having an enlarged outer end 51 forming an annular shoulder 52 engaging an end face 53 of the bearing, the opposite end of the sleeve being provided with threaded openings 54 seating screws 55 for securing a ratchet wheel 56 to the sleeve 50.

The ratchet wheel 56 is provided with an axial opening 57 aligning with an opening 58 in the sleeve 50 for receiving a shaft 59 having a transverse slot 60 on its outer end for a purpose later described.

Spaced fingers 61 extending beyond the outer face of the sleeve 50 and terminating in hook portions 62, are fixed to the enlarged outer end 51 of the sleeve, as indicated at 63.

Rotatably mounted on the shaft 59 and received between the hooks 62 and outer face of the sleeve is a collar 64 provided with a slot 65 aligning with a socket 66 in the sleeve portion 51, the slot 65 and socket 66 normally seating a key 67 integral with the shaft 59.

Seated in an annular ring on the inner end of the shaft is a cup 69, a spring 70 mounted on the shaft and bearing against the ratchet wheel 56 and cup 69, normally urging the shaft to locked position. However, when the shaft is forced outwardly to unlocked position against tension of the spring 70, the collar 64 is rotated on the shaft by the pressure of a spring 71 fixed to the collar by a screw 72 and bearing against a pin 73 in the collar, a stop pin 74 being further provided in the collar to limit rotary movement thereof. Rotation of the shaft 59 is prevented by a staple 75 engaging the slot 60 and fixed in the rear wall 3 of the cabinet, as illustrated in Fig. 4.

Fixed on the shafts 22 and 23 by bolts or the like 76, and in alignment with the cup 69, are crank arms 77 and 78 pivotally connected to reciprocating bars 79 and 80, respectively, for actuating the ratchet wheel. Each reciprocating bar is provided adjacent its inner end with an offset arm 81 terminating in a hook or tooth portion 82 for engaging the teeth on the wheel.

Engaging the flanges adjacent the outer end of the channel member is a plunger 100 having an upstanding finger portion 101 for operating the plunger, a space 102 being reserved between the plunger and the outer end of the bar for receiving a coin 103.

Provided in the bottom portion of the channel member is an elongated opening 104 for delivering a coin into the interior of the cabinet when the actuating bar engaging the end of the shaft 59 has been moved to its extreme extended position.

Assuming an apparatus to be constructed and assembled as described and that the sets of floor pockets and their corresponding baskets are of different colors, for example, red and green, the operations for simulating a game of basket ball are performed as follows:—

A player is stationed at each operating crank, a coin is inserted in the coin slot, and the plunger 100 pushed inwardly toward the machine, moving the shaft 59 rearwardly and thereby disengaging the key 67 from the socket 66 and slot 65 to free the shaft for operation, the collar 64 being rotated in clockwise direction under tension of the spring 71 sufficiently to prevent return of the shaft 59 to its normal position.

Attached to the bearing 48 by screws 83 are brackets 84 and 85 having offset inclined cam portions 86 to deflect the hooks of the reciprocating bars and prevent said hooks from engaging more than one tooth on the ratchet wheel for each reciprocation of a bar.

The inner ends of the bars are provided with laterally extending foot portions 87 for contacting the annular surface of the cup, thus protecting the ratchet mechanism when an attempt is made to operate the machine without a coin.

As illustrated in Fig. 2, the bars 79 and 80, respectively, engage the lower and upper teeth of the ratchet wheel and are yieldingly urged to engagement therewith by an expansion spring 88 having opposite ends anchored to the cooperating bars.

89 designates coin injecting mechanism including a channel member 90 having inwardly directed flanges 91 and a closed outer end wall 92, the channel member being inserted through an opening 93 centrally located in the lower panel 5 of the front wall and attached thereto by an integral bracket portion 94 and screws 95.

Slidably engaging the flanges of the channel member is an actuating bar 96 normally retained in retracted position by a spring 97 anchored to a post 98 fixed in the bottom of

the channel member and to a post 99 fixed in the bar 96, the post 99 serving as a stop member for limiting retractive movement of the bar.

With the shaft and sleeve disengaged, either crank can be operated, and if for example the ball is resting in a green pocket, the player stationed at the end of the cabinet opposite the green basket will depress his crank, causing inward movement of a complementary piston in its cylinder and delivery of a consequent slug of compressed air to each of the plungers mounted in the green pockets. As the plungers are projected from their cylinders by force of the air, the ball is thrown toward the green goal, the impact with which the plunger strikes the ball corresponding to the speed at which the crank is operated.

If a ball passes through the basket it will count a point for the first player. If, however, it falls short of the basket and drops into another green pocket, the first player may shoot again. Should it fall into a red pocket, the second player depresses his crank and throws the ball, direction of travel of the ball toward one goal or the other being determined by inclination of the plungers of the respective sets, the game continuing until a goal has been scored or until the allotted number of plays have been made.

After a sufficient number of plays have been made to rotate the collar to a point where the key 67 aligns with the slot 65, the shaft moves back toward its normal position under tension of the spring 70, but an additional play is necessary before the socket 66 arrives in alignment with the slot and key to permit a complete return movement of the shaft.

Such return movement again locks the sleeve and ratchet wheel to the shaft until another coin is inserted in the slot so that the operations are repeated as before described.

What I claim and desire to secure by Letters Patent is:

1. In apparatus of the character described including spaced goals and a ball, independent sets of pneumatically actuated plungers for projecting the ball from different angles toward respective goals.

2. In apparatus of the character described including spaced goals and a ball, pockets for the ball, independent sets of pneumatically actuated plungers for projecting the ball from respective pockets toward a corresponding goal.

3. In apparatus of the character described including a goal and a ball, a cylinder, a piston in the cylinder, and a plunger pneumatically operable in response to reciprocation of the piston in the cylinder for projecting the ball toward the goal.

4. In apparatus of the character described including a goal and a ball, a cylinder, a piston in the cylinder, a plunger pneumatically operable in response to reciprocation of the piston in the cylinder for projecting the ball toward the goal, and means for manually reciprocating the piston.

5. In apparatus of the character described including a goal and a ball, a cylinder, a piston in the cylinder, a plunger pneumatically operable in response to reciprocation of the piston in the cylinder for projecting the ball toward the goal, means for manually reciprocating the piston, and means controlling operation of the piston-reciprocating means.

6. In apparatus of the character described including a goal and a ball, a cylinder, a piston in the cylinder, a plunger pneumatically operable in response to reciprocation of the piston in the cylinder for projecting the ball toward the goal, means for manually reciprocating the piston, and means for controlling operation of the piston-reciprocating means, including means for predetermining the number of reciprocations of the piston for each actuation of the operation-controlling means.

7. In apparatus of the character described including spaced goals, a ball, independent sets of pneumatically actuated plungers for projecting the ball from different angles toward a goal, and means controlling operation of the plungers.

8. In apparatus of the character described including spaced goals, a ball, independent sets of pneumatically actuated plungers for projecting the ball from different angles toward a goal, and means for controlling operation of the plungers, including means for predetermining the number of operations of the plungers for each actuation of the operation-controlling means.

9. Apparatus of the character described including a pair of goals and a ball, a set of pneumatically actuated plungers corresponding to each goal for projecting a ball from different angles toward its respective goal, and common means for controlling operation of both sets of plungers.

10. Apparatus of the character described, including a pair of goals and a ball, a set of pneumatically actuated plungers for each goal for projecting a ball from different angles toward its respective goal, and common means for controlling operation of each set of plungers, including means for predetermining the combined number of operations of the plungers for each actuation of the operation-controlling means.

11. Apparatus of the character described, including a goal and a ball, a cylinder, a piston in the cylinder, a plunger pneumatically operable in response to reciprocation of the piston in the cylinder for projecting the ball toward the goal, mechanism for controlling operation of the plungers including a ratchet wheel for predetermining the number of operations of the plungers for each actuation

of the operation-controlling means, a pawl cooperating with the ratchet wheel, and common means for manually operating the piston and the pawl.

12. Apparatus of the character described, including a pair of goals and a ball, a set of pneumatically actuated plungers for projecting a ball from different angles toward a respective goal, mechanism for controlling operation of the plungers, including a ratchet wheel for predetermining the number of operations of the plungers for each actuation of the operation-controlling means, a pawl for each set of plungers cooperating with the ratchet wheel, and individual means for manually operating each pawl.

13. Apparatus of the character described, including a goal and a ball, a cylinder, a piston in the cylinder, a plunger pneumatically operable in response to reciprocation of the piston in the cylinder for projecting the ball toward the goal, mechanism for controlling operation of the plungers, including a normally non-rotatable ratchet wheel for predetermining the number of operations of the plungers for each actuation of the operation-controlling means, means to release the wheel for rotation, a pawl for rotating the wheel, a stop for the wheel effective upon each complete rotation of the wheel, and common means for manually operating the piston and the pawl.

14. Apparatus of the character described including a cabinet, a floor in said cabinet having individual sets of related pockets, a ball adapted to come to rest in each pocket, a basket goal for each set of pockets, a set of plungers complementary to the pockets, inclined toward and cooperating with a respective basket, and pneumatic means for actuating the plungers to project the ball toward a basket.

15. In apparatus of the character described, a cabinet, a floor in said cabinet having individual sets of related pockets, a ball, a basket goal for each set of pockets, a set of plungers complementary to the pockets, inclined toward and cooperating with a respective basket, pneumatic means for actuating the plungers to project the ball toward a basket, and mechanism for controlling operation of each set of plungers.

16. In apparatus of the character described, a cabinet, a floor in said cabinet having individual sets of related pockets, a ball, a basket goal for each set of pockets, a set of plungers complementary to the pockets, inclined toward and cooperating with a respective basket, pneumatic means for actuating the plungers to project the ball toward a basket, and mechanism for controlling operation of each set of plungers, including means for predetermining the number of operations of the plungers for each actuation of the operation-controlling means.

17. In apparatus of the character described, a cabinet, a floor in said cabinet having individual sets of related pockets, transparent walls above said floor, a ball, a basket goal supported above each end of the said floor for each set of pockets, and complementary sets of pneumatically actuated plungers in the pockets for projecting the ball toward a basket.

18. In apparatus of the character described, a cabinet, a floor in said cabinet having individual sets of related pockets, a ball, a basket goal for each set of pockets, a set of plungers complementary to the pockets, a manifold communicating with each set of pockets, a cylinder communicating with each manifold, a piston in each cylinder, and individual, manually operated levers for reciprocating each piston in its cylinder.

19. In apparatus of the character described including a coin control, a goal and a ball, a cylinder, a piston in the cylinder, a plunger pneumatically operable in response to reciprocation of the piston in the cylinder for projecting the ball toward the goal, means for manually reciprocating the piston, and means actuated by said coin control for controlling operation of the piston.

20. In apparatus of the character described including a coin control, spaced goals, a ball, independent sets of pneumatically actuated plungers for projecting the ball from different angles toward a goal, and means for controlling operation of the plungers, including means for predetermining the number of operations of the plunger for each actuation of the operation-controlling means, said operation-controlling means being actuated by the coin control.

In testimony whereof I affix my signature.

ASA H. EMENHISER.