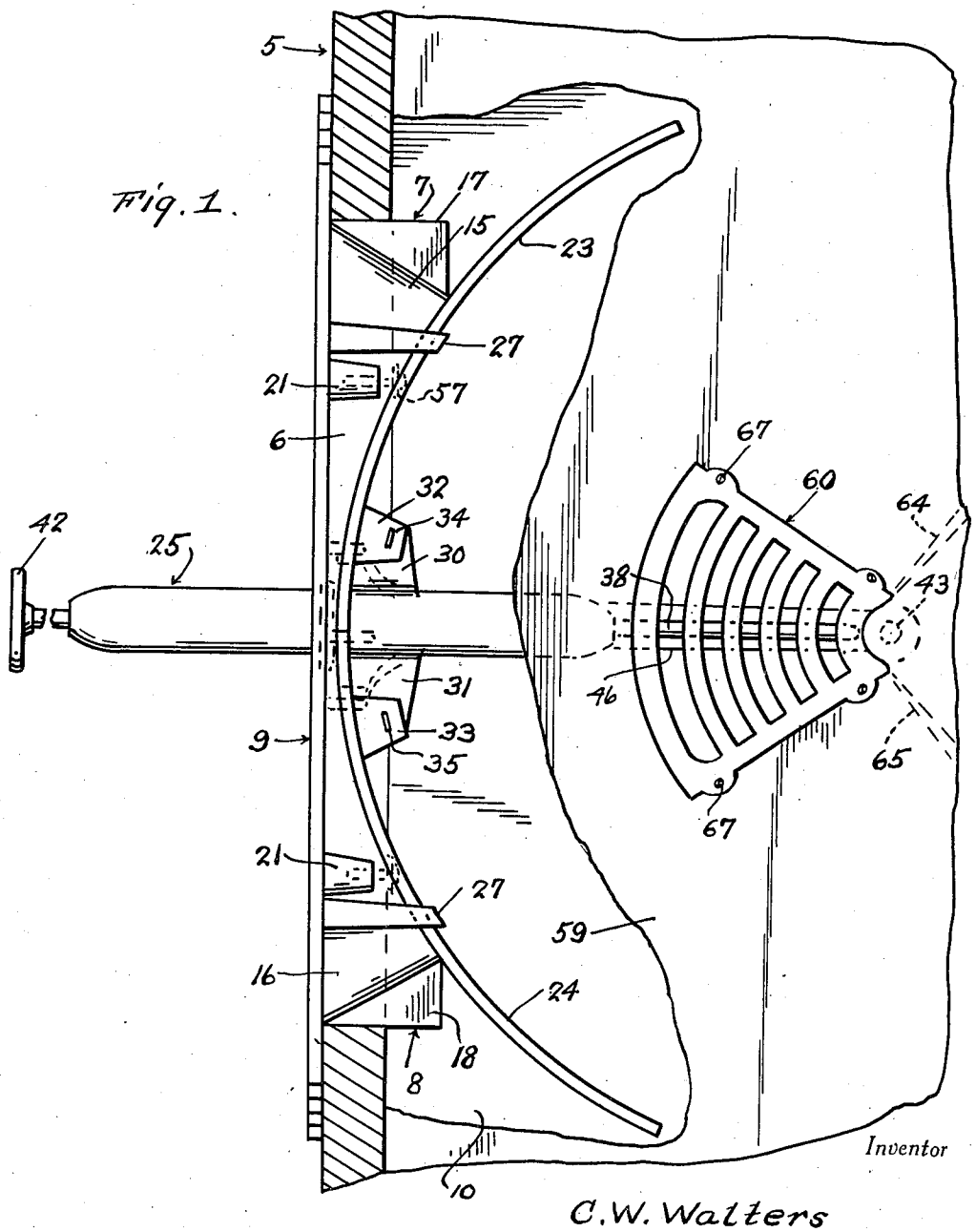
Sept. 13, 1938. C. W. WALTERS 2,130,050

PROJECTILE GAME APPARATUS

Filed Feb. 20, 1937 5 Sheets-Sheet 1

Fig. 1.



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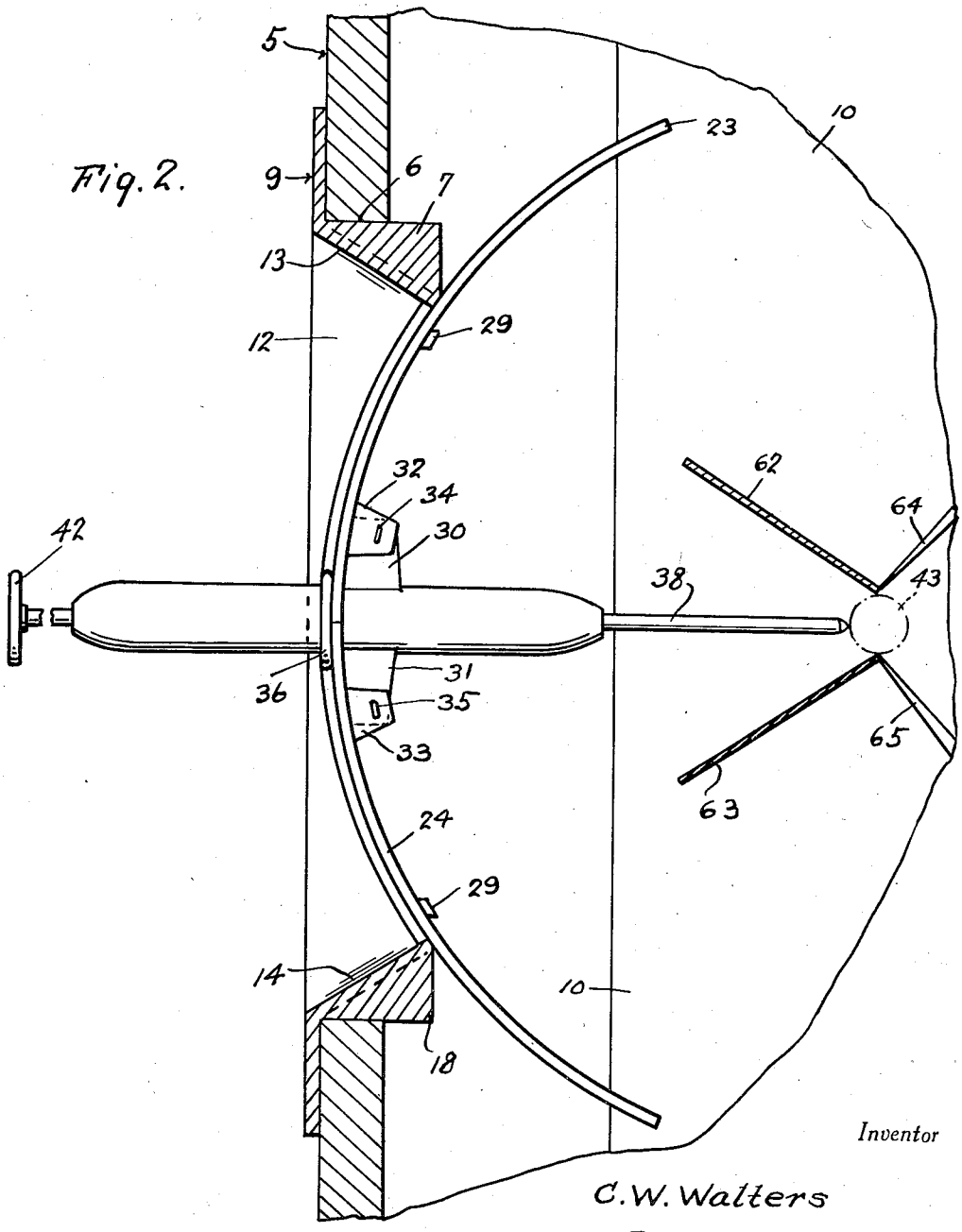
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PROJECTILE GAME APPARATUS

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Fig. 2.



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PROJECTILE GAME APPARATUS

Filed Feb. 20, 1937 5 Sheets-Sheet 3

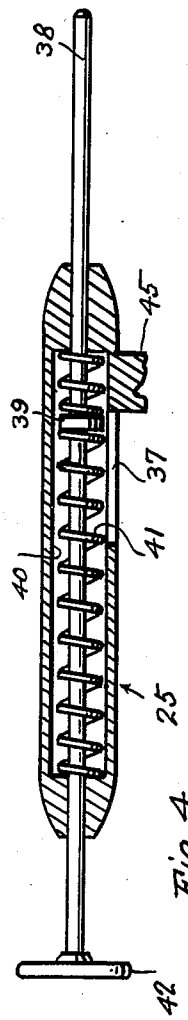


Fig. 4.

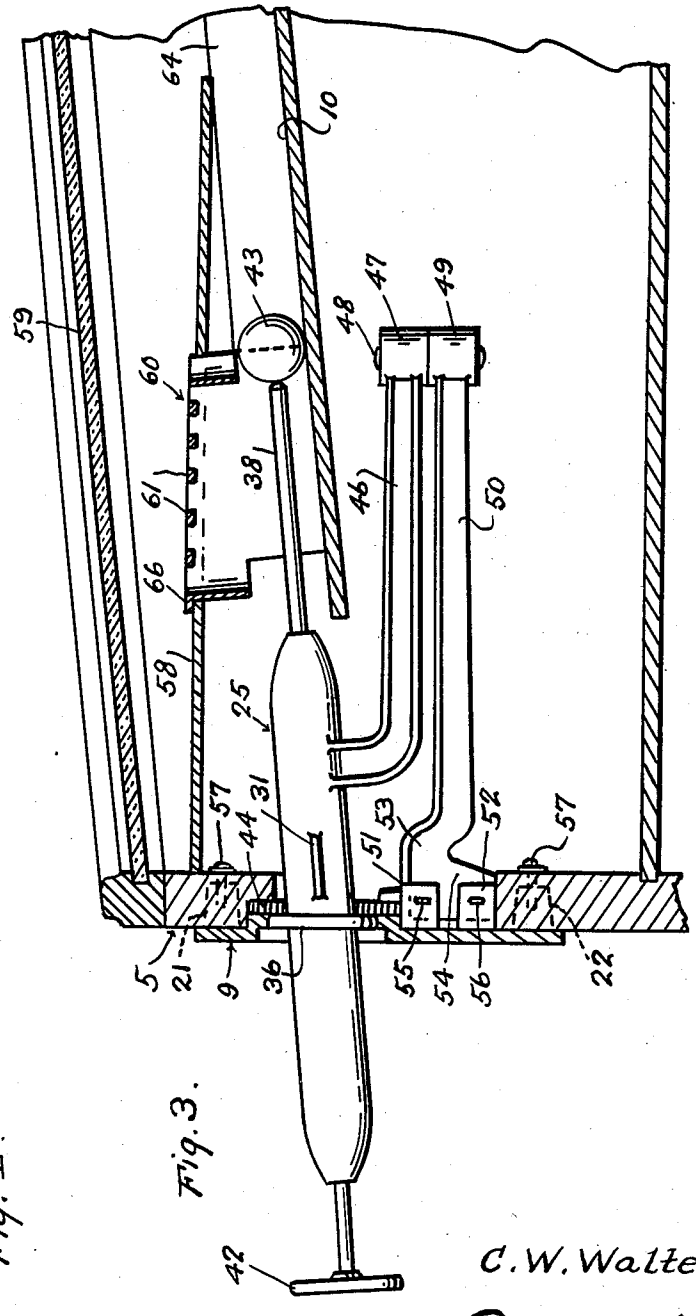


Fig. 3.

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PROJECTILE GAME APPARATUS

Filed Feb. 20, 1937 5 Sheets-Sheet 4

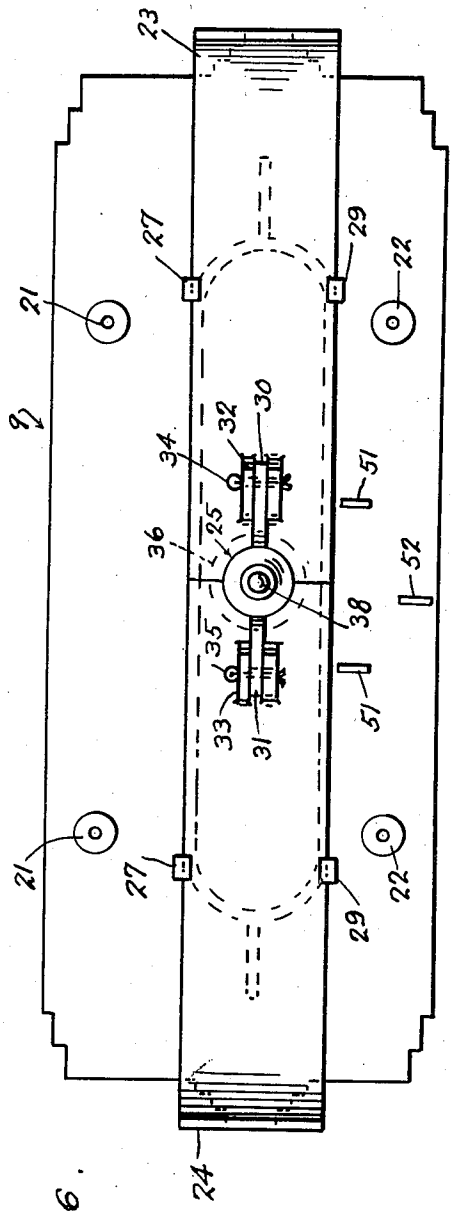


Fig. 6.

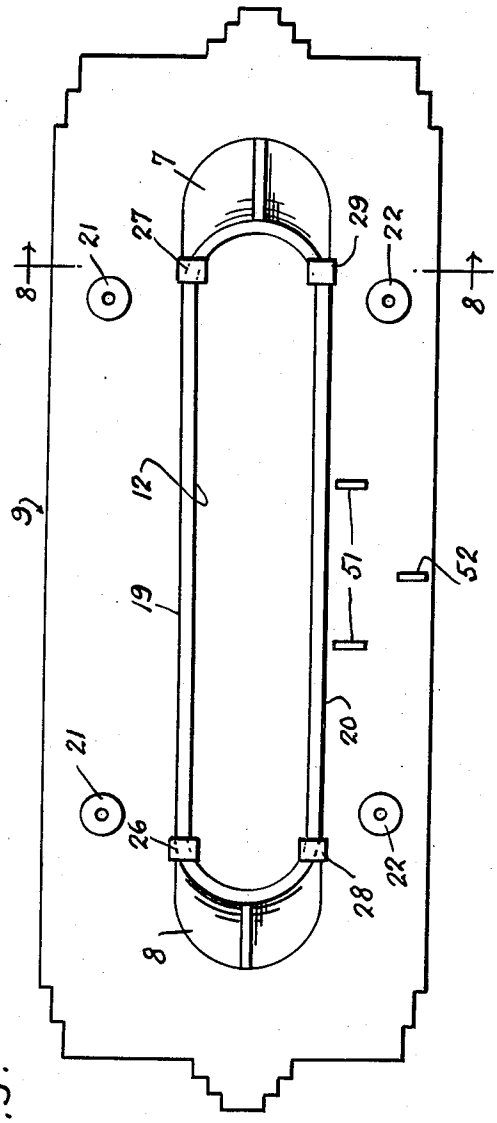


Fig. 5.

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PROJECTILE GAME APPARATUS

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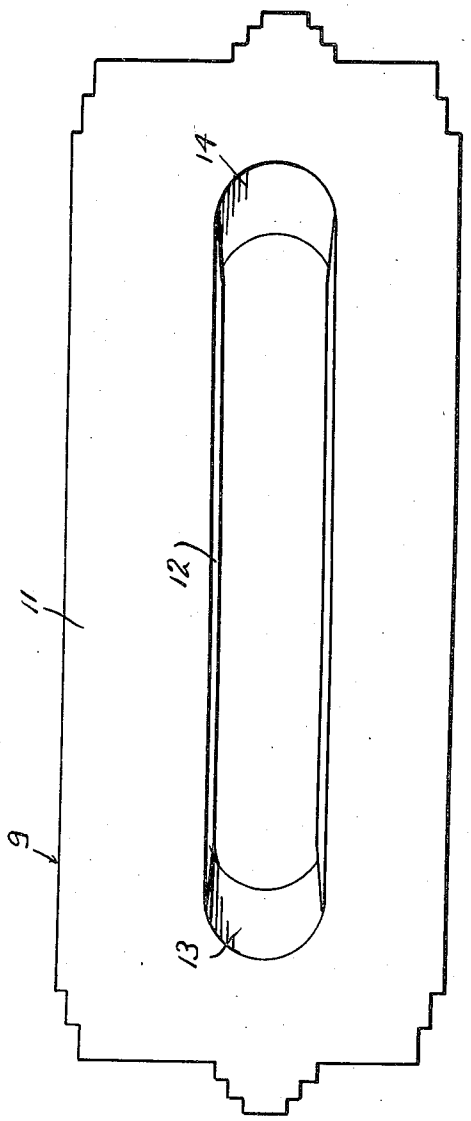


Fig. 7.

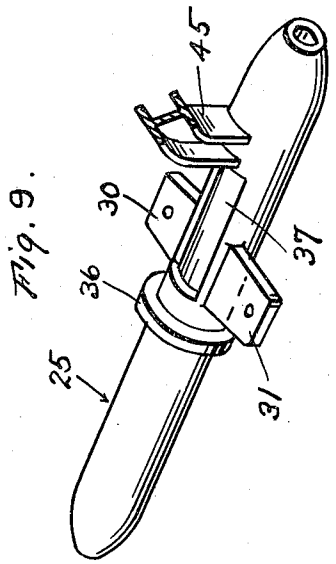


Fig. 9.

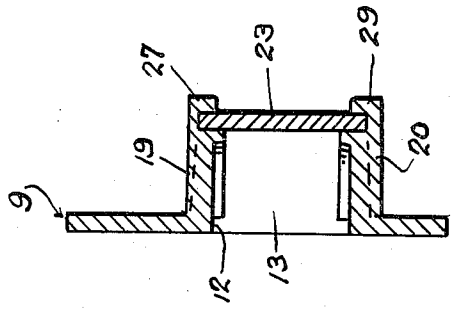


Fig. 8.

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UNITED STATES PATENT OFFICE

2,130,050

PROJECTILE GAME APPARATUS

Carl W. Walters, Aurora, Ill.

Application February 20, 1937, Serial No. 126,921

4 Claims. (Cl. 273—129)

My invention relates generally to projectile game apparatus, and particularly to a dirigible projecting plunger structure, and an important object of my invention is to provide a simple and practical arrangement of this character which is adaptable to present day coin controlled surface projectile games, such as pin-ball game apparatus.

Other important objects of my invention will be apparent from a reading of the following description taken in connection with the drawings, wherein for purposes of illustration I have shown a preferred embodiment of my invention.

In the drawings:—

Figure 1 is a general top plan view of an embodiment of the invention.

Figure 2 is a horizontal sectional view partly in top plan of the said embodiment.

Figure 3 is a vertical longitudinal sectional view taken through Figure 1 approximately centrally.

Figure 4 is a vertical longitudinal sectional view taken through the plunger per se.

Figure 5 is an elevational view of the inner side of the front plate or mounting with the slides removed.

Figure 6 is a view similar to Figure 5 but showing the slides in place.

Figure 7 is an elevational view of the front of the said plate or support.

Figure 8 is a transvesre vertical sectional view taken through Figure 5 approximately on the line 8—8 and looking toward the right in the direction of the arrows.

Figure 9 is a bottom perspective view of the plunger body.

Referring in detail to the drawings, the numeral 5 generally designates the front vertical wall of such as a pin-ball or other surface projectile game apparatus, in which wall is provided an opening 6 which is elongated in form and receives the reduced portions 7 and 8 on the mounting plate which is generally designated 9 and which forms the mounting for the device of the present invention. The projectile surface or playing surface 10 is located at a suitable elevation with respect to the mounting 9.

The mounting 9 consists of a genarally rectangular plate 11 of suitable metal or non-metallic material which is provided with an elongated opening 12 which has rounded and inwardly sloping ends 13 and 14 which are located in the abutments 7 and 8 as clearly indicated in Figures 1 and 2 of the drawings. The abutments 7 and 8 have exterior walls 15 and 16 which are substantially parallel and conforming to the inwardly sloping ends 13 and 14, and axially aligned with the longitudinal center of the opening 6 are the triangular projections 17 and 18 which engage the squared ends of the opening 6 in the front wall of the game apparatus and act as reinforcements. Upper and lower substantially parallel walls 19 and 20 meet and merge into the walls of the abutments and run along the edges of the opening 6 as clearly indicated in Figure 5 of the drawings. Above and below the walls 19 and 20 and adjacent the opposite ends of the plate 9 are outstanding bosses 21, 21 and 22, 22, respectively, which are bored to accommodate mounting screws or bolts to fasten the mounting plate 9 in place on the apparatus.

As indicated in Figures 1 and 2 the walls 19 and 20 have their inner edges curved to slidably accommodate the slides 23 and 24 which project from opposite sides of the plunger body which is generally designated 25 and slide under and between grooved retainers 26, 27, 28, and 29 on the extremities of the walls 19 and 20.

The plunger is composed of the plunger body 25 which is of elongated hollow construction provided exteriorly with two generally horizontal laterally projecting wings 30, 31 which lie between and are pivoted to pairs of brackets 32, 33 which are fastened to the inner ends of the curved slides 23, 24, respectively, as indicated in Figure 2 of the drawings, suitable fastening means 34, 35 making the connection. Back of the wings on the plunger body is the annulus 36 and between the wings 30 and 31 on the annulus 36 is an opening 37 giving access to the spring mechanism which operates the plunger 38 per se. The plunger 38 is in the form of a straight rod with an annulus 39 fixed thereon within the spring chamber 40 as shown in Figure 4 of the drawings which is disposed between the convolutions of the plunger operating helical spring 41 whose opposite ends are confined in the said chamber 40, so that when the plunger 38 is drawn to the left by means of the handle 42 and then released, the spring 41 will propel the plunger 38 in a right hand direction to project the ball or other surface projectile 43 along the playing surface 10. The annulus 36 on the plunger body 25 bears against a rubber or other compressible washer 44 which is mounted in an accommodating opening in the front panel 5 of the game apparatus as shown in Figure 3 of the drawings, which mounting in conjunction with the pivot bracket to be described, permits the plunger body 25 to be pivoted about so as to afford different aims thereof with respect to the ball 43 for pro-

jecting the ball at selected angles over the playing surface 10.

The pivotal bracket for the plunger body 25 includes the depending portion 45 which is secured to the bottom of the front end of the plunger body and has a forward generally horizontal extension 46 which terminates in a knuckle 47 in which is a pivot 48 which pivotally engages a second knuckle 49 on a horizontal arm 50 which projects forwardly from the plate 9 under the opening 12 and is mounted in place by means of two upper lugs 51 which engage opposite sides of the head 53 and a single lower lug or bracket 52 which engages the vertical flange 54 on the head 53. Suitable means such as pins or cotter keys 55, 56 make the necessary connections between the parts just described. The lugs or bolts mounting the plate 9 to the wall 5 are generally designated by the numeral 57.

The plunger rod 38 is located generally in a plane parallel to that of the playing surface 10 as indicated in Figure 3 of the drawings.

Overlying the playing surface 10 and extending from the wall 5 to a point beyond the initial position of the ball 43 is the guard support 58 which is arranged at an acute angle to the playing surface and inclines slightly in a right hand direction as viewed in Figure 3 of the drawings. The glass top 59 of the game apparatus overlies the guard 58 spacedly.

The guard support 58 has mounted in a conforming opening therein the guard 60 per se which is composed of a top plate 61 in the form of a grating of triangular plan and depending opposite sides 62, 63 which converge to form a restricted gate which retains the ball 43 in initial position. Playing surface walls 64 and 65 diverge from the said gate so as not in any way to limit or affect the travel of the ball 43 when propelled by operation of the plunger. Flanges 66 on the top of the guard 60 are provided with screws 67 for attaching the guard on the guard plate 58.

It is believed obvious from the foregoing and from an inspection of the drawings as herein described that the player grasps the plunger handle 42 and the outer end of the plunger body 25 and moves the plunger on the axis of the pivot 48 which immediately underlies the initial position of the ball 43, so that the plunger rod 38 is caused to assume an angle relative to the axis of the playing surface, but aligned approximately with the axis of the ball 43, which may be chosen by the player as the direction in which to propel the ball toward making a score on the playing surface. It is further obvious that the plunger body 25 having been moved to the desired position by shifting it and hence the slides 23, 24, the plunger handle 42 may be drawn back if not already drawn back, and then released in the chosen position of angularity of the plunger so as to strike the ball 43 and propel the same in the selected direction over the playing surface 10.

Although I have shown and described herein a preferred embodiment of my invention, it is to be definitely understood that I do not desire to limit the application of the invention thereto, and any change or changes may be made in the materials and in the structure and arrangement of the parts, within the spirit of the invention and the scope of the subjoined claims.

What is claimed is:—

1. In a game apparatus including a playing surface and means for holding a ball on a certain point of said surface, a projector including a plunger for striking a ball held at said certain point, an arm connected with the projector and a pivotal support for the arm, the axis of the pivot of which is in vertical alignment with said point of the playing surface on which the ball is held.

2. In a game apparatus including a playing surface and means for holding a ball on a certain point of said surface, a bracket supported from a part of the apparatus, a vertically arranged pivot pin carried by the bracket and in vertical alignment with said ball-engaging point of the surface, a projector including a plunger for striking a ball held on said part of the playing surface, an arm connected with the projector and supported for swinging movement on said pivot pin, a supporting member having an elongated horizontally arranged slot therein, means for connecting said member to a part of the apparatus, the inner wall of the slotted member being of arcuate shape, the projector passing through the slot in said member, an arcuate-shaped slide connected with the projector, and means for slidably supporting the slide at the arcuate wall of the supporting member.

3. In a game apparatus including a playing surface and an end wall having a horizontal elongated slot therein, a projector supporting member including a plate having a horizontally extending elongated projection on one face thereof passing through the slot in the end wall, the inner face of said projection having an arcuate longitudinally extending recess therein, and said plate and projection having an elongated horizontally arranged slot therein, guiding means connected to the inner face of the projection, arcuate slides supported by such means and contacting the arcuate face of the projection, and a projector passing through the slot in the plate and projection and connected with the slides.

4. In a game apparatus including a playing surface and an end wall having a horizontal elongated slot therein, a projector supporting member including a plate having a horizontally extending elongated projection on one face thereof passing through the slot in the end wall, the inner face of said projection having an arcuate longitudinally extending recess therein, and said plate and projection having an elongated horizontally arranged slot therein, guiding means connected to the inner face of the projection, arcuate slides supported by such means and contacting the arcuate face of the projection, a projector passing through the slot in the plate and projection and connected with the slides, an arm connected with an inner portion of the projector and extending inwardly, and supporting means in the apparatus and to which the inner end of the arm is pivoted for movement about a vertical axis.

CARL W. WALTERS.