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SIMULATED GOLF CLUB BALL PROJECTOR

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FIG. 2

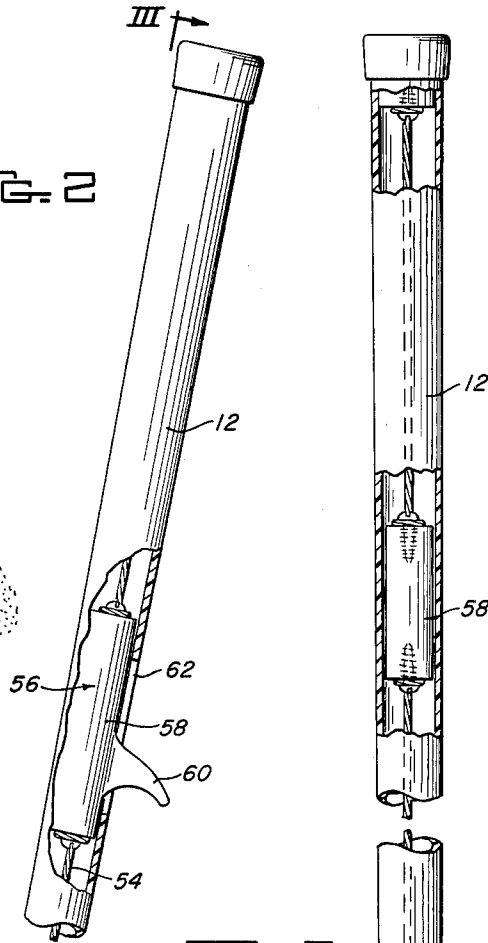


FIG. 4

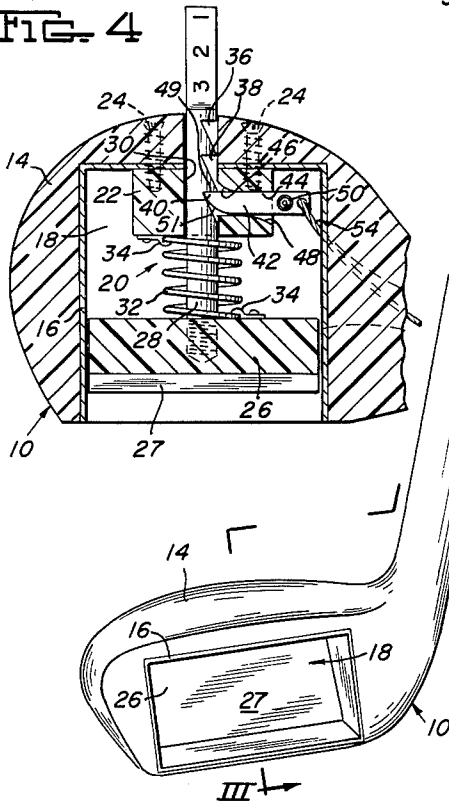
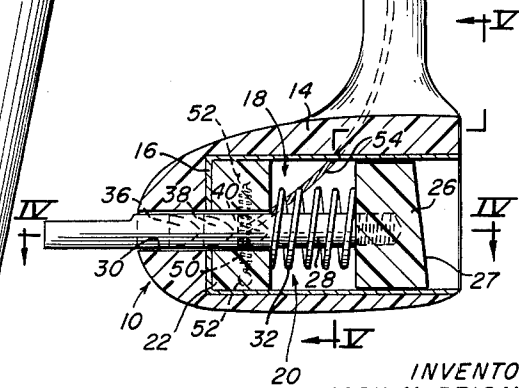


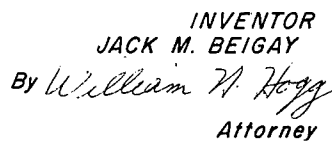
FIG. 3



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SIMULATED GOLF CLUB BALL PROJECTOR

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5 Claims. (Cl. 273—67)

This invention relates to amusement devices and more particularly to apparatus for playing a simulated golf game indoors or outdoors in a restricted space.

It is a principal object of this invention to provide a device for playing a simulated golf game in restricted space.

It is a related object of this invention to provide a club for playing a simulated game of golf which will strike a ball with the club held stationary, thereby making the game safe for children to play, and also safe for indoor play.

Still another object of this invention is the provision of a club for playing a simulated golf game which is easily operated by children and in which the operator's skill and proficiency is important in the accurate driving of balls.

Yet a further object of this invention is the provision of a club for playing a simulated game of golf in which competition and scoring is similar to ordinary golf.

Other objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings showing several embodiments in which:

FIGURE 1 is a perspective view of a person playing a simulated golfing game with the device of this invention;

FIGURE 2 is a foreshortened elevational view partially in section with parts broken away, of one embodiment of this invention;

FIGURE 3 is a sectional view taken substantially along the plane of line III—III of FIGURE 2;

FIGURE 4 is a sectional view taken substantially along the plane of line IV—IV of FIGURE 3;

FIGURE 5 is a sectional view taken substantially along the plane of line V—V of FIGURE 3;

FIGURE 6 is a view similar to FIGURE 3 of another embodiment of this invention;

FIGURE 7 is a sectional view taken substantially along the plane of line VII—VII of FIGURE 6;

FIGURE 8 is a view similar to FIGURE 3 of yet another embodiment of this invention;

FIGURE 9 is a view taken substantially along the plane of line IX—IX of FIGURE 8;

FIGURE 10 is a sectional view taken substantially along the plane of line X—X of FIGURE 8; and

FIGURE 11 is a perspective view of a combination "Green" and "hole" with flag-stick for use in playing a simulated golfing game.

Referring now to the drawings, and particularly to FIGURES 2 through 5, one embodiment of a club, according to my invention, suitable for playing a simulated golfing game is shown. The club has a housing 10 which includes an elongated tubular handle portion 12 and molded head portion 14. The handle 12 and head portion 14 are preferably made of plastic with the head being molded to resemble the head of a conventional "wood" golf club. The head portion 14 is molded around a sheet metal or hard plastic frame 16 which defines an inner recess or cavity 18, thus making the head hollow. A ball

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striking mechanism designated generally as 20 is disposed within the recess 18. The ball striking mechanism includes a support plate 22 secured to the back wall of the frame 16 by screws 24. A ball striking plate 26 having a front or ball striking roughened surface 27 is slidably mounted in the recess 18, and has a rod extension 28 extending from the back thereof. The rod 28 extends through an aperture 30 formed in the support plate 22 and extends through the rear of the club head. A coil spring 32 is interposed between the striking plate 26 and the support plate 22 and normally urges the striking plate away from the support plate 22 to the outer surface of the club head. The coil spring 32 is secured to the striking plate 26 and the support plate 22 by suitable bracket and screw assemblies 34.

The rod 28 is provided with three spaced notches or grooves 36, 38, and 40. Each of the notches has a back or stop surface lying on a plane normal to the direction of movement of the striking plate 26, and a sloping override surface extending from the stop surface. A detent pin 42 is provided which is slidably mounted in an aperture 44 drilled transversely in the support block 26. The aperture 44 is rounded and enlarged at the locations shown at 46 and 48 to aid the release movement of the pin as will be described presently. The rounded or enlarged areas 46 and 48 are easily formed during the drilling of aperture 44. The detent pin has a flat rear surface 49 for engagement of the stop surfaces of the notches, and a rounded front surface 51 to facilitate the overriding of the slanting surfaces of the notches. The detent pin is biased toward the rod 28 by a biasing spring 50 secured to the lateral surface of the support block 22 by screws 52. A flexible cord 54 is secured to the end of the detent pin 42 and extends up the hollow handle where it is secured to a trigger mechanism 56. The trigger mechanism 56 includes a dowel pin 58 slidably mounted in the tubular handle 12, and a grip 60 extending from the pin 58 through an elongated slot 62 formed in the handle wall.

The device shown in FIGURES 2 through 5 is particularly adapted to drive plastic balls such as table tennis balls or the like, and is operated in the following manner. After a previous shot, the striking plate is in the ball striking position at the front of the cavity 18 under the urging of spring 32. The club head is held in the hands and the striking plate pushed back into the cavity to cock it for use. For a short shot the striking plate is pushed until the detent pin 42 engages notch 36. As soon as notch 36 is adjacent the detent pin 42, spring 50 will urge the pin into the notch with an audible snap. The flat surface 49 of the pin 42 will be against the stop surface of the notch 36 preventing the forward movement of the striking plate 26 under the urging of spring 32 which has been compressed by the movement of the striking plate. If a shot of intermediate distance is desired, the striking plate is further depressed into the recess, further compressing the spring 32. During movement, the rounded front edge 51 of the detent pin will cam against the tapered edge of the slot 36 allowing the detent pin 42 to override the notch 36. The striking plate is moved until the pin snaps into notch 38. Similarly, for long distance shots the striking plate is pushed further into the recess causing notch 38 to override the detent pin until the detent pin snaps into notch 40. The rod 28 is provided with indicia in the form, the numbers 1, 2, and 3 to indicate

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the notch which is engaged by the detent pin 42, and hence the type of shot set. When the number 1 only is exposed on the rod at the rear of the club head, then the pin is in notch 36 and a short shot is set; when the number 2 is exposed an intermediate shot is set with the pin 42 in notch 38; and when the number 3 is exposed a long shot is set with the pin in notch 40. When the proper distance shot has been set, the club head is placed on the ground with the opening of the recess 18 adjacent the ball as shown in FIGURE 1. The handle of club is held in a manner similar to that of holding a conventional club. As was previously indicated, it is preferable to use a table tennis ball or the like. In order to strike the ball, the trigger grip 60 is lightly pulled upwardly which will cause the cord 54 to pull the detent pin 42 out of the notch 36 and the striking plate will be driven forward out of this cocked position by the force of the compressed spring 32. The rounded portions 46 and 48 of aperture 44 allow the pin to twist about an axis normal to the longitudinal axis of the pin, as it is withdrawn, greatly reducing the force required to release the pin as opposed to only an axial sliding motion in the slot which would occur if the operation were not rounded to permit turning of the pin. However, the pin is prevented from turning in the other direction under the urging of spring 32 because of the engagement of the pin 42 with the side walls of the aperture opposite the rounded portions 46 and 48. Upon release of the pin, the plate will be driven to the front opening of the recess where it will strike the ball. Preferably the front striking face 27 of the striking plate 26 is inclined as shown in FIGURE 3 to impart loft to the ball as it is struck. The striking plate will remain in this ball striking position until it is again cocked and readied. After the shot has been made, when the trigger grip 60 is released the spring 50 will urge the pin 42 against the rod 28 readying the striking mechanism for recocking.

The clubs of this invention are well suited for use indoors and out, and a course may be laid out using flat annular discs as "holes" or targets. The size of the disc may vary, but 3" to 12" diameter discs are well suited for this when table tennis balls are used in a modern-sized yard. The discs may be provided with pennants for marking, as shown in FIGURE 1. The balls may be painted different colors to distinguish opponent's balls.

Referring now to FIGURES 6 and 7, another embodiment of this invention is shown. In this embodiment the spring 32 is interposed between the striking plate 26 and the rear wall of frame 16. The flexible cord 54 is connected directly to the rear of the striking plate 26 by an eye screw 72 and passes through a second eye screw 78 secured to the rear of the head 14. In this embodiment, the trigger grip 60 is raised to cock the striking plate against the face of the spring 32. The further the trigger is pulled up the further the striking plate will move and the greater will be the force imparted to the ball when the trigger is released and spring 32 drives the striking plate forward to the ball striking position.

Still another embodiment of the club is shown in FIGURES 8 through 10. In this embodiment the striking plate 26 is pivotally connected to the frame 16 by a pair of pivotally connected links 80 and 82. A pair of tension springs 84 and 86 are secured between the rear of the striking plate 26 and the frame 16 by clamp and screw assemblies 88. In contradistinction to the other embodiments, these springs are tension springs and normally bias the striking plate into the recess 18 to the cocked position. The links 80 and 82 are connected to a curved actuating mechanism 56'. The trigger mechanism includes a plug 58' to which the end of actuating rod 90 is secured. A trigger grip 60' extends from the plug 58' through slot 62 in the handle 12. In this case, the trigger configuration is reversed from that of the other embodiments with the finger engaging surface being directed upwardly. A return spring 92 is connected between the top of plug 58' and the upper end of handle 12 by screw 94. With this

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embodiment the striking plate is normally maintained in the cocked position by springs 84, 86, and 92. To strike a ball the club head is placed adjacent the ball as in the other embodiments and the trigger grip 90 is pushed sharply downward. The trigger interconnection between the rod 90 and striking plate 26 will cause the plate to move out to the front recess to strike the ball and when the trigger is released the striking plate will be returned to the cocked position under the action of the springs as previously described.

One of the outstanding advantages of all of the clubs described herein is that they are ideally suited for children and adults to play a fascinating simulated golfing game indoors and outdoors with innumerable variations of courses being easily set up and changed, and the playing of the game is safe since it is free of swinging golf clubs and yet a variety of lifted, short and long shots make a most enjoyable game.

Although several embodiments of this invention have been shown and described, various adaptations and modifications may be made without departing from the scope of the appended claims.

I claim:

1. In a club for playing a simulated golfing game which has a ball striking plate movable between a ball striking position and at least one cocked position; and biasing means normally urging said striking plate to the ball striking position; the improvement which comprises, said striking plate having an extension with a stop surface corresponding to each cocked position, a detent pin and means to mount said pin for guiding movement into and out of engagement with said stop surfaces, said means mounting the pin including means to permit twisting movement of the pin against the force of said biasing means as said pin moves out of engagement with said stop surface and means to prevent twisting movement of the pin in the direction urged by the reaction force of the biasing means.

2. In a club for playing a simulated golfing game in which a ball striking plate is movable between a ball striking position and at least one cocked position with biasing means normally urging said striking plate to the ball striking position the improvement which comprises, said striking plate having an extension portion, a detent pin and means mounting said pin for movement toward and away from said extension portion, a stop surface on said extension corresponding to each cocked position and engageable by said detent pin, said means mounting said pin including means to permit twisting movement of the detent pin against the bias of said biasing means as said pin moves out of engagement with said stop surface when the pin is urged away from said extension to release the detent holding action and means to prevent twisting movement of the pin in the direction urged by the reaction force of the biasing means.

3. In a club for playing a simulated golfing game in which a ball striking plate is movable between a ball striking position and at least one cocked position with biasing means normally urging said striking plate to the ball striking position, the improvement which comprises, said striking plate having an extension portion; a detent pin and means mounting said pin for movement toward and away from said extension, stop surfaces on said extension portion corresponding to each cocked position and engageable by said detent pin, said means mounting said pin including wall means substantially parallel to the axis of said pin and positioned to abut and hold said pin against the reaction of the biasing means, and relieved portions opposite said wall means to permit tilting of said pin in a direction opposing the bias of said biasing means as said pin moves out of engagement with said stop surfaces when the pin is moved away from said extension to release the detent holding action.

4. The device of claim 3 wherein said wall means are formed by an aperture slidably mounting said pin, and

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said relieved portions are formed by rounded edges of said aperture.

5. The device of claim 4 further characterized by second biasing means normally urging said pin toward said extension portion.

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