Mar. 27, 1923. 1,449,565

H. VOGEL

GAME

Filed Feb. 25, 1921. 2 sheets-sheet 1

Fig. 1.

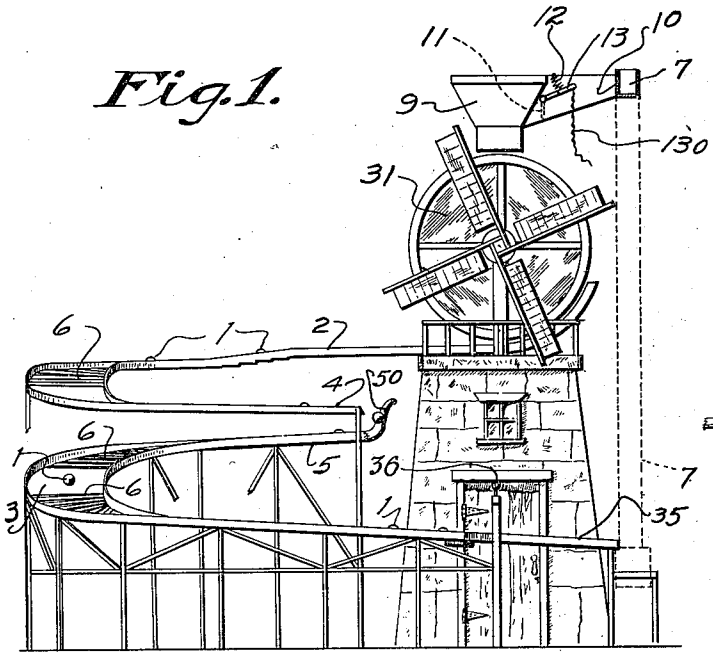


Fig. 5.

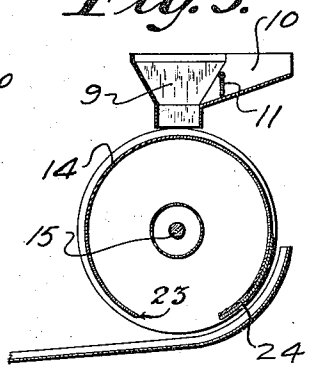


Fig. 4.

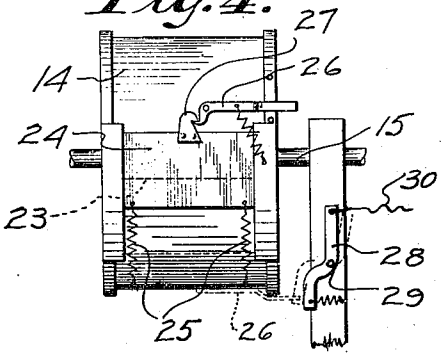


Fig. 6.

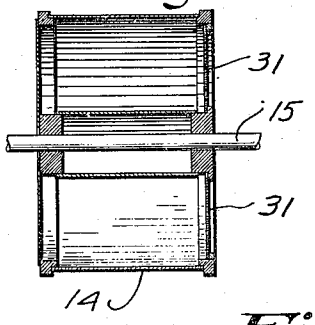


Fig. 8.

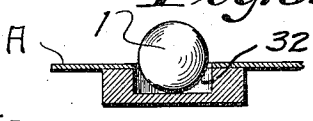
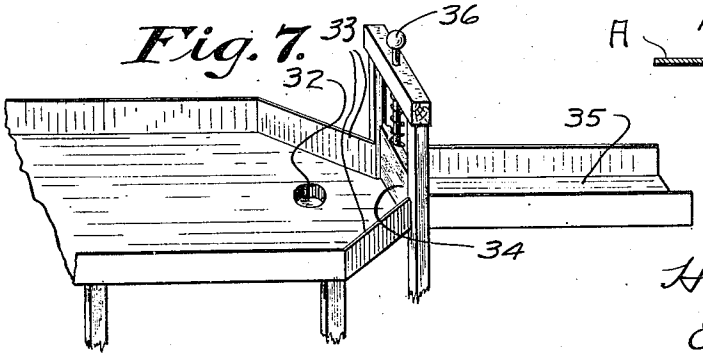


Fig. 7.



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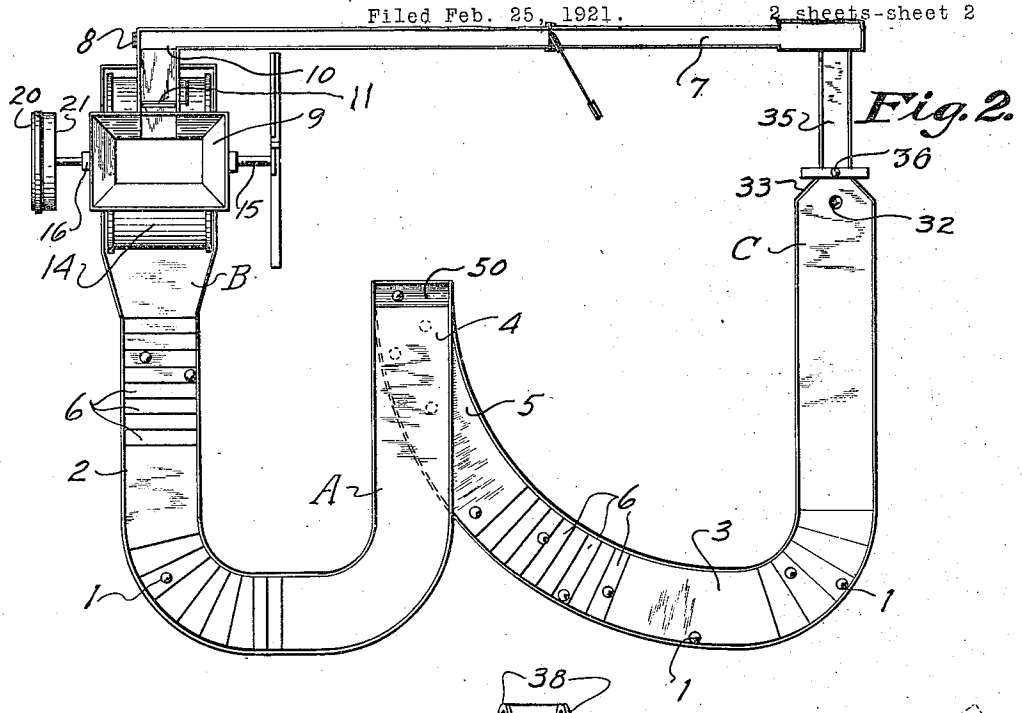


Fig. 2.

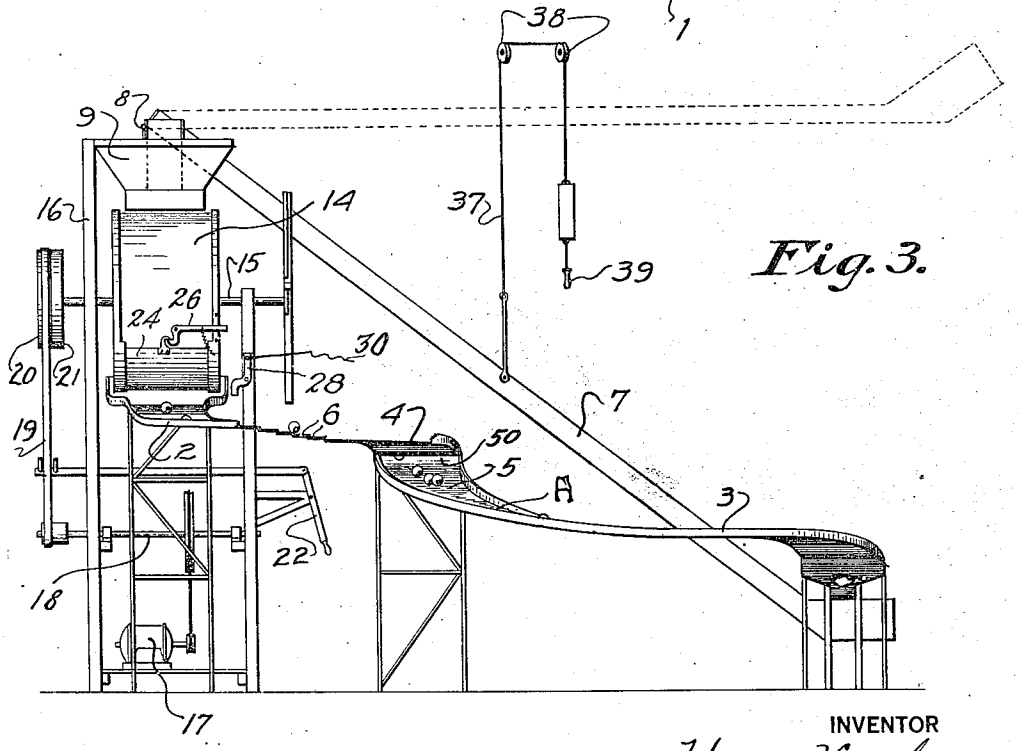


Fig. 3.

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Patented Mar. 27, 1923. 1,449,565

UNITED STATES PATENT OFFICE.

HARRY VOGEL, OF IRVINGTON, NEW JERSEY.

GAME.

Application filed February 25, 1921. Serial No. 447,684.

To all whom it may concern:

Be it known that I, HARRY VOGEL, a citizen of Austria, and a resident of Irvington, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Games, of which the following is a specification.

This invention relates in general to amusement devices, and more particularly to a chance game of the type in which a plurality of balls travel by gravity on an inclined chute or track at the finish end of which is provided means for indicating the winning ball.

The objects of the invention are to provide an amusement device of this character having novel means for conveying the balls from the finish end of the chute or track to the starting end thereof; to utilize for this purpose a vertically swinging trough having one end hinged adjacent the starting end of the inclined chute and the other end normally positioned adjacent the finish end of the chute to receive the balls, the said second-mentioned end of said chute being adapted to be elevated to convey the balls to the starting end of the chute; to provide automatically operated means between the starting end of said chute and said trough for agitating the balls before they are deposited on the chute; to provide automatic means for discharging the balls from said agitating means upon the inclined chute; to provide an inclined chute of novel construction for accelerating movement of certain of the balls and retarding movement of others of the balls on said chute, thus increasing the element of chance and interest in the game, and to obtain other results and advantages as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate the same parts throughout the several views,

Figure 1 is a front elevation of an amusement device constructed in accordance with my invention, the returning trough for the balls being shown in normal position by dotted lines and shown in section in its elevated position;

Figure 2 is a top plan view of the device;

Figure 3 is a side elevation thereof;

Figure 4 is a detail edge elevation of the agitating drum for the balls showing the door thereon for admitting and discharging the balls;

Figure 5 is a transverse vertical sectional view through the drum showing the door in open position to receive the balls from the hopper;

Figure 6 is a vertical longitudinal sectional view through the drum;

Figure 7 is a detail perspective view of the "finish" end of the inclined chute or track, and

Figure 8 is an enlarged detail sectional view through the winning ball-receiving pocket.

In the embodiment of my invention shown in the drawings the reference character A designates an inclined and circuitous chute or track substantially U-shaped in cross-section over which a plurality of balls 1 are adapted to travel from the higher or starting end B of the chute to the lower or finish end C thereof.

The starting end B and the finish end C of the chute A are horizontally spaced and the chute is formed in two sections 2 and 3. The section 2 terminates at 4, and the adjacent end of the section 3 is vertically spaced from the said end 4 and reversely curved as at 5, the said end 5 being upturned as at 50 at substantially right angles to the direction of travel of the balls over the end 4 of the section 2 so as to form in effect a "switchback" for the chute, the end 50 of the section 3 directing the balls from the section 2 into the section 3. The sections 2 and 3 of the chute are provided at spaced points with a plurality of stepped portions 6 for the purpose of varying the speed of travel of the balls 1.

The balls 1 are provided with designating characters, such as numbers, and are initially placed in the lower end of a trough 7 arranged adjacent the finish end C of the chute A. The said trough 7 is hingedly connected as at 8 at its opposite end to a hopper 9 arranged over the starting end B of the chute, one side of said end of the chute opening into the hopper 9 as at 10, a gate 11 being provided to control the entry of the balls into the hopper. The gate 11 is normally closed by a spring 12 and is adapted to be opened by a lever arm 13 provided with a suitable pull cord 14 for access to the operator.

Between the discharge end of the hopper and the starting end B of the chute is arranged a hollow agitating drum 14 journaled on a shaft 15 in a suitable frame-

work 16, the drum being rotated in the direction of the arrows by a suitable motor 17 driving a counter shaft 18 connected by a belt 19 and fast and loose pulleys 20 and 21, respectively, to the shaft 15. A suitable belt shifting device 22 is provided for shifting the belt 19 on the fast and loose pulleys 20 and 21 to start and stop the rotation of the drum 14. The periphery of the drum is formed with an opening 23 normally closed by a sliding cover 24 which is held in closed position against the action of springs 25 by a detent lever 26 cooperating with a catch 27 on one edge of the door. For the purpose of receiving the balls 1 from the hopper 9 the door 24 is opened and the drum rotated to bring the opening 23 thereof beneath the discharge end of the hopper, whereupon the gate 11 is opened and the balls fall by gravity into the drum 14. The door is then closed and the drum started rotating by the motor 17 so as to agitate the balls 1 therein and cause them to assume various relative positions within the drum. After sufficient agitation of the balls the detent 26 is thrown into inoperative position by engagement with one end of a lever 28 pivotally mounted between its ends as at 29 on the frame-work 16 at the under side of the drum, as indicated in dotted lines on Figure 4, the lever being actuated by a suitable pull cord or the like 30, substantially simultaneously with the shifting of the belt 19 from the fast to the loose pulley to stop the rotation of the drum. The springs 25 then throw the door 24 into open position and the balls 1 roll out of the opening 23 onto the starting end B of the chute A. The front side of the drum 14 is preferably transparent as indicated at 31 so that the players may see the balls being agitated within the drum. Due to the action of gravity the balls 1 will leave the drum substantially simultaneously and will roll down the inclined chute A as indicated in Figures 2 and 3 of the drawings. The balls will thus in effect race down the chute A and some of the balls will be on the inside of the chute and others at the outside so that the inner balls will travel a less distance than the outer balls. As the balls reach the respective series of steps of the stepped portions 6 some of the balls will through their velocity skip some of the steps while others of the balls will drop over each step, and in this way the movement of certain of the balls will be accelerated while movement of the other balls will be retarded. When the balls reach the terminus 4 of the section 2 of the chute they will drop through the switch-back 6 into the other section 3 of the chute and will be directed by the upturned portion of the section 3 against the outside of the curved portion 5 thereof. It will thus be seen that the balls on the inside of the track 2 will travel a shorter distance than the balls on the outside of the track 2, whereby movement of the innermost balls will be accelerated and they will gain on the outermost balls. The relation of the balls on the chute A is thus constantly varied so as to maintain tense interest of the players and increase the element of chance.

At the finish end of the chute is provided a socket 32 of a diameter slightly greater than that of the balls 1, and the ball entering this socket is the winner. The finish end C of the chute is contracted at 33 and is normally closed by a spring influenced vertically sliding gate 34 arranged between the contracted end 33 of the chute and a restricted discharge chute 35 which leads to the swinging end of the ball return trough 7. After all of the balls have collected at the finish end of the chute, the gate 34 is raised by the handle 36 and the balls roll one by one through the discharge chute 35 and drop into the lower end of the trough 7. To repeat the operation the lower end of the trough 7 is raised upwardly about the hinged end 8 thereof, as indicated in dotted lines on Figure 2, to a higher elevation than the hopper 9 and the balls roll by gravity into the hopper. Any suitable means may be utilized for elevating the trough 7, but in the present instance I have shown a cable 37 having one end thereof connected to the trough and passing over pulleys 38 mounted on a suitable over-head support, the opposite end of the cable being provided with an operating handle 39 by means of which the trough can be raised by pulling downwardly upon the same. It will be understood that in playing the game each player selects a certain ball to be the winner, and in the race of the balls over the chute A keen interest and amusement of the players and spectators is aroused by speculation as to which of the balls will be the one to drop into the pocket 32.

While I have shown and described one possible embodiment of my invention, it will be understood that this is for the purpose of illustrating the principles thereof only, and that many modifications and changes can be made in the details of construction without departing from the spirit or scope of the invention. Therefore, I do not desire to be understood as limiting myself except as required by the following claims when construed in the light of the prior art.

Having thus described the invention, what I claim is:

1. A game including a plurality of balls, a chute for said balls having an elevated starting end and a lower discharge end

horizontally spaced from said starting end, a trough hingedly mounted at one end adjacent said starting end of the chute and the other end of said trough being normally positioned adjacent said discharge end of the chute to receive said balls therefrom, and means for elevating said second-mentioned end of the trough to a point higher than said starting end of the chute to convey the balls from the discharge end to the starting end of said chute.

2. A game including a plurality of balls, a chute for said balls having an elevated starting end and a lower discharge end, a revoluble hollow drum for said balls arranged horizontally above said starting end transversely thereof, said drum having a longitudinal opening in its wall, a closure for said opening movable transversely thereof, and means for operating said closure to start the balls simultaneously.

3. A game including a plurality of balls, a chute for said balls having an elevated end and a lower discharge end, a revoluble hollow drum for said balls arranged above said starting end, said drum being provided with an opening in its walls, a closure for said opening, and automatic means for opening said closure to discharge the said balls upon the said starting end of the chute.

4. A game including a plurality of balls, a chute for said balls having an elevated starting end and a lower discharge end, a revoluble hollow drum for said balls arranged horizontally above said starting end transversely thereof and adapted to discharge balls thereon, a hopper above said drum provided with a gate, and a swinging trough adapted at one end to discharge into said hopper and having its other end normally positioned adjacent the discharge end of the chute.

5. A game including a plurality of balls, a chute for said balls having an elevated starting end and a lower discharge end, a swinging trough having one end of itself normally positioned adjacent the discharge end of the chute to receive the balls, and its other end adjacent the starting end of the chute, and means for swinging said trough to discharge the balls by gravity from said other end of the trough.

HARRY VOGEL.