April 18, 1933. A. M. WALSTROM 1,904,034

INDOOR GOLF GAME DEVICE

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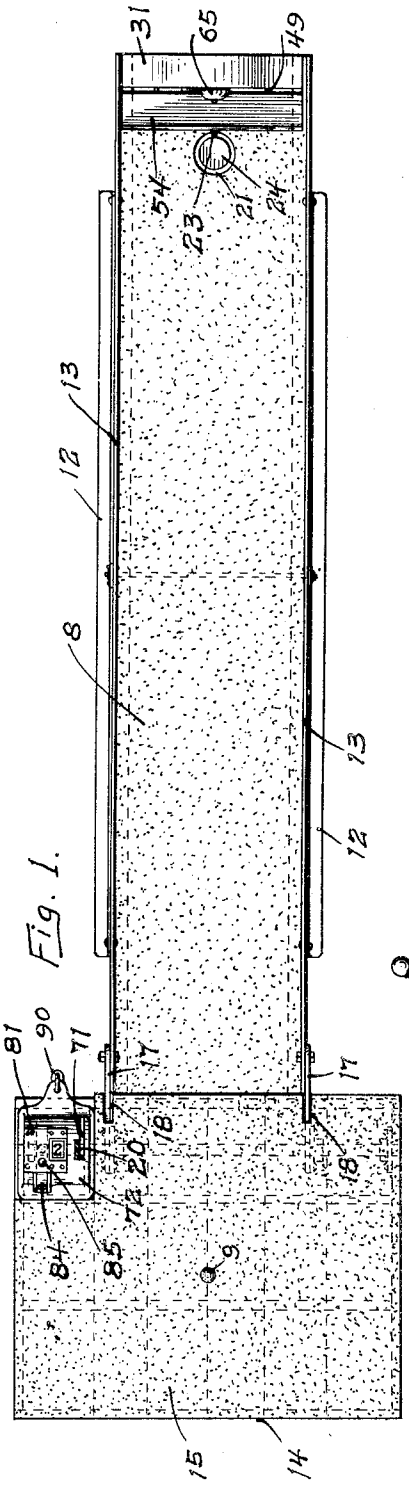

Fig. 1.

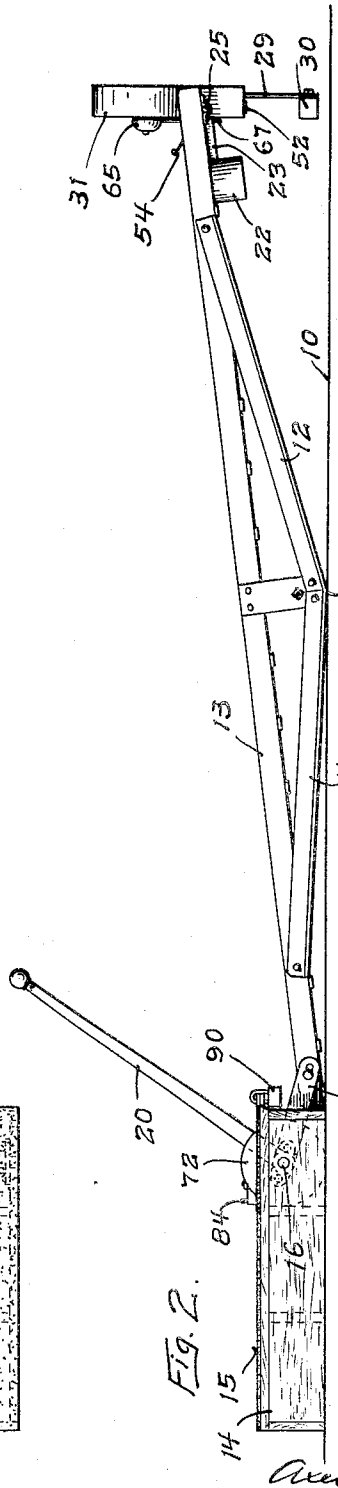

Fig. 2.

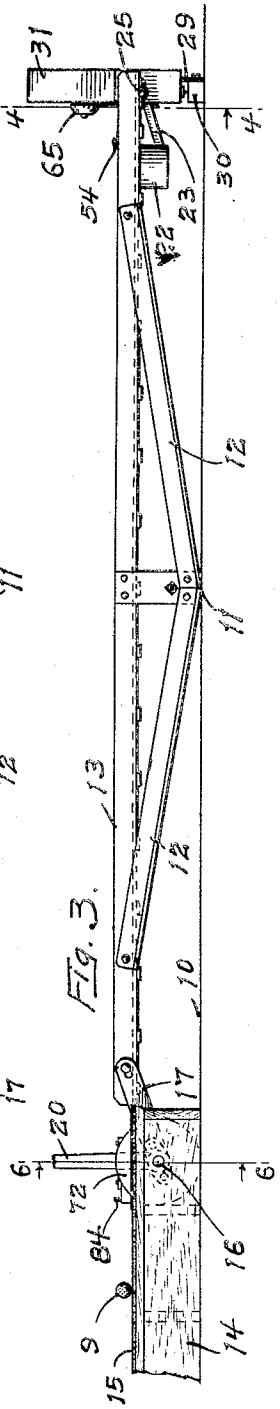

Fig. 3.

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Fig. 4.

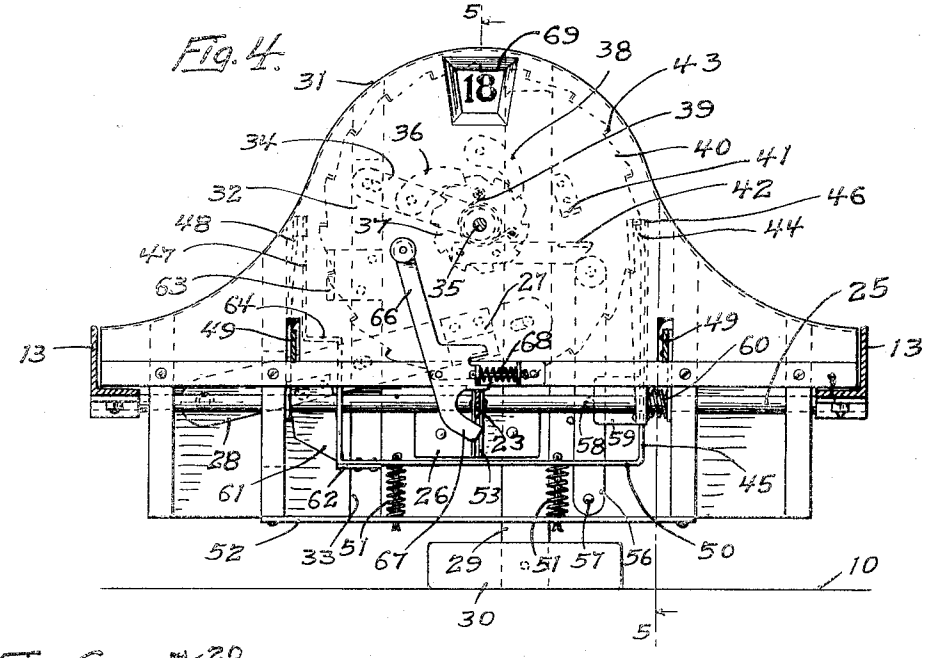


Fig. 6.

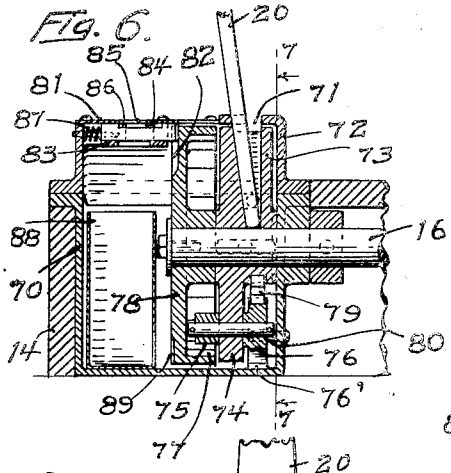


Fig. 7.

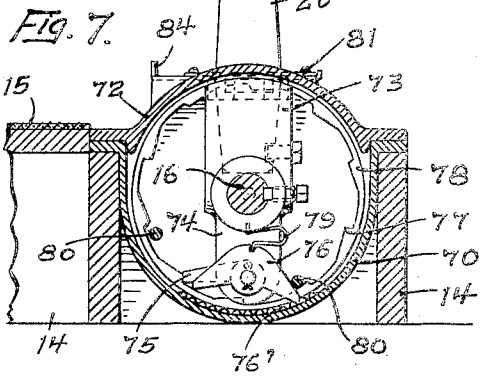
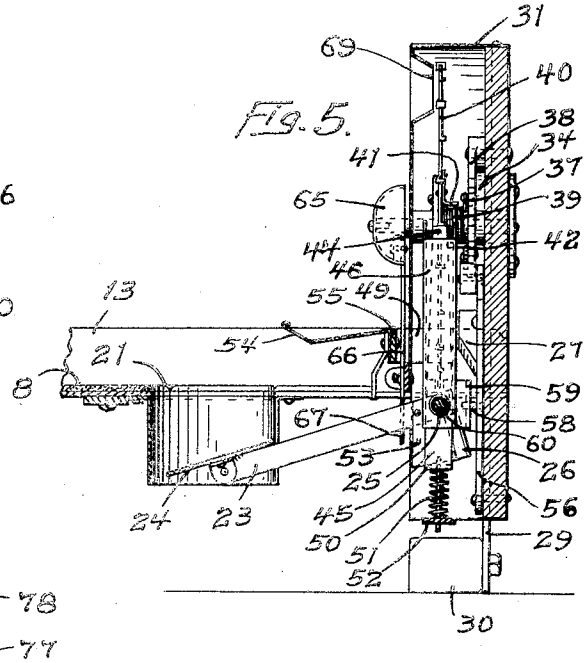


Fig. 5.



INVENTOR

Arel M. Walstrom

Patented Apr. 18, 1933 1,904,034

UNITED STATES PATENT OFFICE

AXEL M. WALSTROM, OF MINNEAPOLIS, MINNESOTA

INDOOR GOLF GAME DEVICE

Application filed March 30, 1931. Serial No. 526,146.

This invention relates to an indoor game device wherein a regulation golf ball and golf club is used, and wherein the "putting" part of the regulation golf game is simulated.

An object of my invention is an indoor game whereby actual golf playing practice is obtained and wherein the scoring, or stroke counting is practically similar to that employed in "putting" on a real "golf green."

Another object of my invention is a gravity ball return device having a level, unobstructed runway for the stroked ball, in order to obtain a condition nearly similar to that obtained on the average, level golf putting green.

A further object is an indoor game which is controlled by a coin vending mechanism, so as to practically dispense with an attendant.

My invention consists of: a normally level golf ball runway which is provided with a "hole", or pocket at its rear end in which a movable bottom is adapted to return the ball to the top surface of said runway; a score adding mechanism arranged near said "hole" and adapted to be actuated by said ball; a manually actuated means for tilting said runway; a stroke counting mechanism connected with said tilting means, and a coin-controlled latch device connected with said stroke counting mechanism.

My invention consists, further, in the combination of several novel features as shown in the accompanying drawings, described in this specification and defined in the annexed claims.

A preferred construction of my invention is pointed out in the following detailed description in conjunction with the drawings, in which

Fig. 1 is a plan view;

Fig. 2 is a side view, showing the runway tilted to return the ball to the front end thereof, and

Fig. 3 is a similar view, showing the parts in their normal position.

Fig. 4 is an enlarged sectional view, taken on the line 4—4 of Fig. 3, and

Fig. 5 is a sectional view, on line 5—5 of Fig. 4.

Fig. 6 is a sectional view of the stroke counting mechanism, taken on the line 6—6 of Fig. 3, and

Fig. 7 is a sectional view of said stroke counting mechanism, taken on the line 7—7 of Fig. 6.

In all of the views, numeral 8 indicates a normally horizontal surface which may be of any suitable length and width and which forms a level runway for the regulation golf ball 9 when said ball is stroked by a regulation golf club commonly known as a "putter". The surface 8 is elevated a suitable distance above the floor 10 and is pivotally supported at a central point 11 by the oppositely inclined angle bars 12 which have their upper ends secured to guide rails 13 at each side of the surface 8.

An elevated platform 14 is arranged at the front end of the runway and has a level top surface 15 which coincides with the surface 8, and said surfaces are preferably provided with a coarse, green-colored carpet material so as to nearly resemble an actual grass putting green. A transverse shaft 16 is arranged in the platform 14 and is provided with a pair of spaced arms 17 which extend through slits 18 in said platform and is pivotally connected at their outer ends with the front ends of the guide rails 13. An upwardly extending lever 20 is connected to one end of the shaft 16 for the purpose of rocking said shaft and the arms 17 so as to depress the front end of said runway, as shown in Fig. 2.

A hole 21 is provided in the rear end of the surface 8, and a cylindrical flange 22 depends from the lower edge of said hole and has a vertical slit through which a swinging arm 23 extends, and a circular plate 24, on the end of said arm, forms a loose bottom in said hole which may be moved up into a position practically in line with the surface 8. The arm 23 is hinged to the middle portion of a transverse rod 25 and has a counterweighted, depending rear end 26 which is adapted to be moved forwardly to elevate the front end of said arm when engaged by the bevelled projection 27 on a lever 28. The lever 28 is adapted to be drawn downwardly by the upright bar 29, to which a weight 30 is at-

tached for this purpose. The bar 29 is vertically slidable in the rear wall of a casing 31 which is transversely disposed between the rear ends of the guide rails 13 where it is supported by the rod 25, and this casing contains a score adding mechanism which is not independently claimed in this application, but, which I will briefly describe so that its function, as an essential unit of my invention, will be understood.

The score adding mechanism contained in the casing 31 includes:—a bar 32 which is vertically slidable in a groove 33 and pivotally connected to the middle portion of the lever 28, and a short lever 34 is pivotally connected to the upper end of the bar 32 and to a central stud 35. A pawl 36 is pivotally mounted on the middle portion of the lever 34 and engages a ratchet wheel 37 on the stud 35, and a fixed pawl 38 is provided on the rear wall of the casing to prevent reverse movement of said ratchet wheel. A torsion spring 39 has one end attached to the ratchet wheel 37 and its other end to a large circular disc 40 which is loosely mounted on the stud 35, and a projection 41 on the back of this disc is adapted to be moved into contact with the rear edge of an arm 42 on the wheel 37 by the tension of said torsion spring. Ratchet teeth 43 are provided on the edge of the disc 40, and each of these teeth projects slightly on the rear face of said disc while each alternate tooth projects slightly on the front face of said disc. The narrow upper end 44 of a vertically arranged yoke 45 engages the teeth 43 on the edge of said disc, and a channel shaped pawl 46 is loosely arranged over the yoke end 44 in such manner that the upper ends of its side flanges are adapted to flop from one side to the other on the narrow end 44 so as to engage one or the other of the teeth projecting on the front and rear face of the disc 40 when the end 44 is moved to either side out of engagement with the teeth 43, as hereinafter described, and the upright end 47 of the yoke 45 is adapted to be engaged by an adjacent, upright, extension 48 on a horizontally arranged yoke 49 which is pivotally supported on the rod 25.

The yoke 45 is also pivotally mounted on the rod 25 and has its cross-bar 50 disposed below said rod, and compression springs 51 are vertically disposed between the bottom of said cross-bar and the top of a bar 52 which is provided on the bottom of the casing 31, and said springs are adapted to snap the cross-bar 50 to one side or the other when the vertical alignment of the yoke is broken. This vertical alignment of the yoke 45 is broken in one direction when the lower edge of a plate 53, on the arm 23, engages the cross-bar 50, which happens when the ball 9 drops unto the plate 24; and this vertical alignment is broken in the other direction when said ball strikes the under surface of a transversely arranged plate 54, which is secured to the cross-bar 55 of the horizontally disposed yoke 49, so as to raise the inclined front edge of said plate and cause the upright end 48 to engage the end 47 and move it sufficiently to break the alignment and allow the springs 51 to snap the end 44 out of engagement with the tooth 43 and move the pawl 46 into the path of the projection on the following tooth.

In this manner, when the ball 9 drops into the hole 21, the end 44 will be snapped forward out of contact with the teeth 43 while the pawl 46 will engage the rear face of the disc 40 and allow it to move the distance of one tooth, and when the ball strikes the plate 54 the end 48 will strike the end 47 so as to snap the end 44 rearwardly out of contact with the teeth 43 while the pawl 46 will engage the front face of the disc and allow it to move the distance of two teeth; and as consecutive numerals, corresponding to the number of teeth, are printed on the face of the disc and visible through an opening 69 in the casing, the score is automatically added and displayed to the player. At the end of each revolution of the ratchet wheel 37 the end of the arm 42 thereon engages a roller on the upper end of a bar 56 which is pivoted at 57 and has a pin 58 in contact with a stop plate 59 secured to the yoke 45, and this serves to move the yoke 45 against the tension of a spring 60, on the rod 25 so as to draw the upper end 44 out of engagement with the teeth 43 and allow the tension of the spring 39 to rotate the disc 40 to its zero point with the projection 41 in contact with the arm 42, and in this manner the adding mechanism is reset for another game.

As it often happens that the stroked ball fails to reach the hole 21, or plate 54, I provide a hinged trigger plate 61 on the lever 28, which acts to engage a rearwardly extending lug 62, on the cross-bar 50, to trip the yoke 45 if it has not already been tripped by the plate 54, so that a two-teeth movement of the disc 40 will be added to the score in such case. The trigger plate 61 acts at the very beginning of the downward movement of the lever 28, and further movement of this lever serves to re-establish the vertical alignment of the yoke 45 through the engagement of the bevelled projection 27 with the cross-bar 50, and through a similar projection 63, on the bar 32, with a horizontal portion 64 on the upright end 47 of said yoke.

I also prefer to provide a bell ringing device on the front of the casing 31, which is adapted to be actuated when the ball 9 drops into the hole 21, and this device consists of a gong 65, which is mounted on the front end of the stud 35, and a striking arm 66 is pivoted to a bar on the casing and provided with a lower end 67 which extends be-

low the swinging arm 23. A compression spring 68 acts to snap the striking arm against the end 67, and the parts are again reset by the arm 23, when said arm is moved upwardly to return the ball to the surface 8.

As the ratchet wheel 37 is preferably provided with ten teeth, it requires ten tilting movements of the runway to cause the weighted bar 29 to revolve said ratchet wheel one complete revolution, and it therefore requires ten strokes of the golf club to play one game with this device. Now, in order to limit each play to ten strokes, I prefer to provide a stroke counting mechanism in a casing 70 on one end of the shaft 16, and this casing has a slot 71, in its cover 72, through which the lever 20 extends.

The lower end of the lever 20 is loosely inserted into a pocket in the upper end of a casting 73 which is secured to the shaft 16 and has a depending portion 74 to which pawls 75 and 76 are hinged. The pawl 75 engages internal ratchet teeth 77 in a flanged wheel 78, which is loosely mounted on the end of the shaft 16, so that said wheel is moved the distance of one tooth every time the lever 20 is moved forward to the end of the slot 71; and the pawl 76 is pointed at both ends, to engage teeth 76′ in the bottom of the casing 70, and arranged so that a spring 79 snaps it from one side to the other when said pointed ends engage stop pins 80 at the end of each forward and backward movement of the lever 20, and this compels a full stroke of said lever to insure a movement of the wheel 78 for each stroke thereof. Consecutive numerals, from "1" to "10", are printed on the circumference of the wheel 78, and are visible through an opening in a top plate 81, and opposite the numeral "10" a recess 82 is provided in the outer side of said wheel into which the inner end of a slidable latch bar 83 is adapted to enter so as to lock said wheel at the end of each revolution thereof. Further manipulation of the lever 20 is thus prevented by said latch bar until it is unlocked by a coin controlled mechanism which may be of any suitable construction. I prefer, for this purpose, to provide a sliding cross-bar 84 which has a recess to receive a coin which is dropped through a hole 85 in the plate 81, and, as the cross-bar 84 is then moved across the latch bar 83, the edge of said coin will be forced against a shoulder 86 on said latch bar to move it outwardly, against the tension of a spring 87, to a point where the edge of the recess 82 will barely pass the front edge of said latch bar. As the inner end of the latch bar is slightly bevelled, a forward movement of the wheel 78 will cause the edge of the recess 82 to engage said bevelled surface to move the latch bar a little farther so that the coin will be released and allowed to drop through a hole in said latch bar into a receptacle 88. A series of indentations 89, corresponding to the number of ratchet teeth 77, are provided in the outer side of the wheel 78, and, as the bevelled end of the latch bar 83 is pressed against the side of said wheel by the spring 87, said bevelled end will yieldingly engage said indentation to prevent reverse movement of said wheel during the rearward movement of the lever 20. A padlock 90 is provided to prevent unauthorized access to the receptacle 88.

In operation:—The player drops a coin into the hole 85 and then moves the sliding bar 84 forward to withdraw the latch bar 83. The player then moves the lever 20 forward to tilt the runway and allow the ball, which was left at the rear of said runway by the preceding player, to roll forward to a stop against the edge of the platform 14, and this forward movement of the lever 20 also caused the ratchet wheel 78 to display the numeral "1" to indicate the beginning of the first stroke, and it also caused the score adding disc 40 to display the numeral "0".

The player then moves the lever 20 back to the end of its slot to level the runway, and then moves the ball, with the club, to a convenient point on the platform, and then strikes it with said club so as to cause it to roll in the direction of the hole 21. Now, if the ball drops into the hole, the gong will ring and the score adding disc will display the numeral "1". The player will then again move the lever 20 forward to cause the ball to be returned to the surface 8 and to roll to the front end again, and this movement also caused the wheel 78 to display numeral "2" to indicate the beginning of the second stroke.

After moving the lever back to its normal position, the player will make his second "shot", and if the ball now misses the hole 21 but strikes the plate 54, the gong will not ring, but the score adding disc will be moved two teeth to display the numeral "3". Now, if the ball fails to reach either the hole 21 or plate 54 on the player's third shot, the score adding disc 40 will not move until the lever 20 is moved to again tilt the runway, whereupon the lever 28 will be drawn down to cause the trigger plate 61 to trip the mechanism so as to allow the disc 40 to move the distance of two teeth to display the numeral "5", which will indicate the sum of score obtained by three strokes of the club. At the end of ten strokes, the wheel 78 will display numeral "10" and will be locked against further rotation, and the disc 40 will indicate the sum of the score obtained.

During the operation of this game device, each tilting movement of the runway serves, through the connected parts in the casing 31, to rotate the ratchet wheel 37 so as to wind up the torsion spring 39 which therefore acts to yieldingly pull the disc 40 along in the same direction, but as this disc can move only when it is intermittently released by the end

44 and the pawl 46, it is only partially rotated at the end of the 10 strokes. The mechanism in the casing 31 is therefore timed so that at the start of another game the first tilting movement of the runway will cause the arm 42 to actuate the bar 56 so as to move the end 44 outwardly to release the disc 40 and allow it to be pulled by the spring 39 to its zero position, with the projection 41 against the arm 42, to display the numeral "0", as stated above.

I claim as my invention:—

1. A golf game device, comprising: a normally level runway which is mounted for tilting movement, a ball receiving pocket at the rear end of said runway, a means for returning a ball from said pocket to the top surface of said runway, and means for tilting said runway so as to cause said ball to roll back to the front end on the surface of said runway.

2. A golf game device, comprising: a normally level runway which is mounted for tilting movement, a ball receiving pocket at the rear end of said runway, a ball actuated means in said pocket for registering a hit on an adjacent score indicating device, a means for returning a ball from said pocket to the top surface of said runway, and means for tilting the runway so as to cause said ball to roll back to the front end on the surface of said runway.

3. A golf game device, comprising: a normally level runway which is mounted for tilting movement, a ball tripped score indicating device arranged at the rear end of said runway, a connecting means at the rear end of the runway for re-setting the tripped mechanism of said score indicating device by a tilting movement of said runway, and operating means for tilting said runway so as to cause said ball to roll back to the front end on the surface of said runway.

4. A golf game device, comprising: a normally level runway which is mounted for tilting movement, a ball actuated score indicating device arranged at the rear end of said runway, a means for tilting said runway so as to cause said ball to roll back to the front end thereof, and a stroke counting device connected with the runway so as to consecutively register each tilting movement of said runway.

5. A golf game device, comprising: a normally level runway which is mounted for tilting movement, a ball actuated score indicating device arranged at the rear end of said runway, an operating means for tilting said runway so as to cause said ball to roll back to the front end thereof, a stroke counting device connected with the runway so as to consecutively register each tilting movement of said runway, and a coin-controlled latch device connected with said counting device so as to lock said operating means when said runway has been tilted a fixed number of times.

6. A ball game device, comprising: an elevated horizontal alley which is intermediately supported on a transversely disposed pivot, a ball actuated score indicating device arranged at the rear end of said alley, a platform located at the front end of said alley so that its top surface registers with the horizontal top surface of said alley, and a means for tilting said alley so as to cause a ball thereon to roll to the front end thereof.

7. A ball game device, comprising: an elevated horizontal alley which is intermediately supported on a transversely disposed pivot, a ball actuated score indicating device arranged at the rear end of said alley, a platform located at the front end of said alley so that its top surface registers with the horizontal top surface of said alley, a means for tilting said alley so as to cause a ball thereon to roll to the front end thereof, and a coin released latch mechanism adapted to allow only a predetermined number of tilting movements of said alley.

In witness whereof, I have hereunto affixed my signature this 27th day of March, 1931.

AXEL M. WALSTROM.