July 14, 1942. E. GRIESHABER ET AL 2,289,421

BOWLING BALL PROJECTOR

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Fig. 1.

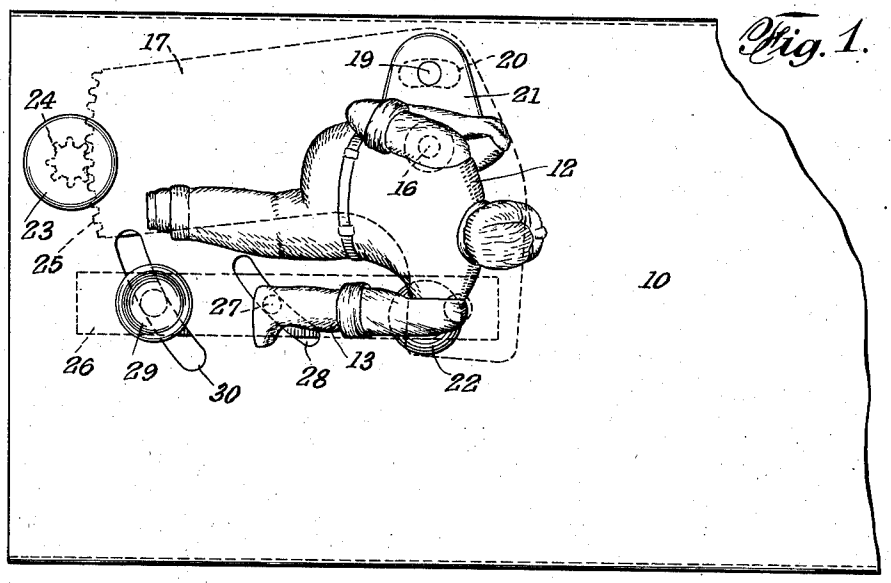


Fig. 2.

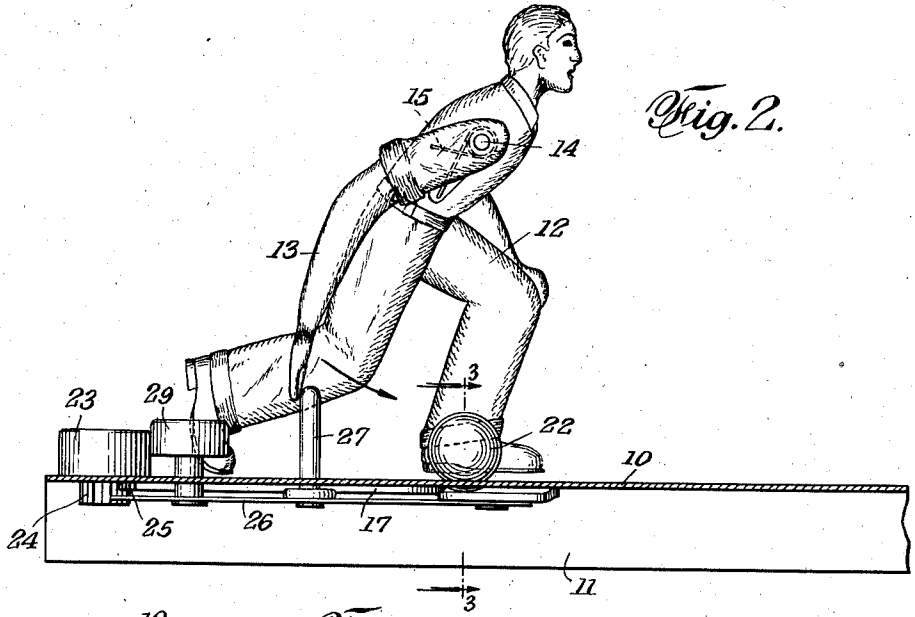
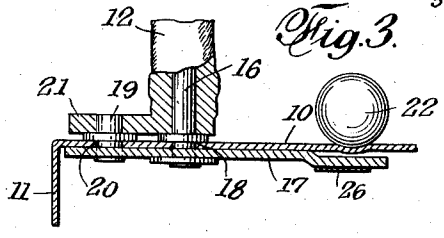


Fig. 3.



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Fig. 4.

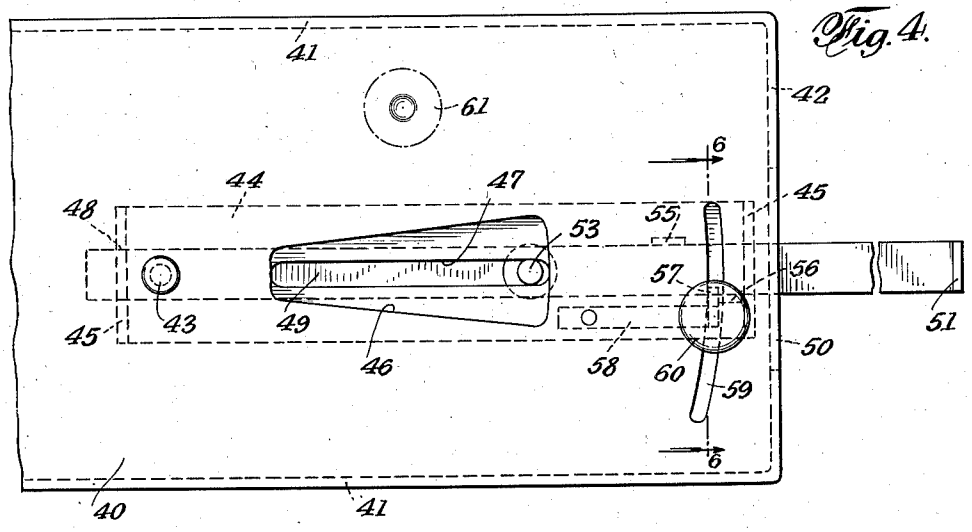


Fig. 5.

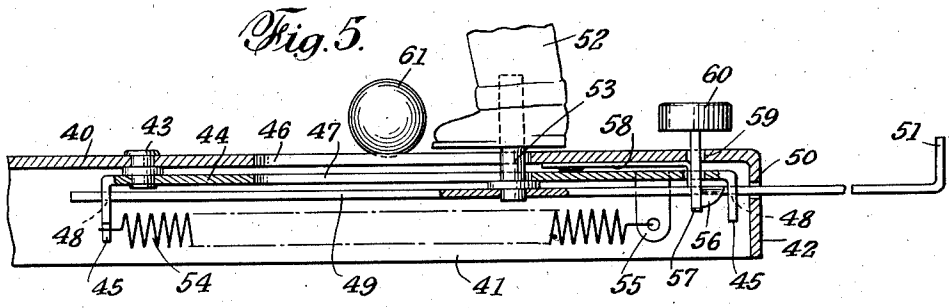
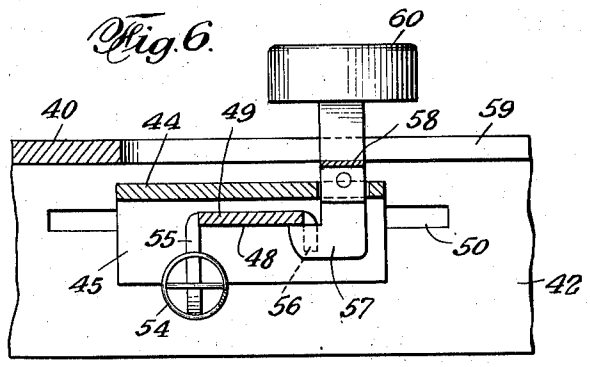


Fig. 6.



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UNITED STATES PATENT OFFICE

2,289,421

BOWLING BALL PROJECTOR

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Application September 4, 1940, Serial No. 355,282

2 Claims. (Cl. 273—129)

This invention relates to games of the type wherein a missile is propelled to strike a target or the like, the invention relating particularly to bowling games or toys.

The invention deals more particularly with ball propelling means for bowling games and has for its primary object the provision of simple mechanism having life-like appearance and action for directing a ball towards a target or a set of pins.

Another object of the invention is to provide means for mounting the figure which propels the ball so that it may be angularly adjusted with respect to the ball to give desired direction to said ball as it is propelled by said figure towards the target or pins.

More specifically the invention seeks to provide mechanism whereby the ball propelling means may be aimed to direct the ball along a desired path towards the target, the mechanism including simple latching means for the ball propelling parts and simple tripping means therefor operable in any adjusted position of the propelling means.

The foregoing and other objects, features and advantages of the invention will be more clearly apparent from the following detailed specification of preferred embodiments of the invention as illustrated in the accompanying drawings, in which:

Fig. 1 is a top plan view of ball propelling mechanism as contemplated in the present invention.

Fig. 2 is a side view thereof, the base being shown in longitudinal section.

Fig. 3 is a fragmentary cross-sectional view as taken on the plane of the line 3—3 of Fig. 2.

Fig. 4 is a top plan view of an alternate form of ball propelling mechanism.

Fig. 5 is a longitudinal sectional view thereof.

Fig. 6 is a cross-sectional view, to an enlarged scale, on the plane of the line 6—6 of Fig. 4.

In that embodiment of the invention which is illustrated in Figs. 1, 2 and 3, the ball propelling mechanism is mounted as upon a base 10 formed with supporting flanges 11. Upon the base is supported a figure 12 simulating (in this instance) a bowler having an arm 13 pivoted to the figure at 14, and provided with spring means 15 for causing said arm to swing in the direction of the arrow.

The figure 12 is mounted upon a pivot pin 16 which is fixed to a plate 17 arranged beneath the base 10, said pin passing through a hole 18 formed in said base. In order to steady the figure, a second pin 19, carried by the plate 17, passes through a slot 20 in the base, and is engaged with a lateral extension 21 formed on the figure.

It is evident, then, that the figure may be adjustably positioned with respect to the ball 22 by moving the plate 17 about the pivot pin 16. Hence, the arm 13 may strike the ball to propel it towards a target in a direction according to the manner in which the figure is aimed with respect to the ball. The means for moving the plate 17 and thus aiming the figure, preferably comprises the rotational knob 23 positioned above and carried by the base 10, the gear pinion 24 fixed with said knob, and the sector teeth 25 formed on the plate 17 and engaged with said gear pinion. Rotation of the knob 23 will cause movement of the plate 17 about the pivot pin 16 and similar movement of the figure 12 so that its arm 13 may strike the ball 22 at various angles.

The mechanism is provided with means for latching the arm 13 in a rearward position to store energy in the spring means 15 and with means for tripping the latch means to release the arm for propelling engagement with the ball 22. In the form shown, this means comprises a leaf spring 26 secured to the plate 17, a stud 27 fixed to the spring and protruding upwardly through an arcuate slot 28 in the base for latching engagement with the arm 13, and a trip button 29 also fixed to the spring and passing through another arcuate slot 30 in said base.

By providing the slots 28 and 30, and carrying the stud 27 and the trip button 29 on a member fixed with the plate 17, all of the operating parts may be moved about the pivot pin 16 and thus maintain their relative positions with any angular position of the figure 12.

The foregoing is descriptive of a mechanism wherein the figure may only move angularly being otherwise fixed except for its ball engaging arm 13. The principles of the invention may also be incorporated in mechanism in which the figure may be angularly adjusted and also has a linear or straight line movement for engaging the ball for propulsion thereof. This form of the invention is illustrated in Figs. 4, 5, and 6.

In this latter form, the base 40 is formed substantially similar to the base 10, having the side flanges 41 and a rear flange 42. Pivoted to the base 10 as at 43 and disposed therebeneath, there is provided a frame 44 formed with end flanges 45. The base 40 and the frame 44 are each formed with registering slots, the slot 46 in the

base being flared outwardly from the pivot 43 and the slot 47 in the frame being substantially coextensive longitudinally therewith but uniform in width.

The flanges 45 of the frame 44 are slotted as at 48 to engage a slide 49 which is carried by said frame, the flange 42 of the base being also slotted at 50 for passage therethrough of an extension of said slide. The slot 50 is of considerable width for reasons later apparent and the slide extension is preferably formed with a handle portion 51.

The slide 49 supports a figure 52 as by means of the pin 53 which projects upwardly through the slots 46 and 47. In this instance the figure need not have a pivoted portion such as the arm 13 of the figure 12.

The slide 49 is normally held by a spring 54 in a position towards the left, said spring having one end engaged with the left hand flange 45 of the frame 44 and the other with a lug 55 formed on the slide. Thus the spring 54 always seeks to project the slide towards the left.

The slide may be latched in its right hand position as shown, the latching means comprising a lug 56 on the slide engaged with a detent 57 carried by a leaf spring 58 secured to the base 40 on its undersurface. The detent preferably passes through an arcuate slot 59 in the base and is provided with a trip button 60.

The mechanism thus provided, may be set to aim the figure 52 with respect to the ball 61. When the device is ready for use, the slide 49, by means of the handle 51, is pulled outwardly from the base against the force of the spring 54 until the lug 56 is caught by the detent 57. The pin 53, mounting the figure 52, moves along the slots 46 and 47 towards the right to assume the position shown. The figure may now be aimed with respect to the ball 61 by swinging the slide handle, and thus the frame 44, about the pivot 43, the slot 46 being shaped to permit this and the slots 50 and 59 being suitably wide for a great variety of angular positions of the frame 44. After the figure is thus aimed, the button 60 is pressed to remove the detent 57 from engagement with the lug 56. The spring 54 will then rapidly pull the slide 49 and thus the figure 52 so the latter may strike the ball 61 to propel the same.

Although the invention has been disclosed with respect to the illustrated embodiments thereof, it is evident that the principles of the invention may be incorporated in various modifications thereof without departing from the spirit and scope of the appended claims.

We claim:

1. A game of the character described comprising a base, means pivoted on said base and comprising a figure arranged above the base and a plate member disposed beneath said base, means carried by the base and having engagement with said plate for moving said figure angularly about said pivot and relative to a missile supported on said base, said means comprising gear teeth formed on said plate member, a pinion gear in mesh therewith, and a manipulating knob for rotating said pinion gear, a missile striking portion carried by said figure, means for normally urging said striking portion toward said missile, means for latching said striking portion out of striking position and means for releasing said latching means.

2. A game of the character described comprising a base, means pivoted on said base and comprising a figure arranged above the base and a plate member disposed beneath said base, means carried by the base and having engagement with said plate for moving said figure angularly about said pivot and relative to a missile supported on said base, said means comprising gear teeth formed on said plate member, a pinion gear in mesh therewith, and a manipulating member for rotating said pinion gear, a missile striking portion carried by said figure, means for normally urging said striking portion towards said missile, means for latching said striking portion out of striking position and means for releasing said latching means.

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