

Aug. 31, 1937.

H. ROCHWARG

2,091,883

AMUSEMENT APPARATUS

Filed April 21, 1936

3 Sheets-Sheet 1

Fig. 1

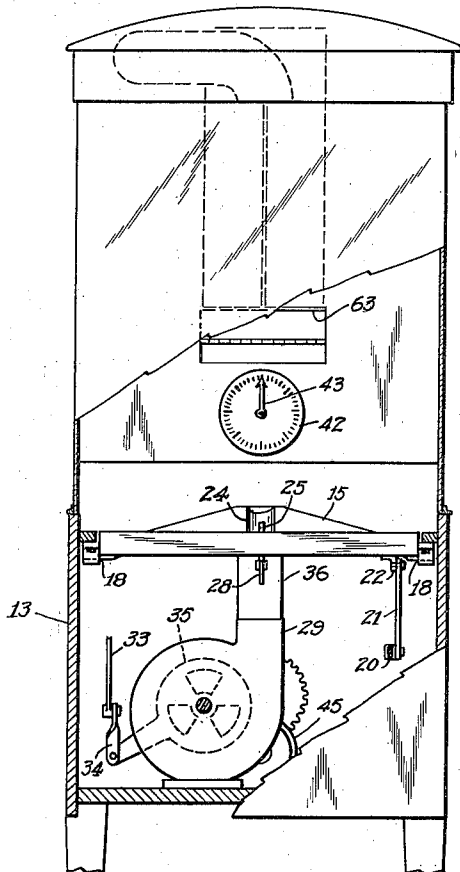


Fig. 2

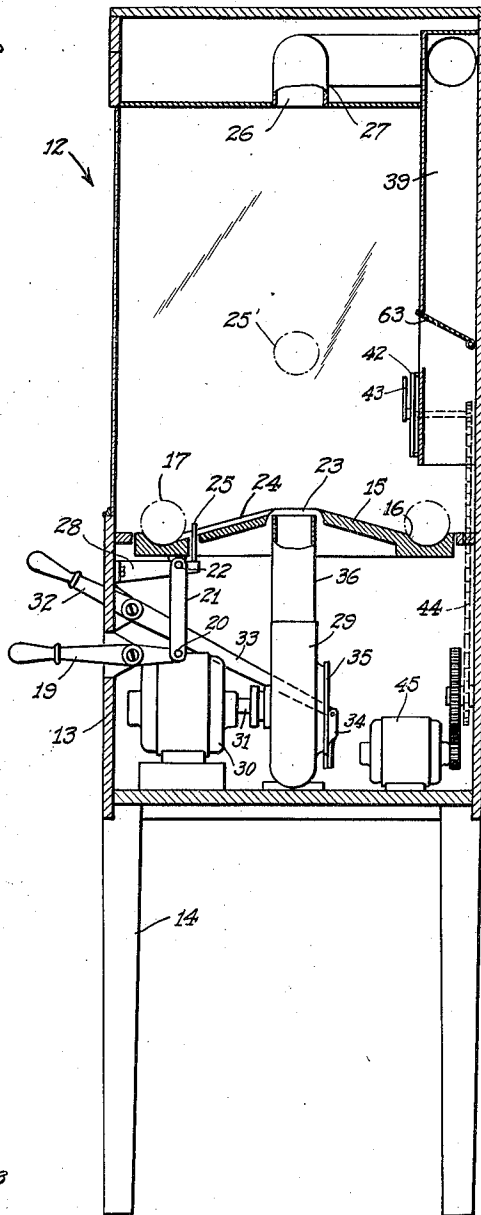
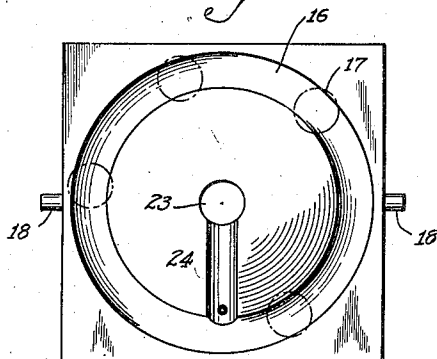


Fig. 3



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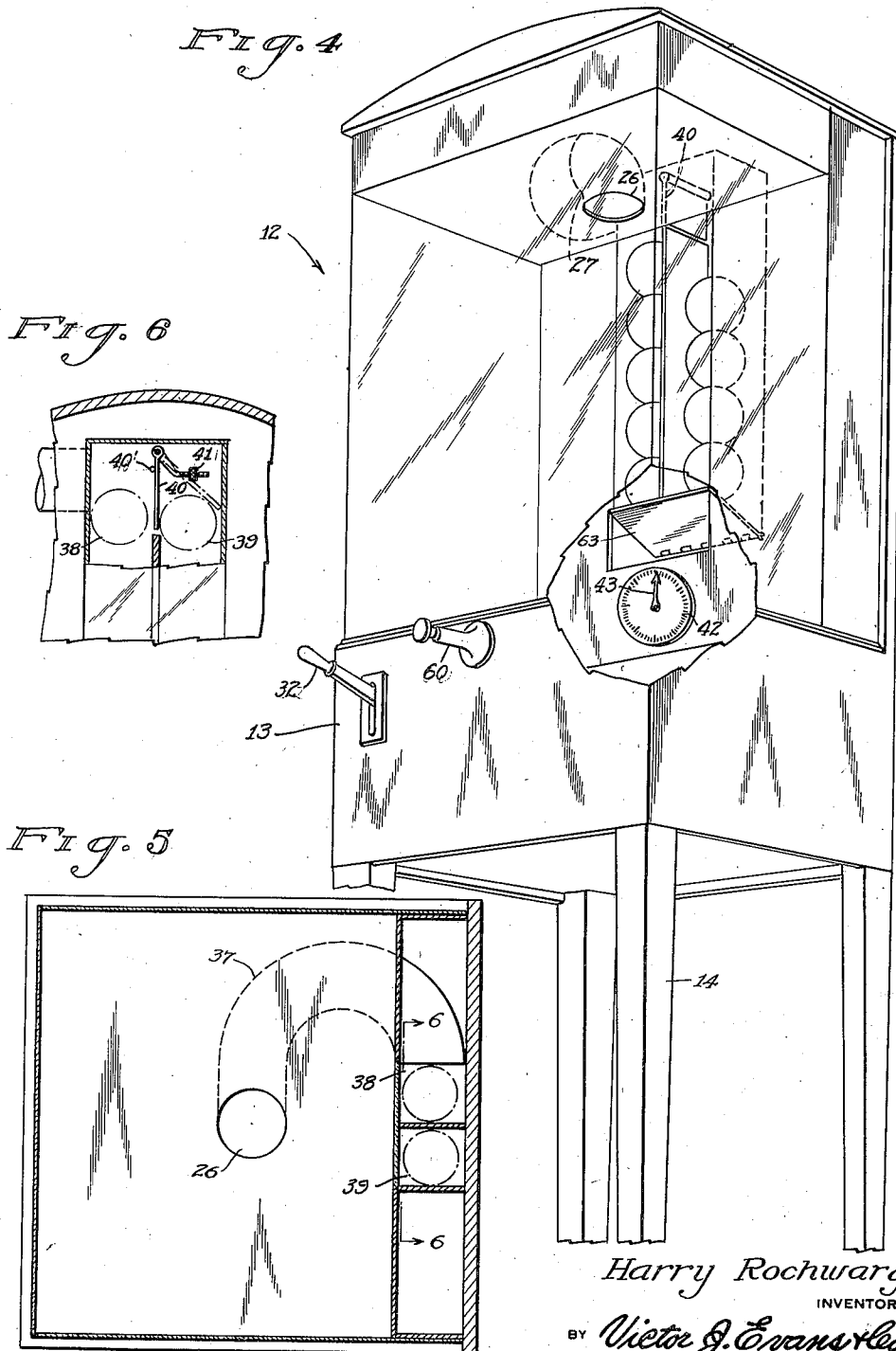
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Fig. 4

Fig. 6



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Fig. 7

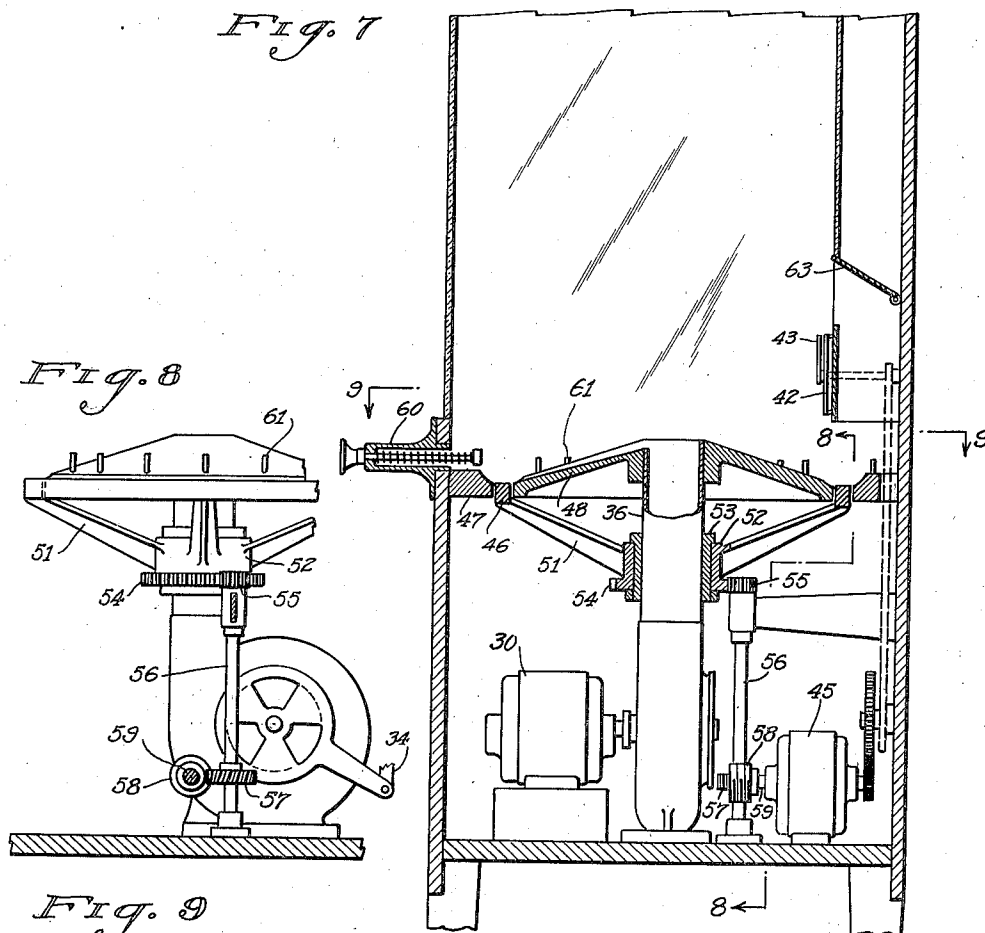


Fig. 8

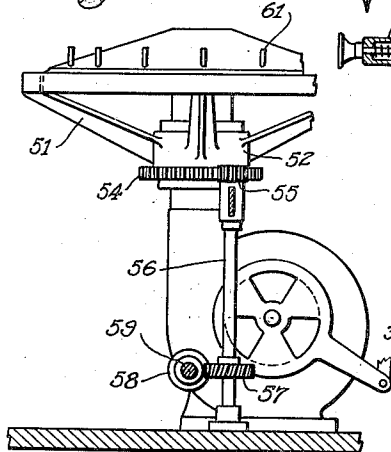
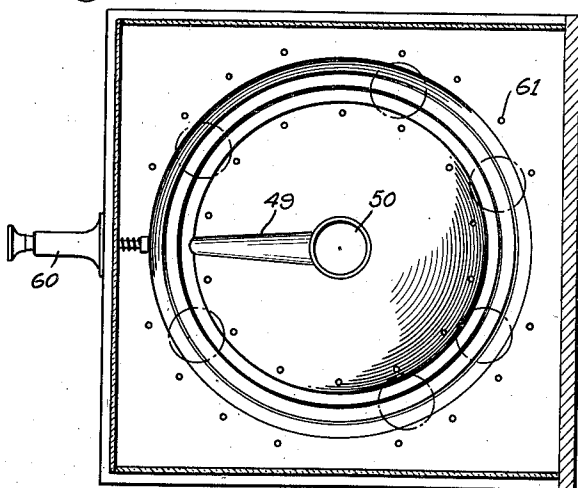


Fig. 9



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UNITED STATES PATENT OFFICE

2,091,883

AMUSEMENT APPARATUS

Harry Rochwarg, New York, N. Y.

Application April 21, 1936, Serial No. 75,640

6 Claims. (Cl. 273-95)

The present invention relates to improvements in amusement apparatus and is devised as an improvement of my Patent No. 1,776,196, patented September 16th, 1930.

The primary object of the invention resides in an amusement apparatus for use in amusement parks and like places in which a number of contestants may try their skill in the operation of the same. The apparatus consists of a number of buoyant bodies, such as spherical balls arranged within a transparent compartment to be viewed by an operator and means for controlling the positioning of one of the buoyant bodies to be actuated by a controlled air stream.

A further object of the invention is the provision of a control chute to be controlled by the operator so as to position one or more of the buoyant bodies within said chute.

A still further object of the invention is the provision of a supporting means for the buoyant bodies, which means includes a groove or channel within which the buoyant bodies are controlled by the operator and a central aperture designed to receive one of the buoyant bodies to be acted upon by an air stream so as to be projected into a chute.

A still further object of the invention resides in the provision of an automatic time control means for the operation of the apparatus for a predetermined period of time with means carried by the automatic time control means for operating the member which supports the buoyant bodies.

A further object of the invention is to provide an amusement apparatus in which a motor driven blower is provided for producing an air stream thru an outlet and adjusting means for regulating the inlet of atmospheric air to the blower to thereby control the air pressure discharged thru the outlet.

A still further object of the invention is to provide an amusement apparatus which requires skill on the part of an operator in the operation thereof, which is amusing and exciting to the spectators as well as the contestants and in which each operation requires but a brief period of time.

The invention will be fully and comprehensively understood from a consideration of the following detailed description when read in connection with the accompanying drawings which form part of the application.

In the drawings:

Fig. 1 is a front elevational view of the amusement apparatus with parts broken away to clearly illustrate the interior of the apparatus.

Fig. 2 is a vertical sectional view thru the ap-

paratus with certain parts shown in elevation.

Fig. 3 is a top plan view of the new and improved means for supporting the buoyant bodies.

Fig. 4 is a perspective view of the apparatus illustrating the chute for receiving the buoyant bodies.

Fig. 5 is a top plan view illustrating the contour of the receiving chute.

Fig. 6 is a fragmentary sectional view taken on line 6-6 of Fig. 5.

Fig. 7 is a vertical sectional view illustrating a modified form of the invention.

Fig. 8 is a sectional view taken on line 8-8 of Fig. 7; and

Fig. 9 is a longitudinal sectional view taken on line 9-9 of Fig. 7.

Referring to the drawings for a more detailed description thereof, the numeral 12 designates the new and improved apparatus in its entirety which includes a box-like base 13 supported upon legs 14. The upper portion of the apparatus 12 is preferably encased in glass or other transparent material so that the operation of the game may be displayed to the operator or spectators. It is herein desired to point out that the apparatus may be of the coin-controlled type altho any other means may be used for controlling the use of the same.

Pivotaly supported within the box-like base 13 is a substantially square shaped board or platform 15 having a circular groove 16 extending within the diameter of the board and adapted to support therein a plurality of buoyant spherical balls 17. The board 15 is pivotaly supported by means of a pair of pins 18 mounted within the walls of the box-like base 13 and said board is adapted to operate in a see-saw fashion controlled by the operator. The controlling means for the board 15 comprises an operating handle 19 pivoted at 20 to a lever 21, which lever is fixedly secured at 22 to the board 15. It will be seen that by operating the hand lever 19 that the board 15 will pivot on its pivot points 18 so as to be actuated in a see-saw manner to cause the buoyant balls 17 within the groove 16 to travel in a circuitous path.

The board 15 is preferably cone-shaped, as illustrated in Fig. 2 of the drawings, so as to assure the return of the buoyant balls within the groove in the event that they are not received within the chute. As above set forth, the board is preferably cone-shaped and is provided in the central portion thereof with an opening or passage 23 which communicates with the groove 16 thru the medium of a second groove 24. It is

the purpose of the board 15 to permit the operator to constantly move the spherical balls within the groove 16 until the desired ball is chosen, whereupon the board is tilted so as to be disengaged from a control pin 25 thereby permitting the chosen ball to move within the groove 24 until it is positioned over the passage 23. When so positioned an air stream is discharged, thus causing the ball to project upwardly within the chute. In Fig. 2 of the drawings the ball 25' is being acted upon by an air stream so as to be discharged within the restricted opening 26 of the chute 27, the construction of which will be hereinafter described. The control pin 25 is supported by an arm 28 fixedly secured to the wall of the box-like base 13, as clearly illustrated in Fig. 2 of the drawings.

As in previous Patent No. 1,776,196, it is desired to actuate the buoyant balls by means of an air stream and for accomplishing this purpose there is provided a rotary blower 29 operated by an electric motor 30 thru the medium of the drive shaft 31. It is one of the features of the apparatus to permit the operator to control the stream of air to be discharged and the control means includes an operating handle 32 connected to an arm 33, which arm is pivotally attached to a control lever 34 for operating a damper or valve mechanism 35 for controlling the inlet of atmospheric air. It will be readily understood that the valve mechanism 35 can be accurately controlled to limit the inlet of air thereby controlling the air stream which actuates the buoyant balls. Both operating levers 19, for controlling the board 15, and 32 for controlling the air inlet, are positioned outside the apparatus so as to be readily accessible to the operator. Extending from the blower 29 is a discharge pipe 36 which terminates adjacent the passage 23 of the board 15, as illustrated in Fig. 2 of the drawings.

The chute for receiving the buoyant balls is positioned in the topmost portion of the apparatus and in describing the same attention is directed to Figs. 4, 5, and 6 of the drawings. The restricted opening 26 of the chute 27 terminates in an elbow 37 thru which the buoyant balls will travel, and from the elbow 37 into one of the controlled compartments 38 or 39 of that portion of the chute which extends downwardly within the apparatus. The means for controlling the entrance of the balls into the compartments comprises a pivoted trap door 40 having a counter-weight 41 thereon for limiting the movement of the door. The skill of the operator will in a measure determine the positioning of the balls within the compartments, which positioning is governed by the amount of air discharged thru the outlet 36 of the blower 29. For example, if it is desired to position one of the balls within the compartment 39, the valve means 35 will be opened a greater amount so as to permit the inlet of a larger amount of atmospheric air, which, when expelled thru the outlet 36, will carry the ball upwardly thru the restricted opening 26 of the chute 27 and with sufficient force to impact the trap door 40 causing the same to swing in the position illustrated in dotted lines in Fig. 6 of the drawings and when in this position the ball will be deposited within the compartment 39. Inversely, if it is desired to position one of the balls within the compartment 38, a lesser amount of air will be discharged so as to prevent the ball from impacting the trap door 40. An arm 40' limits the return movement of the door 40.

The face of the compartments 38 and 39 are constructed of a transparent material such as glass or the like so that the operator will readily be able to determine the number of buoyant balls positioned within the compartments and to also facilitate the totalizing of the score.

It may be desired to number the balls consecutively from "1" to "10", and in order to increase the interest in the game to cause it to be necessary to position a like number of balls in each of the compartments in order to totalize the score. It may also be desired to number, for example, five of the balls "9" and the other five "5" and in order for the score to count the balls must be so arranged in the compartments as to indicate "95", "59", "99", or "55" and when so numbered, the odd number of balls in one of the compartments will not be totalized in the score. It is of course to be understood that various rules can be in effect for playing the game and likewise for totalizing the score.

An automatic time control or limiting means is utilized which comprises an indicating dial 42 having a pointer arm 43 rotatably driven thru a chain and sprocket drive 44 suitably geared to an electric motor 45. When a coin or other control means is utilized, thru a suitable switch mechanism, not shown, the electric motor 45 will be operated, thus rotating the indicator hand 43 and visibly advising the operator of the time limit within which to play the game. The indicator hand may be set so as to break a circuit to the motor 45, thereby stopping said motor at the expiration of, for example, one minute.

From the above description it is believed that the operation of the apparatus is readily understandable. Thru the medium of the operating handle 19 the board 15 can be oscillated so as to move the balls 17 within the groove 16 until the desired ball is in position before the groove 24. When this occurs the board can be tilted to a degree sufficient to release the same from the stop pin 25 thereby permitting the ball to travel within the groove 24 to the passage 23. When the ball is arranged over the passage 23, the handle 32 controlling the valve 35 will be operated, thus permitting a stream of air to be ejected so as to cause the ball to be projected upwardly within the restricted opening 26 of the chute 27 and, if desired, a greater amount or lesser amount of air may be ejected merely by control of the lever 32. The ball then proceeds within the elbow 37 of the chute and drops within one of the compartments 38 or 39, as previously described. The operator must endeavor to position as many balls within the compartments 38 and 39 as is possible within a predetermined limit of time, which fact renders the game amusing as well as testing the skill of the operator.

A suitable arrangement is provided, not shown, for causing the motor 30 which operated the blower 29 to become actuated when a coin or other control means is deposited.

Referring to Figs. 7, 8, and 9, a modified form of the invention will be hereinafter described. In this form, the purpose and principle of the playing of the game will be the same as in the preferred form, namely, the endeavor to eject a plurality of the buoyant balls within a chute arrangement. The modification comprises a rotatably mounted carrier 46 for the bodies that is driven by means of the time control motor 45 thru the medium of a train of gears driven from a shaft extending from one end of the motor. The carrier 46 rotates between a pair of spaced

fixedly secured members 47 and 48, the member 48 that cooperates therewith to provide a guideway for the bodies being a substantially cone-shaped board or platform, as illustrated in Fig. 7 of the drawings, and having a transverse groove 49 therein, that communicates at one end with the guideway and at its opposite end with a central passage 50 in the member 48. The carrier 46 is supported by means of a plurality of arms 51 integral with a circular bearing 52 rotatably secured to the outlet 36 in a bearing 52. Said bearing plate 53 carries gear teeth 54 thereon which mesh with gear 55 driven thru a shaft 56 and a second gear 57 is mounted on the lower end of said shaft and is driven thru a pinion gear 58 attached to the shaft 59 extending from the time control motor 45. The above described drive means is preferably used altho it is to be understood that any other means may be utilized for rotating the carrier 46 without departing from the spirit of the invention. It is preferable, however, to have the drive means extend from the motor 45 so that the carrier will rotate at a speed corresponding to the rotation of the indicator hand 43. If desired, the members 47 and 48 may be integral and mounted for rotation and in that event, a groove similar to the groove 16 is arranged therein to provide a guideway for the bodies.

The means for controlling the stream of air has not been shown in the modified form but it is to be understood that said means is the same as described in the preferred form, namely, an operating handle extending thru the box-like case and controlled by the operator.

A spring-pressed plunger 60 is positioned in the front of the apparatus and has been devised to be actuated for discharging a buoyant ball from the rotatable guideway 46 into the groove 49 so as to be positioned above the passage 50 to be acted upon by a stream of air ejected thru the outlet 36. As understood, the guideway 46 is rotating at a comparatively slow rate of speed and carrying therein the buoyant balls and when the desired ball is moved in alignment with the groove 49, the plunger 60 is actuated to impact the ball and drive the same within the groove 49 to the passage 50. When this occurs the operator will then open the damper mechanism to cause an ejection of a stream of air which will project the ball upwardly into the receiving chute.

In some instances one or more of the balls may not be in perfect alignment with the opening 26 of the chute and therefore will not pass within the same and the stream of air will be cut off by the operator so as to permit the ball to return to the board 48. Due to the conical shape of the board the ball will roll downwardly toward the guideway 46 and in order to prevent its entanglement with other balls within the guideway there is provided at spaced intervals a plurality of projecting pins 61 spaced as indicated in the drawings. In the event that a ball has dropped on the board 48 outside the guideway 46, there may be a tendency for it to contact one of the balls that is being carried forward within the guideway. Should this occur the ball on the board will travel to the next adjacent pin 61, whereupon it will be stopped and as soon as an opening is effected within the guideway, said ball will fall therein and thereby be carried forward to be again projected toward the chute at the will of the operator.

For returning the balls onto the board there

is provided a trap door 63 operated by a mechanism not shown when a coin or other control means is inserted for commencing a new game. In other words, a unitary control is in effect for operating the motors 30 and 45 and trap door 63 simultaneously upon the deposit of a coin or the like.

It is to be understood that this improvement is capable of extended application and is not confined to the exact showing of the drawings nor to the precise construction described and, therefore, such changes and modifications may be made therein as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the appended claims.

What is claimed as new is:

1. In an amusement apparatus of the character described, an enclosed casing having a chute supported therein, a plurality of buoyant bodies contained within said casing, means for supporting said buoyant bodies, said means comprising a substantially square-shaped board having a guideway therein, means for operating said board to cause said buoyant bodies to travel in said guideway, means for receiving one of said buoyant bodies from out of said guideway, a motor driven blower positioned beneath said buoyant body supporting means and having an outlet adjacent thereto, and means for controlling the discharge of air from said blower.

2. In an amusement apparatus of the character described, an enclosed casing having a chute supported therein, a plurality of buoyant bodies contained within said casing, means for supporting said buoyant bodies within said casing, said means comprising a pivoted member having a central air passage therethrough and also a circular groove therein about the passage, said member likewise having a transverse groove therein communicating with said circular groove and the passage, a motor driven blower supported beneath said member and having an outlet adjacent said passage for directing air therethrough, means for controlling the operation of the supporting means, and means for controlling the discharge of air from said blower.

3. In an amusement device, an enclosed casing including transparent means, a plurality of buoyant bodies confined within said casing, receiving and supporting means for the bodies and comprising means having a central air passage therein, means for guiding the bodies for movement in a substantially horizontal circuitous path of which the center of the passage is the axis, and means for guiding the bodies from said path to the passage, compartmental means for receiving the bodies from the first means, means for directing the bodies to the compartmental means and positioned above and aligned with the air passage, means for providing and passing air currents under pressure through the passage for elevating the bodies by the air to the directing means, and means whereby any one of the bodies may be deflected from the path for disposal over the passage to be acted upon by the air.

4. In an amusement device, an enclosed casing including transparent means, a plurality of buoyant bodies confined within said casing, receiving and supporting means for the bodies and comprising conical means having a central air passage therein, means for guiding the bodies for movement in a circuitous path of which the center of the path is the axis, and means for guiding the bodies from said path to the passage, separate compartments for receiving the bodies

from said receiving and supporting means, a chute for directing the bodies to the compartments and having an inlet positioned above and aligned with the passage, means for providing and passing air currents under pressure through the passage for elevating the bodies by the air to the chute, means opened by the bodies and being gravity closed for controlling the passage of the bodies into either compartment, and means whereby any one of the bodies may be deflected from the path for disposal over the passage to be acted upon by the air.

5. In an amusement apparatus, an enclosed casing including transparent means, a plurality of buoyant bodies confined within said casing, receiving and supporting means for the bodies and comprising means having a central air passage therein and a transverse groove communicating with the air passage, means cooperating with the means having the central air passage therein for providing a guideway for the bodies and disposed about the passage, said groove communicating with the guideway, rotary means for carrying the bodies about the guideway, means for rotating the carrying means, means for deflecting any one

of the bodies from the guideway to said groove for disposal over the passage, a motor driven blower within the casing, means for directing air from the blower and through the passage and means for controlling the air to the passage.

6. In an amusement apparatus, an enclosed casing including transparent means, a plurality of buoyant bodies confined within said casing, a conical platform fixed within said casing and having an air passage centrally arranged therein and a transverse groove communicating with the air passage, fixed means spaced from and surrounding the conical platform and cooperating with the outer edge thereto to provide a guideway for the bodies, rotary means mounted to travel in the space between the fixed means and the platform for carrying the bodies about the guideway, means for deflecting any one of the bodies from the guideway into said groove for disposal over the passage, a motor driven blower within the casing, means for directing air from the blower and through the passage and means for controlling the air to the passage.

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