

[54] **GAME APPARATUS WITH SPINNABLE TARGET**

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[51] **Int. Cl.** **A63b 63/06; A63f 7/10; A63f 7/14**

[58] **Field of Search** **273/119 R, 119 A, 122 R, 273/122 A, 127 D, 86 G, 37, 38, 102.1 E, 30, 101, 102.2 R**

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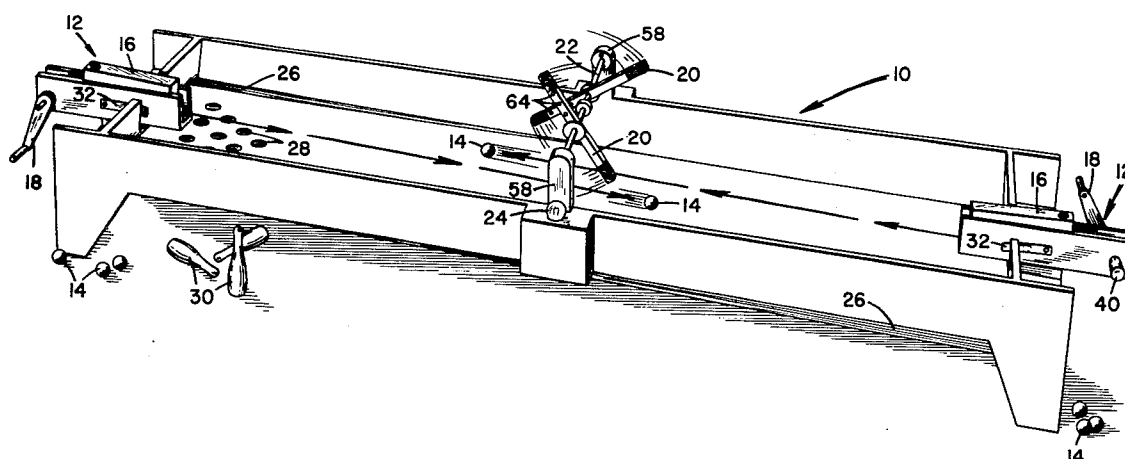
[57] **ABSTRACT**

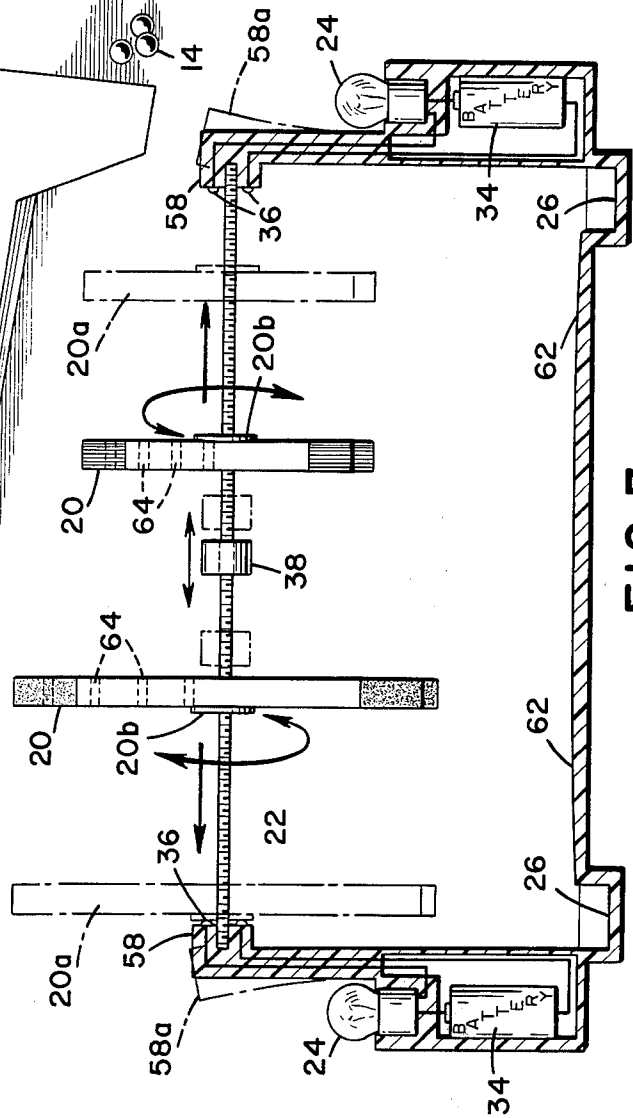
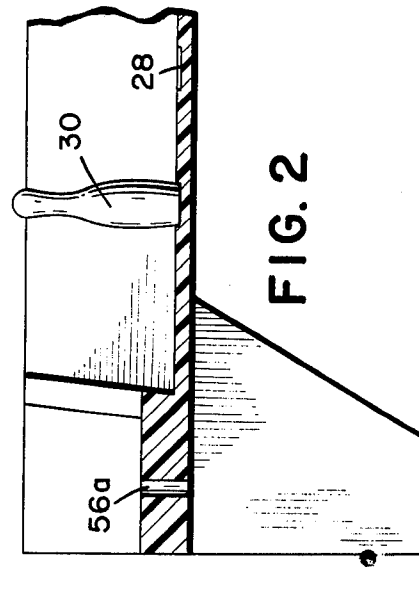
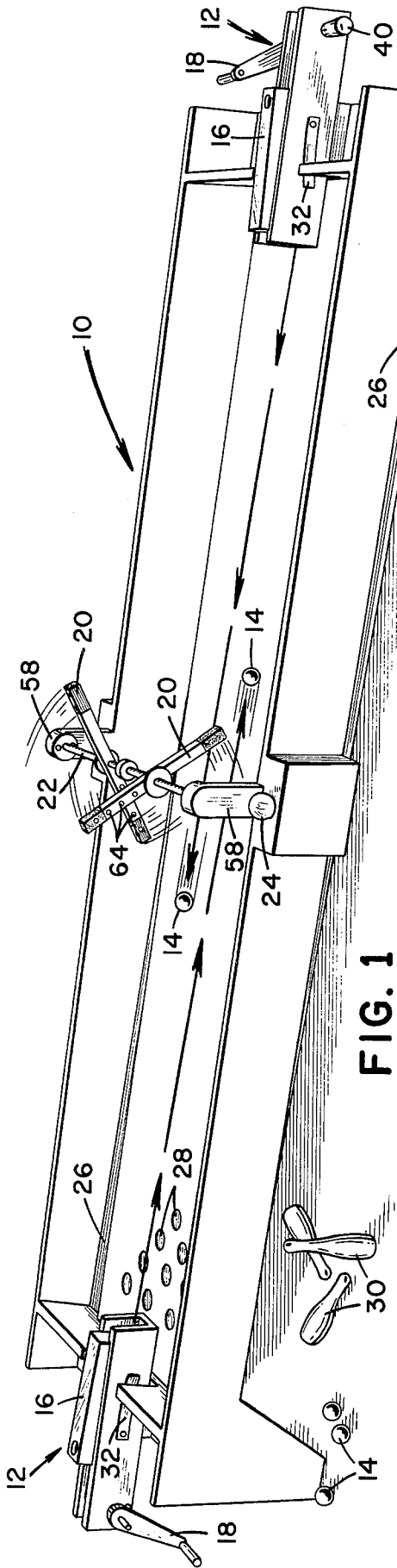
An amusement game apparatus called "Whirler-

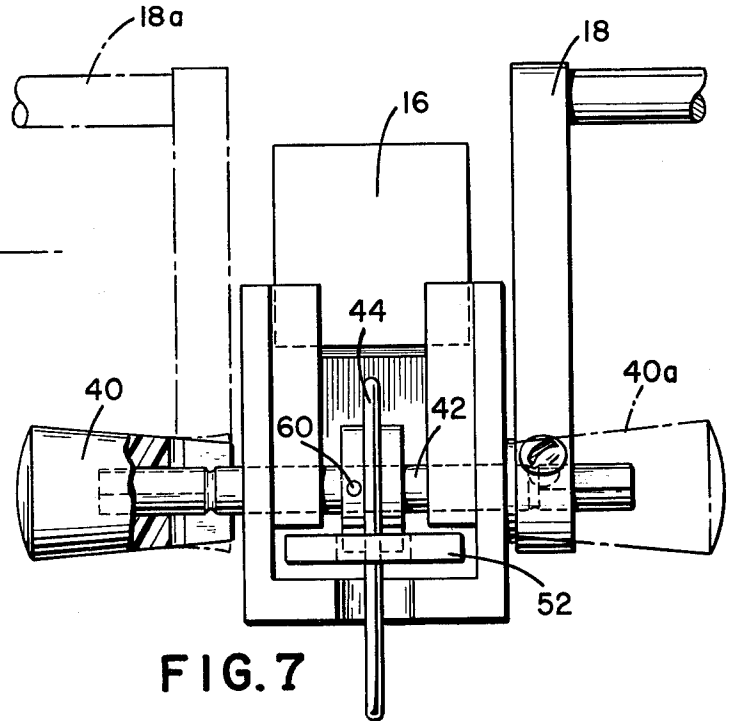
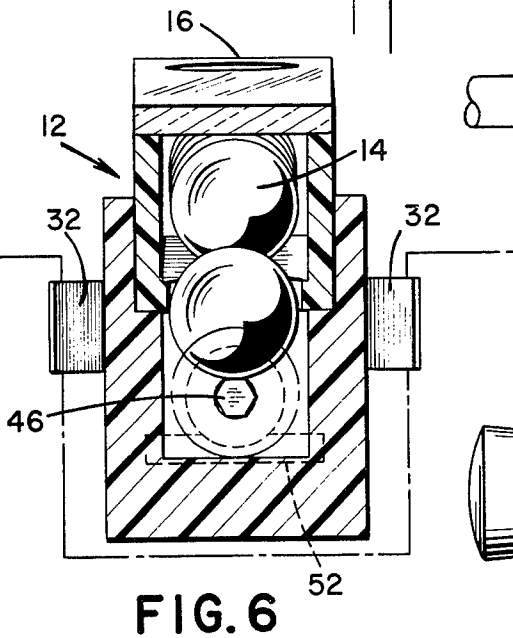
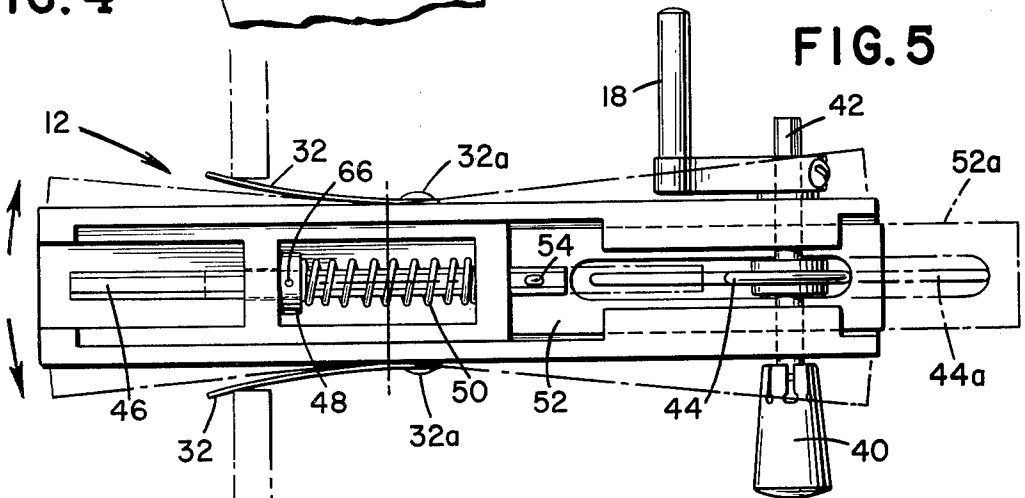
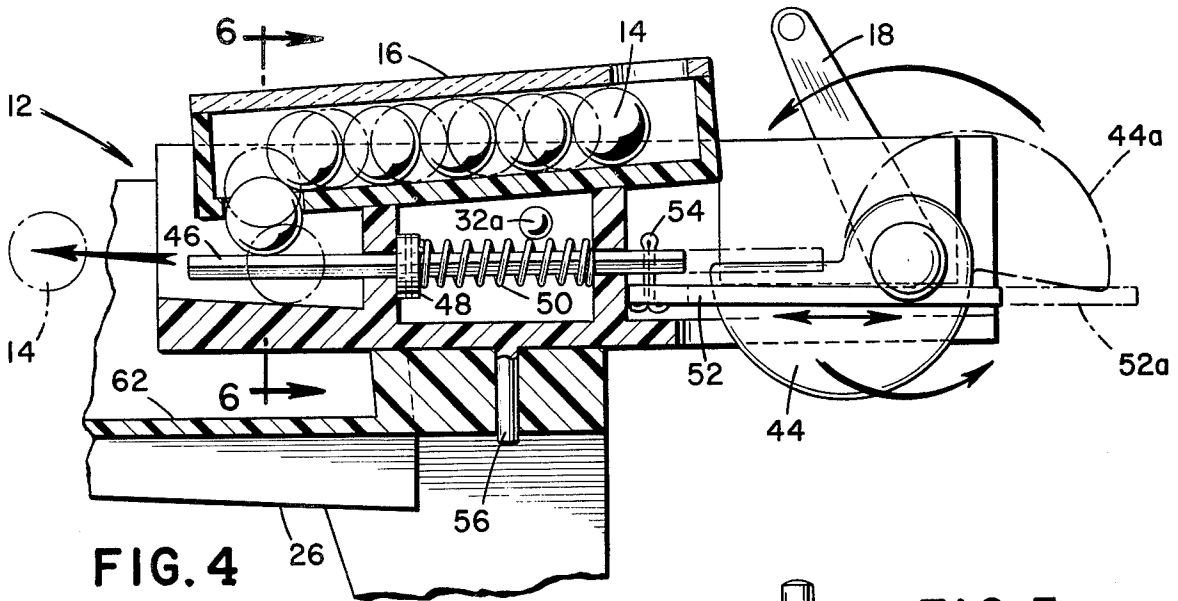
Twirler" designed for playing two different games, (1) a Twirler or Spinner Rod Game, and (2) a Toy Ten Pin or Duck Pin Bowling Game. The players manually activate a pivotal shooter having a magazine loaded with small balls or marbles which are ejected and directed at spinner rods, or bowling pins for bowling game play. When a player's ball hits the lower area of his spinning rod, the rod twirls on a centrally located threaded shaft toward the player's goal positioned at the right side of the shaft adjacent to the shaft support. If a player's ball hits the lower area of his opponent's spinning rod, such rod twirls in a direction further from his opponent's goal. When a player, by shooting action, hits and moves his spinning rod to the furthest point of movement, where the spinning rod makes contact with the side shaft support, a light or buzzer is activated which signifies he is the winner of the game.

For bowling game play, the shaft, with the spinner rods thereon, is removed, and the bowling pins are spotted in the deck indentations outlining the pin-spotting layout located at one end of the body structure. The shooter located at the opposite end of the body structure is then activated and the balls are ejected and directed at the bowling pins, one at a time, as in regular bowling play. The number of balls rolled per player per frame and the related scoring are those applicable to regulation "Ten Pin" or "Duck Pin" bowling, whichever is selected for play.

7 Claims, 7 Drawing Figures







GAME APPARATUS WITH SPINNABLE TARGET

BACKGROUND OF THE INVENTION

This invention relates to a game apparatus which can be used to play two different types of amusement games that involve shooting or rolling of balls toward targets which consist of revolving spinner rods or miniature bowling pins.

The novel and improved shooting mechanism incorporated in this game apparatus provides continuous shooting action. The shooting mechanism includes a magazine for holding a plurality of balls and a simple, fast-cocking trigger-release feature designed around a rotating cam component having mechanical spring power. The shooting mechanism is manually controlled by the turning of a crank handle.

DESCRIPTION OF THE PRIOR ART

Many of the shooter mechanisms used in various types of table action games and toy guns now on the market require separate manual action for moving a ball or projectile in position for shooting, cocking the shooter, and triggering the mechanism for release of the ball or projectile used. Such is in contrast to this invention which discloses an automatic type of shooter mechanism that requires only a 360° turn of a crank handle for providing the cocking and trigger-release action and simultaneously moves an additional ball from the magazine into the shooter chamber.

In addition to use in the two types of game play referenced in this invention, the disclosed continuous type of shooter mechanism can be used with or without adaptation to enhance and improve the operation of various types of table games and toy guns now on the market that involve the shooting of balls or other projectiles, and which do not have continuous- or automatic-shooting features.

SUMMARY OF THE INVENTION

The game apparatus disclosed includes a rectangular body structure with built-in ball return chutes, preferably molded of plastic, of a convenient size for placement on a table or the floor for play. A pivoting shooter is portably mounted on each end of the body structure. Provision for vertical up and down movement of the shooter, although not illustrated in the drawings, may be incorporated if desired.

A removable threaded shaft is mounted in an elevated position at the center of the body structure and two elongated spinner rods having threaded holes mating with the shaft threads, are affixed thereto for twirling when the rods are hit by a ball ejected and propelled by one of the two shooters.

Two battery-powered lights or buzzers are provided and mounted, one on each side at the center of the structure, adjacent to the two ends of the shaft support. The purpose of the signal lights or buzzers is to indicate, when activated, which player is the winner of the game.

Other major components of the game include two pivoting shooters complete with detachable magazine cartridge for holding a supply of balls, and a miniature set of bowling pins.

Accordingly, one object of this invention is to provide a fast-moving, table-action game having spinner rods mounted on a threaded shaft which rotate when hit by a ball released by a shooter.

Another object of the invention is to provide a game apparatus that can be used to play two different types of table-action games that utilize a shooter mechanism for the projection of a ball which can be directed at a designated target.

Still another object of the invention is to provide, in a table-action game or toy gun, a new and improved type of automatic- or continuous-action shooter mechanism which combines the features of cocking, trigger release, and movement of a projectile ball from cartridge into shooting chamber, in one simple control action.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings wherein like numerals indicate like elements throughout the several views. Referring to these drawings:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective of the game apparatus (10). The numeral (12) depicts the shooter which ejects the balls (14) that are loaded in magazine (16) for propelling the balls against the side of the spinner rods (20) causing the rods to rotate on the threaded shaft (22).

FIG. 2 is a partial longitudinal section of the left end of body structure of the game apparatus of FIG. 1, with the shooter removed.

FIG. 3 is a cross-section of the upright structure of the spinner mechanism as seen in FIG. 1.

FIG. 4 is a longitudinal section of the shooter mechanism as seen at the right end of FIG. 1.

FIG. 5 is a top plan view of the shooter mechanism of FIG. 4, with the magazine removed.

FIG. 6 is a cross-section of the shooter mechanism, taken along line 6—6 of FIG. 4, and

FIG. 7 is an elevation of the right end of the mechanism of FIG. 4.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The spinner rod game is generally played by two persons who are positioned, one at each end of the body structure (10) behind the shooter (12). Prior to starting play, the two magazines (16) loaded with balls (14) are placed in the shooter (12) and the spinner rods (20) are moved to the center of the threaded shaft (22) in contact with the collar spacer (38).

The object or goal of the game is for each player to move his spinner rod (20) on the right side of the collar spacer (38), bearing the same color as his player's designated shooter, by hitting it below the level of shaft (22) with balls (14) ejected by his shooter (12), thus causing the spinner rod (20) to turn and twirl on the threaded shaft (22) toward the shaft support (58) on the player's right. When the spinner rod (20a) reaches the furthest point of movement, the metal washer (20b) attached to the spinner rod (20) touches the electrical contact (36) activating the player's designated light signal (24) or buzzer powered by batter (34). Instead of the metal washer making the contact, the switch, which may be mounted on supports (58), consisting of a simple spring-type spring, may be activated by the spinner rod (20). The first player moving his spinner rod (20) to such contact point and activating the signal light (24) or buzzer is judged the winner of the game.

In addition to the offensive play action of moving a player's spinner rod (20) toward his goal, as outlined

above, each player can play defensively by hitting his opponent's spinner rod (20) below the level of shaft (22) with an ejected ball (14) causing his opponent's spinner rod (20) to twirl in the opposite goal direction back toward the center of the threaded shaft (22).

The players can play the game by taking individual shots on an alternating basis, shooting one ball (14) at a time, or the two players can start shooting simultaneously and both continue shooting, recovering the balls (14) from the ball return chute (26), reloading the balls (14) in the magazine (16), and replacing the loaded magazine in the shooter (22); repeating this sequence until one of the two players has moved his spinner rod (20a) to the furthest point on his right thereby activating the signal light (24) or buzzer, thus winning the game.

The body structure (10) has two built-in ball return chutes (26) which taper down from the center of the body structure (10), one in the direction of each shooter (12) thus causing the balls (14) to roll toward the shooter area where they can be conveniently retrieved by each player for re-use. In addition, the playing deck surface (62) of the body structure (10) is slightly tapered from the center toward the two sides to cause the balls (14), after ejection and striking the spinner rods (20), to roll toward and into one of the ball return chutes (26).

The threaded hole in the spinner rod (20) is generally located a little off center longitudinally to provide unequal weight distribution causing the spinner rod (20) to assume a somewhat vertical position when it has stopped twirling, thus placing the rod (20) in good hitting range. The spinner rod (20) may have alternate holes (64) to allow variable hanging on the shaft (22) for regulating twirler action of the spinner rod (20) to provide balanced play action.

The collar spacer (38), not being threaded, is subject to being moved in either horizontal direction on the shaft (22) by the pushing force of the spinner rod (20). The relative position of the collar spacer (38) during play will depend on its contact with the spinner rods (20). The radius of the horizontal movement of the pivoted shooter (12) is sufficient for aiming at and hitting the spinner rod (20) targets regardless of their location on the shaft (22).

The cam-type shooter mechanism (12) is equipped with a turn-type crank handle (18) and movement of this handle (18) in a full 360° forward clockwise circle automatically cocks the shooter (12), triggers the ejection of a ball (14) and, in addition, moves another ball (14) in the magazine (16) into the chamber of the shooter (12). This action is exceedingly fast and simple due to the novel application of the specially designed cam (44) and the related plunger (46), plunger spring (50), and the slide assembly (52) connected thereto.

The plunger collar (48) is secured to the plunger (46) by use of a locking pin (66). A cotter pin (54), or other suitable fastener, is used to attach the rear end of the plunger (46) to the front part of the slide assembly (52). The cam (44) is mounted and secured to the center of the cam shaft (42) by use of locking pin (60). By turning the crank (18) in a forward clockwise direction, the cam (44) is rotated to a point where it assumes the position (44a) and simultaneously the slide assembly (52a), at which point the shooter mechanism (12) is in full cocked position. Further turning of the crank (18)

in a forward clockwise direction rotates the cam (44) through the slotted slide assembly (52) which is then released forward by force of the spring (50) causing the plunger (46) to eject the ball (14) from the front part of the shooter. After ejection of the ball (14), the plunger (46) is in maximum forward position as shown in FIGS. 4 and 5. As the crank (18) is rotated further in a forward clockwise direction, the plunger (46) is moved rearward allowing an additional ball to drop down from the magazine (16) into the shooter (12), where it remains until the crank (18) is further rotated to again release the plunger (46) ejecting ball (14). This rotation cycle provides the automatic shooting feature.

The crank (18) and the positioning knob (40) are readily attached to either end of the cam shaft (42) to accommodate both right handed and left handed players. The special design of the positioning knob (40) provides for quick snap-type attachment to the cam shaft (42) which has a circular slot feature. The crank handle (18) is secured to the cam shaft by a set screw or other suitable means. The location of the crank (18) and the positioning knob (40) are those for right handed players. The locations (18a) and (40a) are those which would be used for left handed players.

The shooters (12) are mounted on the body structure (10), one at each end, by inserting the mounting pin (56) in the mounting pin hole (56a) of the body structure (10). The flat type spring (32) is attached to each side wall of the shooter (12) by use of a rivet (32a) or other suitable means. The purpose of the springs is to stabilize the horizontal pivoting and aiming of the shooter (12) to improve accuracy in hitting the spinner rod (20) target. The mounting of the shooter (12) should be such that the ball (14) when ejected will be propelled toward that part of the spinner rod (20) which hangs below the horizontal shaft (22).

The number of twirls made by a spinner rod when hit by a ball will depend on the projection force of the shooter and the location of the spinner rod where the ball makes contact. Generally hits made on the extreme end of a spinner rod produce the largest number of twirls. Thus accuracy in hitting this critical part of the spinner rod is important. For this reason there is some advantage in incorporating a small amount of vertical adjustment in the shooter. This can be done by providing a somewhat loose or coiled mounting pin of the shooter with or without the use of stabilizing springs, or by other suitable means.

In offensive play, it is important that a player's ball hit that part of his assigned spinner rod hanging below the shaft, as a hit above the shaft moves his spinner rod in the opposite direction further away from his goal. In defensive play, a player's ball that hits his opponent's spinner rod above the shaft level, moves his opponent's spinner rod closer to his opponent's goal. For these reasons, hitting the spinner rods above the shaft level should be avoided and this can be controlled by proper mounting of the shooter on the body structure so that the balls when ejected, will normally be projected toward that part of the spinner rod which hangs below the shaft level, when the spinner rod is in vertical position.

To convert the body structure (10) of game apparatus for bowling play is fast and simple. The shaft (22), with the spinner rods (20) thereon, is removed by flexing the shaft supports (58) to position (58a) and the bowling pins (30) are spotted by placement in the deck

5

layout indentations (28). The shooter (12) on the opposite end of the body structure pin indentations (28) is the only one used by the players. The number of balls (14) ejected from the shooter (12) by a player prior to releasing the shooter (12) to another player for use, will depend on whether the game played is Duck Pin or Ten Pin Bowling. The players take turns in acting as pin boy, clearing the playing deck of knocked down pins, respotting the pins, etc.

While a specific embodiment of our invention has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Such modifications might incorporate use of a small battery-powered motor with push-button control for the shooter mechanism in lieu of the manually cranked control mechanism illustrated in the drawings. Therefore, it is intended that no limitation be placed on the invention except as defined by the scope of appended claims.

We claim:

1. A game apparatus comprising an elongated housing having upstanding side walls, end walls and a generally planar deck defining a playing surface, chute means defined in said deck and being inclined and extending toward at least one of said end walls, said playing surface being inclined toward said chute means, a threaded shaft extending over said deck in spaced relation thereto and removably mounted in said side walls, at least two spinner means rotatably mounted on said shaft in loosely threaded engagement therewith and adapted to move longitudinally relative to said shaft when rotated, pivotably mounted propelling means extending through each of said end walls and adapted to propel projectiles over said deck for striking said spinner means and causing rotation thereof, said chute means including a chute extending adjacent each of said side walls, each said chute being inclined toward an opposite one of said end walls, and wherein said playing surface is sloped from the longitudinal centerline thereof toward each of said chutes, respectively.

2. A game apparatus as defined in claim 1 wherein said spinner means have a center of gravity offset from the axis of rotation thereof.

3. A game apparatus as defined in claim 1 wherein said propelling means are pivotably mounted about a

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vertical axis, and including resilient stabilizing means mounted on said propelling means adapted to engage said end wall for resiliently restraining pivotal movement of said propelling means.

4. A game apparatus as defined in claim 1 including signal means adapted to be actuated upon contact of one of said side walls by said spinner means.

5. A game apparatus as defined in claim 1 including means facilitating removal of said shaft and said spinner means, whereby pins may be positioned on said deck adjacent one of said end walls and adapted to be knocked over by projectiles propelled by said propelling means in the use of said apparatus as a bowling game.

6. A game apparatus as defined in claim 1 wherein said propelling means comprises a propelling chamber, spring-biased plunger means extending into said chamber, said plunger means being mounted on a slide having a longitudinally extending slot, and cam means adapted to be first engageable with said slot for progressively urging said slide against the force of said spring and then disengageable from said slot for releasing said slide whereby said plunger means will be brought forward into said chamber under the force of said spring for striking a projectile positioned in said chamber and propelling it therefrom.

7. A game apparatus comprising an elongated housing having upstanding side walls, end walls and a generally planar deck defining a playing surface, chute means defined in said deck and being inclined and extending toward at least one of said end walls, said playing surface being inclined toward said chute means, a threaded shaft extending over said deck in spaced relation thereto and removably mounted in said side walls, at least two spinner means rotatably mounted on said shaft in loosely threaded engagement therewith and adapted to move longitudinally relative to said shaft when rotated, pivotably mounted propelling means extending through at least one of said end walls and adapted to propel projectiles over said deck for striking said spinner means and causing rotation thereof, and wherein said spinner means comprise at least one rod having plural mounting means offset from the midpoint thereof for selectively mounting said at least one rod on said shaft at different points along the length of said at least one rod.

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