July 16, 1929. E. H. WOODARD 1,720,707

GAME

Filed Feb. 16, 1928

Fig. 1

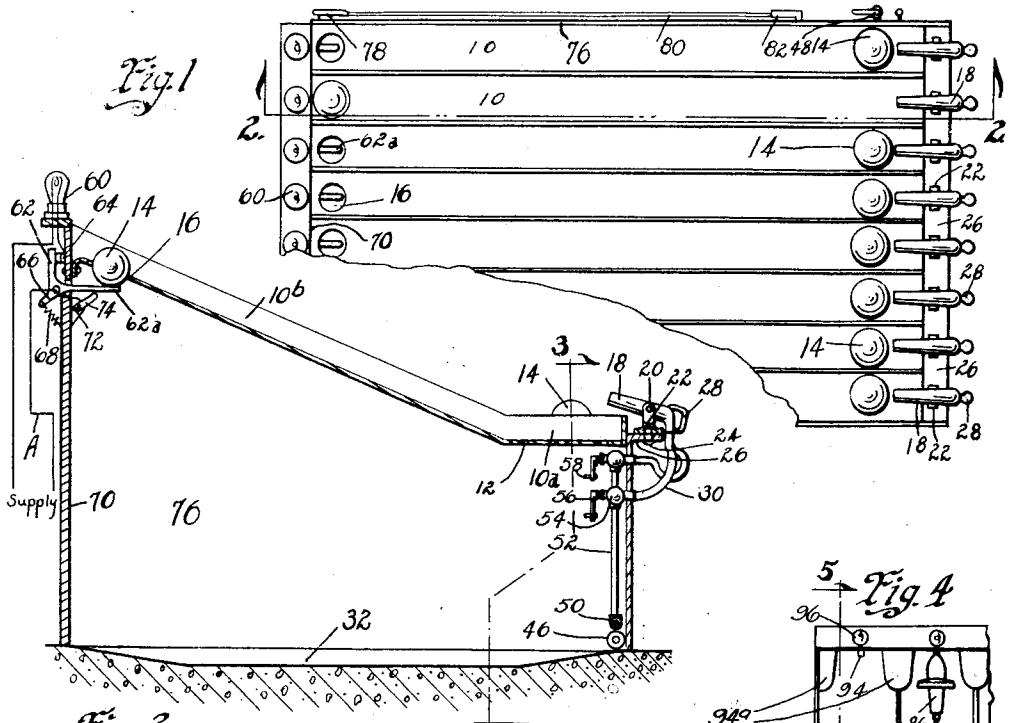



Fig. 2

Fig. 4

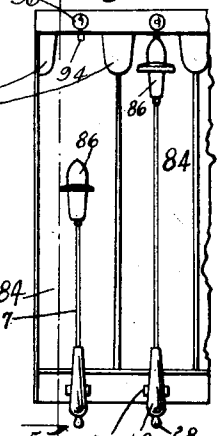



Fig. 5

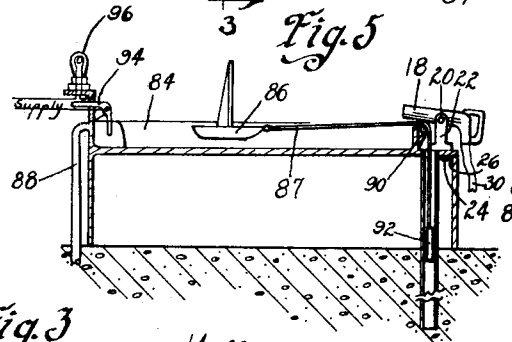



Fig. 3




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# UNITED STATES PATENT OFFICE.

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## GAME.

Application filed February 16, 1928. Serial No. 254,683.

The object of my invention is to provide a game of the kind in which streams of fluid, such for instance as water, may be directed competitively against movable targets for the purpose of causing the targets to attain certain objective positions.

It is my purpose to provide a plurality of targets and a plurality of fluid discharging means in combination, whereby two or more players may participate in a game of skill with equal opportunities to win.

I preferably provide a mechanism so arranged that either gravity or other means will be utilized for resisting the movement of the target toward its objective point of destination.

It is a further purpose of my present invention to provide means for limiting the direction of flow from the fluid projectors to a certain area.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my game, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a top or plan view of a portion of a game embodying my invention.

Figure 2 is a detail, sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a detail, sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a top or plan view of a modified form of my game; and

Figure 5 is a detail, sectional view of the form of my game shown in Figure 4 taken on the line 5—5 of Figure 4.

My improved game is one which can be utilized with apparatus varying considerably in the details of structure.

As illustrating what may perhaps be one of the preferred forms in which the apparatus is embodied, I have shown a game of the kind in which there is provided a plurality of inclined troughs, each of which is provided with a target, such for instance as a ball.

I have also shown fluid projecting means for throwing streams of water against the balls in the troughs for directing the balls against the upper ends of the troughs.

Games of this kind are used at amusement parks and the like.

In the accompanying drawings, I have used the reference numeral 10 to indicate generally the troughs which are supported in any suitable way.

The lower ends of the troughs, as indicated at $10^a$, in Figure 2, are preferably substantially horizontal, while their rearward portions for greater parts of their lengths are inclined upwardly and rearwardly as at $10^b$.

The lower portions $10^a$ of the troughs are provided with drain holes 12.

For each trough, there is provided a target, which may be a ball 14 adapted to roll in the trough, the diameter of the ball being preferably slightly less than the width of the trough, so as to allow some play and to increase the difficulty of driving the ball to the top of the trough.

At the upper end of each trough, the trough is provided with a hole 16 into which the ball may drop, but which is not large enough to allow the ball to drop through.

For driving the balls 14 toward the far ends of the troughs, I provide fluid discharging means, comprising in the present case nozzles 18 pivoted as at 20 upon brackets 22 for vertical, swinging movement. The brackets 22 are pivoted as at 24 upon a support or supports 26 for horizontal swinging movement.

The nozzles are thus permitted limited universal movement.

Each nozzle 18 is preferably provided with a handle 28. Leading to each nozzle 18 is a flexible hose 30.

I preferably provide below the troughs 10 a sump or tank 32 to catch the surplus fluid. For my game, I preferably use water.

A pipe 36 is provided leading from the lowest part 34 of the sump 32. The pipe 36 leads to a pump 38 operated from a motor 40 in any suitable way.

The pump 38 discharges through a pipe 42 into a closed tank 44 at the lower end thereof or directly to the discharge nozzles. When the water is forced into the tank 44, the air therein is compressed, so that the water in the tank is then subject to pressure.

An air compressor may be used if desired for supplying compressed air to the upper part of the tank.

A supplying pipe 46 leads from the tank 44 and is provided with a master control valve 48, which the attendant can manipulate as may be desired.

The pipe 46 communicates with a pipe 50 from which the branches 52 extend upwardly. The branch pipes 52 are connected with the flexible hose members 30 already de-

scribed. Each branch pipe 52 is provided with a controlling valve 54, which may be manipulated by means of an arm 56. Pivoted to each arm 56 is a control rod 58 extending to the side of the apparatus as shown in Figure 3, so that the attendant, standing at one side, may control all of the valves 54.

The valves are arranged in a bank, so that the control rods are at different heights. This arrangement, of course, may be varied to suit the convenience and taste of the builder.

It will thus be seen that there is provided means whereby a stream of water may be directed from each nozzle 18 against its ball 14 for driving the ball from its position in the lower part of the trough 10 upwardly in the trough toward the hole 16.

The balls 14, of course, may be of any desired sizes for varying the difficulty in forcing the balls by means of the streams of water upwardly in the troughs.

I preferably arrange a signaling means, whereby the attendant, players and spectators may readily and easily determine when the ball in any particular trough has reached and dropped into its hole 16. As shown, I have mounted at the upper end of each trough outside the trough a signal means, such for instance as an electric light globe 60. Pivoted below the upper end of each trough is a movable switch member 62, having an arm $62^a$, projecting to a point beneath the adjacent hole 16. The switch member 62 coacts with a fixed switch contact 64. The switch member 62, contact 64 and the lamp 60 are included in a suitable electric circuit, indicated generally at A in Figure 2.

On the switch member 62 is an arm 66. The spring 68 is secured to the arm 66 and to some suitable part of the frame for yieldingly holding the switch member 62 free from contact with the switch contact member 64. When the switch is thus opened, the arm $62^a$ is held in raised position, so that when the ball 14 drops into the hole 16, the ball will actuate the arm $62^a$, and thus move the switch member 62 to circuit closing position.

Any other form of signal, such as a bell could be used in the circuit.

When the ball 14 is removed from the hole 16, the spring 68 actuates the movable switch member to break the circuit.

For removing the balls 14 from the holes 16, I provide a suitable mechanism. In Figure 2, I have shown at 70 the rear wall upon which is supported a transverse shaft 72, having projecting arms or fingers 74 arranged below the respective arms 62. The shaft 72 is rotatably mounted and projects through one of the end members 76 of the tank or frame, and has on its outer end an arm 78, shown in Figure 1, to which is pivoted a control rod 80 extending toward the front of the apparatus and there pivoted to a controlling lever 82.

These parts are so arranged that the attendant can actuate the lever 82 for rotating the shaft 72 for rocking the arms 74 upwardly and thus raising the arms $62^a$ for lifting the balls 14 out of the holes 16 and permitting them to roll down the inclined guideways or troughs.

In playing a competitive game with the apparatus here shown, balls 14 are placed at the lower, substantially level parts $10^a$ of the troughs or guideways 10. Each player aims one of the nozzles 18. The attendant can open as many of the valves 54 as there are players, leaving closed the valves for the guideways where there are no players, and when the players are already, opens the valve 48, whereupon streams of water will be discharged from the nozzles 18 from the water under pressure in the tank 44.

The players direct the streams of water against the balls 14, driving them up the inclined guideways 10, and the player who first gets his ball in the hole 16 wins.

The water drops back into the sump 32 at the bottom of the large tank and is pumped back into the pressure tank 44.

The game is one in which considerable skill can be exercised and the element of competition is secured.

The inclined guideways or troughs illustrate one form in which a game involving the general type of my invention may be embodied.

The principle involving the game may, however, be employed in constructions of different types.

As another illustration of a structure in which my game may be embodied, I have shown in Figures 5 and 6 a plurality of guideways 84, comprising level troughs arranged adjacent to each other. Floating in the troughs, there may be provided, instead of balls 14, targets 86 of some other kind, for instance floating boats. The troughs 84 are designed to contain enough water to float the targets and excess water flows off through pipes 88.

It is desirable that the targets in a game of this kind should normally tend to move toward the nozzles, and for this purpose, I have provided in the form of device shown in Figures 4 and 5, cables 87 secured to the respective targets and extended over pulleys 90 and connected with weights 92.

Where the form of game shown in Figure 4 is employed, I use nozzles 18, one for each guideway. The nozzles 18 of the device shown in Figures 4 and 5 are adjustable in the same way as those heretofore described and are supplied with fluid in the manner already mentioned.

Where the device of the type shown in Fig-

ure 5 is employed, streams of water are directed against targets 86 for forcing the targets to the far ends of the guideways.

The targets may be made to engage movable switch arms 94 for closing circuits through signal devices 96 for thus giving a signal to indicate which target has first reached its destination. These arms 94 are located between the sides 94ª of ports formed at the far ends of the guideways. The ports are narrower than the guideways, as shown. It thus requires skill and care to cause the targets to enter the ports and contact with the arms 94.

From the foregoing, it will be seen that my invention may be embodied in many forms, and it is, of course, my purpose to cover by my claims any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. In a game of the kind described, a course for containing water, a dirigible target arranged to float in the water in the course, the course and target being of such width that the target may have substantial lateral movement in the course, a relatively narrow port at the objective end of the course, into which the target must be directed to win the game, and a signaling apparatus in said port for indicating when the target has reached the port, means tending at all times in the progress of the target to return it to starting position, and dirigible means for throwing a stream of water toward the target for forcing it along the course to the port.

2. In a game of the kind described, a plurality of units, each comprising a course for containing water, a dirigible target arranged to float in the water in the course, the course and target being of such width that the target may have substantial lateral movement in the course, a relatively narrow port at the objective end of the course into which the target must be directed to win the game, and a signaling apparatus in said port for indicating when the target has reached the port, means tending at all times in the progress of the target to return it to starting position, and dirigble means for throwing a stream of water toward the target for forcing it along the course to the port, means for simultaneously supplying water under pressure to all of the projecting means, and additional means for independently controlling the flow of water to each of the projecting means.

3. In a game of the kind described, a course for containing water, a dirigible target arranged to float in the water in the course, the course and target being of such width that the target may have substantial lateral movement in the course, a relatively narrow port at the objective end of the course into which the target must be directed to win the game, and a signaling apparatus in said port for indicating when the target has reached the port, means tending at all times in the progress of the target to return it to starting position, dirigible means for throwing a stream of water toward the target for forcing it along the course to the port, and means for collecting overflow water and supplying it under pressure to the water discharging means.

Des Moines, Iowa, January 24, 1928.

EVERETT H. WOODARD.