Feb. 4, 1941. A. L. HOUGH 2,230,950

AMUSEMENT DEVICE

Filed Jan. 22, 1940 3 Sheets-Sheet 1

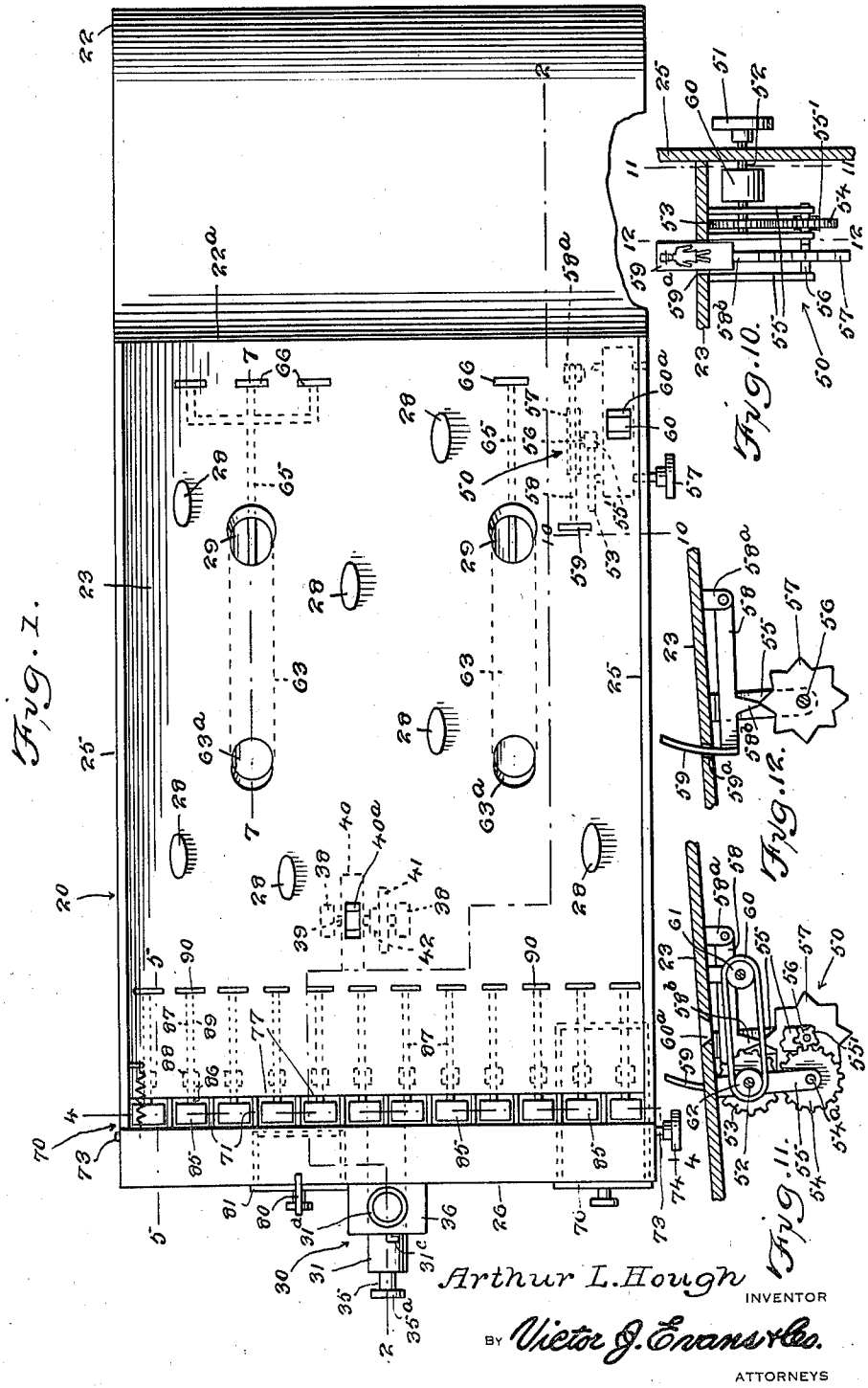


Fig. 1.

Fig. 10.

Fig. 12.

Fig. 11.

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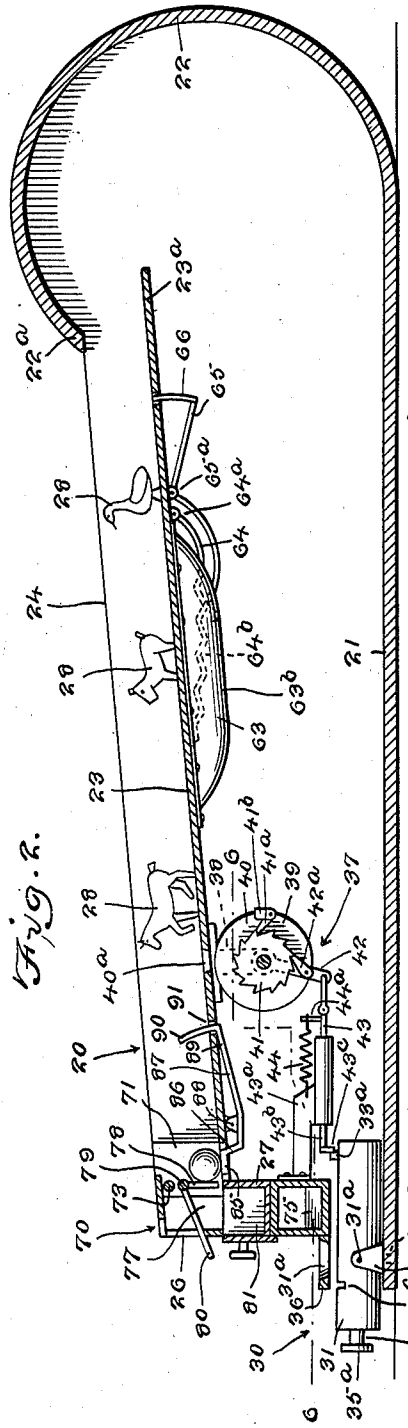


Fig. 2.

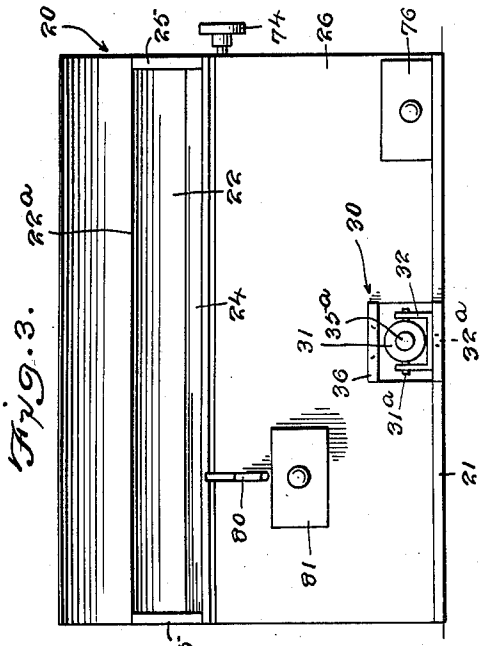


Fig. 3.

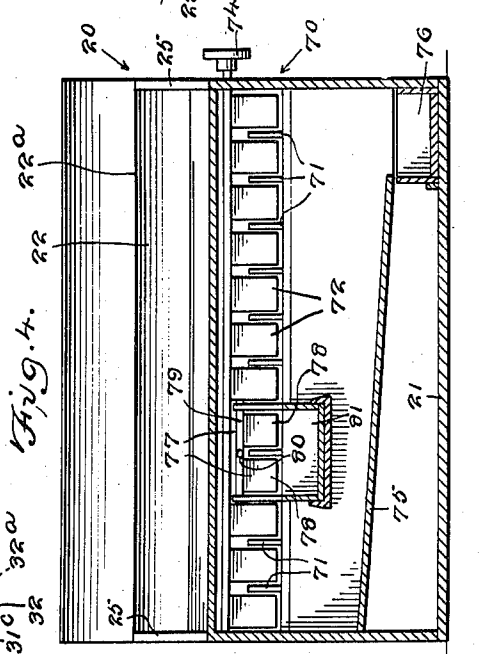


Fig. 4.

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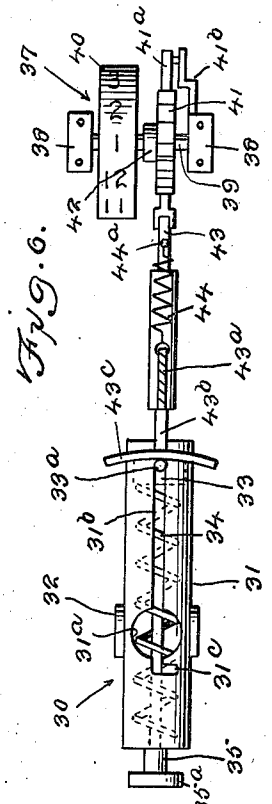


Fig. 6.

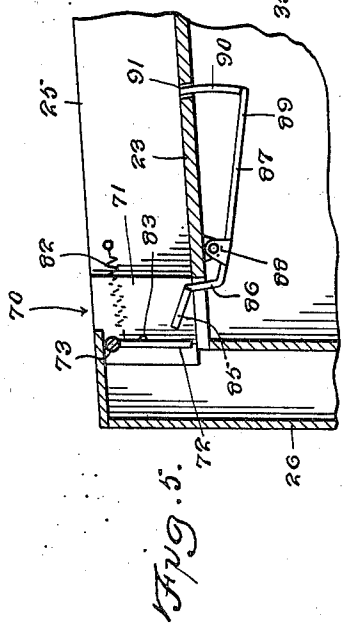


Fig. 5.

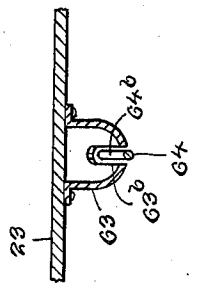


Fig. 9.

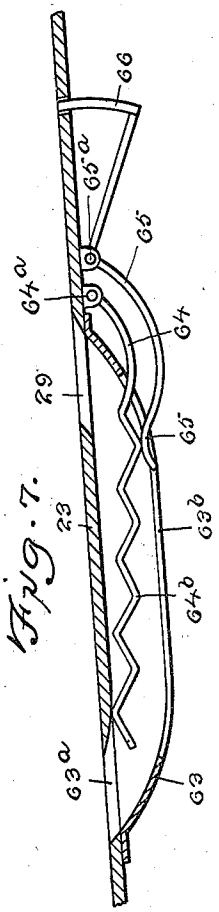


Fig. 7.

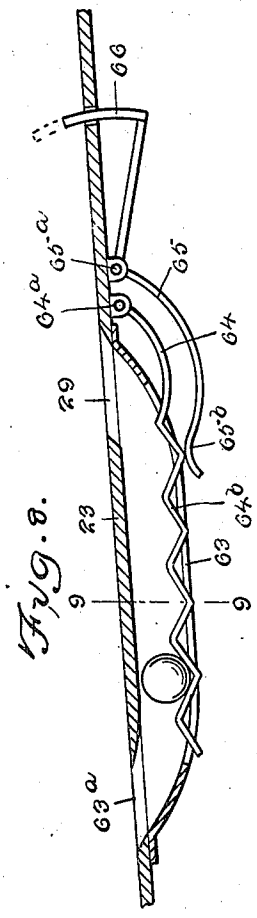


Fig. 8.

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UNITED STATES PATENT OFFICE

2,230,950

AMUSEMENT DEVICE

Arthur L. Hough, New Haven, Conn.

Application January 22, 1940, Serial No. 315,065

4 Claims. (Cl. 273—121)

This invention relates to improved amusement devices and especially is concerned with a novel amusement device of the type comprising a hazard board over which a fired projectile moves.

It is among the more important objects of this invention to provide a novel amusement device including a hazard board traversed by a projectile and means associated with said board for fortuitously receiving the projectile in one of a number of chambers and whereby the projectile, when received in the fortuitously selected chamber, causes operation of ancillary mechanism of a type calculated to amuse a player.

Another object of this invention is to provide a so-called amusement device adapted to simulate, in the opinion of some, certain aspects of an auction.

A feature of the amusement device, according to this invention, is that it frequently can serve as a source of entertainment for appreciable periods of time inasmuch as the operation of the device depends upon the happening of a plurality of fortuitous transactions.

An advantage of this amusement device over other and similar amusement devices is the simplicity both of construction and of operation which suits it, from the standpoint of manufacture, to the requirements of mass production and, from the standpoint of operation, to general and widespread use among persons of both mature and immature age.

Other objects, advantages and features of the new and improved amusement device according to the present invention will be apparent to those skilled in this art during the course of the following description.

In order to facilitate a fuller and more complete understanding of the present invention, a specific embodiment thereof herein illustrated will be hereinafter described, it being clearly understood, however, that the illustrated embodiment, although presently preferred, is provided solely by way of example of the practice of this invention and not by way of limitation thereof except insofar as the invention is recited in the subjoined claims.

Referring then to the drawings,

Figure 1 is substantially a top plan view of the presently preferred embodiment of the instant invention,

Figure 2 is essentially a vertical sectional view of the device illustrated in Fig. 1 taken along the line 2—2 thereof,

Figure 3 is a front elevational view of the device,

Figure 4 is a vertical sectional view of Fig. 1 taken along the line 4—4 thereof,

Figure 5 is a detailed vertical sectional view of Fig. 1 taken along the line 5—5,

Fig. 6 is a detailed plan view of Fig. 2 taken along the line 6—6,

Figures 7 and 8 are detailed vertical sectional views of Fig. 1 taken along the line 7—7 thereof showing different positions of parts of the device,

Figure 9 is a vertical sectional view of Fig. 8 taken along the line 9—9 thereof,

Figure 10 is a vertical sectional view of Fig. 1 taken along the line 10—10 thereof,

Figure 11 is a vertical sectional view of Fig. 10 taken along the line 11—11 thereof, and

Figure 12 is substantially a vertical sectional view of Fig. 10 taken along the line 12—12 thereof.

From a consideration of the drawings, it will be noted that the device generally designated by the numeral 20 comprises a base board 21 having a forwardly curved back portion 22 thereof, the end portion 22*a* of which overlies the end portion 23*a* of the board 23 mounted within the casing in conventional manner.

Better to concentrate the parts of the device in the following description, it is here mentioned that it is the general principle of the device to fire a projectile from the firing means generally designated by the numeral 30 in a manner such that the projectile rides over the curved inner surface of the casing end portion 22 and thereafter traverses the board 23, ultimately being received in storing means generally designated by the numeral 70.

Referring now especially to Figs. 1, 2, 3 and 6, wherein the details of the firing mechanism generally designated by the numeral 30 are best illustrated, it will be noted that the firing means comprises a projectile discharging member 31 hollow and essentially cylindrical in form and horizontally oscillatory by reason of the mounting of the trunnions 31*a* received in the arms of the cradle 32 pivoted on the pin 32*a* to parts of the base board 21. A piston 33 carrying a pin 33*a* riding in the slot 31*b* formed inside portions of the cylindrical member 31 normally is spring-pressed toward the end of the member by the spring 34 mounted between the piston and the closed end of the member 31. Motion of the piston 33 is facilitated by the rod 35 extending axially through the member 31 which, for convenience of use, is provided with a handle 35*a* essentially as shown. An offset portion 31*c* is provided in the elongate opening 31*b* formed in the

member 31 whereby slight rotation of the piston 33 moves the pin or rider 33a into the offset portion of the opening and pulls the piston in cocked position. An opening 31d, formed in the top portion of the cylindrical discharge member 31, registers with a corresponding opening in the projectile guide 36 mounted on the casing end 26 as is best illustrated in Fig. 2.

It is to be understood that the relative positions of the openings 31d and 31c is such that when the pin 33a is positioned in the offset opening 31c, the piston 33 will be retracted behind the opening 31d permitting the insertion of a spherical projectile such as a marble or the like into the interior of a discharge device. With the projectile so positioned, slight counter-rotation of the handle 35a will cause the pin 33a to move from the offset opening 31c and the piston 33 moving under the influence of the spring pressing means 34 will cause the projectile to be discharged at initial velocity across the base board 21 toward the curved end portion 22 of the casing and the projectile, following said curved end portion of the casing, ultimately will fall upon and traverse the board 23 as will be hereinafter described.

In addition to discharging the projectile, axial motion of the spring-pressed piston 33 also operates a display device generally designated by the numeral 37 which now will be described. Downwardly extending arms 38 mounted on underportions of the board 23 are provided with registerable openings in the end portions thereof freely rotatably holding the arbor 39 upon which is mounted the indicia carrying display wheel 40, the indicia of which are visible to the player through the opening 40a formed in the board 23. The arbor 39 also carries the ratchet wheel 41, the teeth of which engage with the pawl 41a whereby clockwise rotation of the arbor is limited and controlled. It will be noted, referring especially to Fig. 6, that the pawl 41a is carried upon an arm 41b mounted on one of the supporting members 38 hereinabove described.

An arm 42, freely rotatably mounted upon the arbor 39, carries a second pawl 42a which likewise engages with the teeth of the ratchet wheel 41 in a manner such that counter-clockwise rotation of the arm 42 causes counter-clockwise rotation of the indicia carrying wheel 40. Counter-clockwise motion is imparted to the arm 42 by the sliding rod 43 held in the supporting member 43a which, in turn, is mounted upon a partition 27 as illustrated in Fig. 2. Normally the arm 42 is pulled in a clockwise direction by the spring 44 attached to a projecting formation 44a on the rod 43 and to parts of the support 43a. The free end portion 43b of the rod 43 carries a horizontally extending arcuately curved member 43c adapted to engage with the pin 33a carried on the piston 33 hereinabove described whereby, when a projectile is discharged from a cylinder 31, the pin 33a striking against the member 43c causes counter-clockwise rotative motion of the arm 42, thereby advancing the ratchet wheel 41 one tooth and moving the indicia carrying wheel 40 to expose different indicia.

Reference is now made to Figs. 1, 10, 11 and 12 wherein features of the so-called auctioneer device generally designated by the numeral 50 forming part of the amusement device according to the present invention are best illustrated. It will be noted that the auctioneer device comprises an operating knob 51 mounted upon a spindle 52 positioned exterior the casing side 25, the spindle carrying a gear 53 meshing with another gear 54 mounted on a shaft 54a journaled in arms 55 attached to under parts of the board 23 substantially as illustrated. The gear 54 meshes with a small pinion gear 55' carried on the shaft 56 on which also is mounted a star wheel 57 whereby rotation of the knob or handle 51 causes rotation of the star wheel. A freely pivoted arm 58 mounted on the brackets 58a attached to the under surface of the board 23 is provided with a projecting formation 58b adapted to ride upon the star wheel in a manner such that during rotation of the star wheel, vertical oscillation of the arm 58 results. An indicia bearing curved plate 59 is mounted upon the end portion of the arm 58 and, during oscillation of the arm, is ultimately exposed and concealed in the opening 59a formed in the board 23. An endless belt 60 extending around the freely rotatable supported pulley 61 and the pulley wheel 62 carried on the arbor 52 exposes various indicia carried on the surface thereof through the window 60a formed in the board 23 whereby, as will be evident from consideration of the foregoing, various characters, indicia, etc., can be exhibited through said window 60a by rotation of the knob or handle 51.

As the projectile discharge from the cylinder 31 as hereinabove described passes downwardly over the inclined board 23, it encounters a plurality of hazards 28 indiscriminately arranged on the board surface essentially as shown. It is to be noted further that in addition to the hazards 28, openings 29 are provided leading to sumps 63 extending under portions of the board 23 and having outlets 63a.

Referring now especially to Figs. 2, 7, 8 and 9 wherein details of the sumps best are illustrated, it will be noted that each is provided with an opening 63b extending along the bottom thereof within which rests the pivoted arm 64 mounted in the bracket 64a attached to underportions of the board 23. The free end portion of the arm 64 is waved as indicated generally by the numeral 64b whereby a projectile descending through the openings 29 rides along the waved portion 64b of the arm 64 causing oscillating motion of the arm prior to discharge of the projectile through the openings 63a as will be evident to those skilled in this art. The arms 64 normally are held in raised position, as shown in Fig. 7, by the arms 65 mounted in the brackets 65a attached to under parts of the board 23, the arms 65 having end portions 65b which rest against parts of the arms 64. The arms 65 normally tend to move in a clockwise direction by reason of action of gravity upon the weighted indicia carrying end portions 66 thereof. As will be apparent from a consideration of the drawings, when a projectile passes into one of the sumps causing downward motion of the corresponding arm 64 and counter-clockwise motion of the corresponding arm 65, the indicia carrying weighted end portion 66 of the arm 65 is moved from retracted concealed position illustrated in Fig. 7 to projecting exposed position illustrated in Fig. 8.

Reference is now made particularly to Figs. 1, 2, 3, 4 and 5 wherein details of the projectile receiving mechanism generally designated by the numeral 70 best are illustrated. A plurality of spaced upwardly extending partitions, some of which are designated by the numeral 71, are mounted in a row transversely extending across

the lowermost end of the board 23, it being understood of course that the partitions are spaced with respect to each other to a degree sufficient to permit free accommodation of the projectile therebetween. The fronts of the pockets defined by the partitions are opened, but the backs are closed by flaps, some of which are designated by the numeral 72, each fixedly mounted upon a transversely extending rod 73 journaled in the sides 25 of the casing, the rod being rotatable by the knob 74 whereby the flaps can be moved backwardly and upwardly to permit the projectiles to fall down into the inclined trough 75 from which they discharge into the sliding drawer 76 wherein they are stored for subsequent use. Certain of the pockets, namely the pockets generally designated by the numeral 77 are provided with flaps 78 mounted on a freely rotatable arbor 79 actuable by a handle 80 which may be operated independently of the flaps closing the backs of the other pockets hereinabove described. It will be noted that projectiles discharge from the pockets 77 and do not fall into the trough 75 as hereinabove described, but instead are discharged into the sliding drawer 81 for purposes which hereinafter more clearly will be apparent. It will be noted that while the flaps 78 normally rest in vertical position by action of gravity upon the handle 80, the flaps 72 are held in vertical position by a spring 82 attached to one of the flaps and to the casing side 25, a stop 83 being provided to limit the spring-tensioning action.

Referring now especially to Figs. 1, 2 and 5, it will be noted that the bottoms of each of the pockets is open except for a normally upwardly slanting plate 85 carried on the end portion 86 of the arm 87 mounted in the brackets 88 attached to the under portion of the board 23. The opposite end portion 89 of the arm 87 carries a weighted indicia carrying a curved plate 90 which normally is positioned as shown in Fig. 5 with the plate concealed within and beneath the opening 91 formed in the board 23.

Referring now particularly to Fig. 2, when a projectile moves within one of the pockets, it rests upon the plate 85, thereby counter-balancing the weight of the plate 90 and causing the arm to move to a position such that the plate 90 is exposed, thereby both exhibiting the indicia carried on the plate 90 and also providing an additional hazard to be encountered by projectiles traveling over the surface of the board 23 toward a projectile storing means generally designated by the numeral 70.

Having thus described the present embodiment of this invention, the presently preferred method of operating an amusement device now will be described. Projectiles stored in the drawers 76 and 81 are collected and fired from the projectile discharging means generally designated by the numeral 30, the operator, if so desired, aiming the discharging means by oscillating same on the pivot 32*a*. The discharge projectiles travel against the inner curved surface of the casing end 22 and pass therefrom unto the top surface of the board 23 and travel both by action of momentum and gravity over the inclined surface of the board in the general direction of the projectile receiving means generally designated by the numeral 70. As the projectiles traverse the board they encounter the various 28 and also the sumps 63 hereinabove described. It will be understood from the foregoing description that projectiles passing through the sumps cause oscillation of the plates 66. Having avoided the various obstacles, the projectiles ultimately are received in the pockets of the projectile receiving means 70 whereby certain of the plates 90 are moved into exposed position. Operation of the knob 74 and of the handle 80 permits discharge of the projectiles into the storage drawers 76 and 81 and the course of play then can be repeated. It is preferred that the plates 90 carry indicia corresponding to cash prices to be bid for objects, the names of which are exposed through the window 60*a* and carried on the endless belt 60. The number of each play preferably is indicated by indicia carried on the wheel 40 exposed through the window 40*a*. The plates 59 and 66 can carry indicia or other matter having real or fancied relation to the game.

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

Having thus described the invention, what it is desired to secure by Letters Patent is:

1. In an amusement device of the type including a game board traversed by a moving projectile, the improvements which comprise obstacles comprising a channel through which, upon occasion, a projectile may pass, the bottom of said channel having a longitudinally extending slot formed therein; a vertically arranged oscillatory undulating arm positioned within said opening in a manner such that a projectile passing through the channel rides on the undulated portion of said arm causing oscillation of the arm; a pivotally mounted indicia-bearing plate normally concealed within and beneath an opening formed in said board connected to said arm whereby passage of a projectile through said channel oscillating said arm causes said plate to move upwardly and outwardly through said opening into exposed position.

2. In an amusement device of the type including a game board traversed by a fired projectile, the improvements which comprise obstacles comprising a pair of openings formed in the board disposed in spaced relation in a line of projectile travel; a sump beneath said board connecting said openings, said sump having a longitudinally extending opening formed in bottom parts thereof; a vertically oscillatory undulated first arm, pivotally mounted near said sump, normally positioned with the undulated portion thereof extending upwardly through the opening in the sump bottom in a manner such that a projectile traveling through said sump rides on and oscillates said arm; a second arm, centrally pivotally mounted near said first arm, one end of said second arm resting against parts of said first arm in a manner whereby oscillation of the first causes oscillation of the second arm, a weighted indicia-bearing plate mounted on the other end of said second arm normally concealed within and beneath an opening formed in said board but being movable upwardly and outwardly through said opening into exposed position by passage of a projectile through said sump oscillating said first and second arms.

3. In an amusement device of the type described, comprising a board traversed by a moving projectile, projectile receiving chambers arranged below the board intermediate its ends and having open ends communicating with the

upper face of the board, pivoted corrugated arms extending through the bottom of the chambers, and indicia bearing plates pivotally mounted beneath said board and operatively connected with the pivoted corrugated arms, said indicia bearing plates arranged below openings in the board, whereby the passage of the projectile through the chamber causes a rapid movement of the indicia bearing plates through the openings.

4. In an amusement device of the type described, comprising a board traversed by a moving projectile and arranged in an inclined position, projectile receiving chambers arranged below the board intermediate its ends and having upper and lower curved ends communicating with openings in the board, pivoted corrugated arms extending through the bottom of the chambers and arranged slightly above the lower face thereof, and indicia bearing plates pivoted below said board and having an operative connection with the pivoted corrugated arms and extending through openings in the board, whereby the rapid passage of the projectiles through the chambers will cause a rapid up and down movement of the indicia bearing plates through the openings in the board.

ARTHUR L. HOUGH.