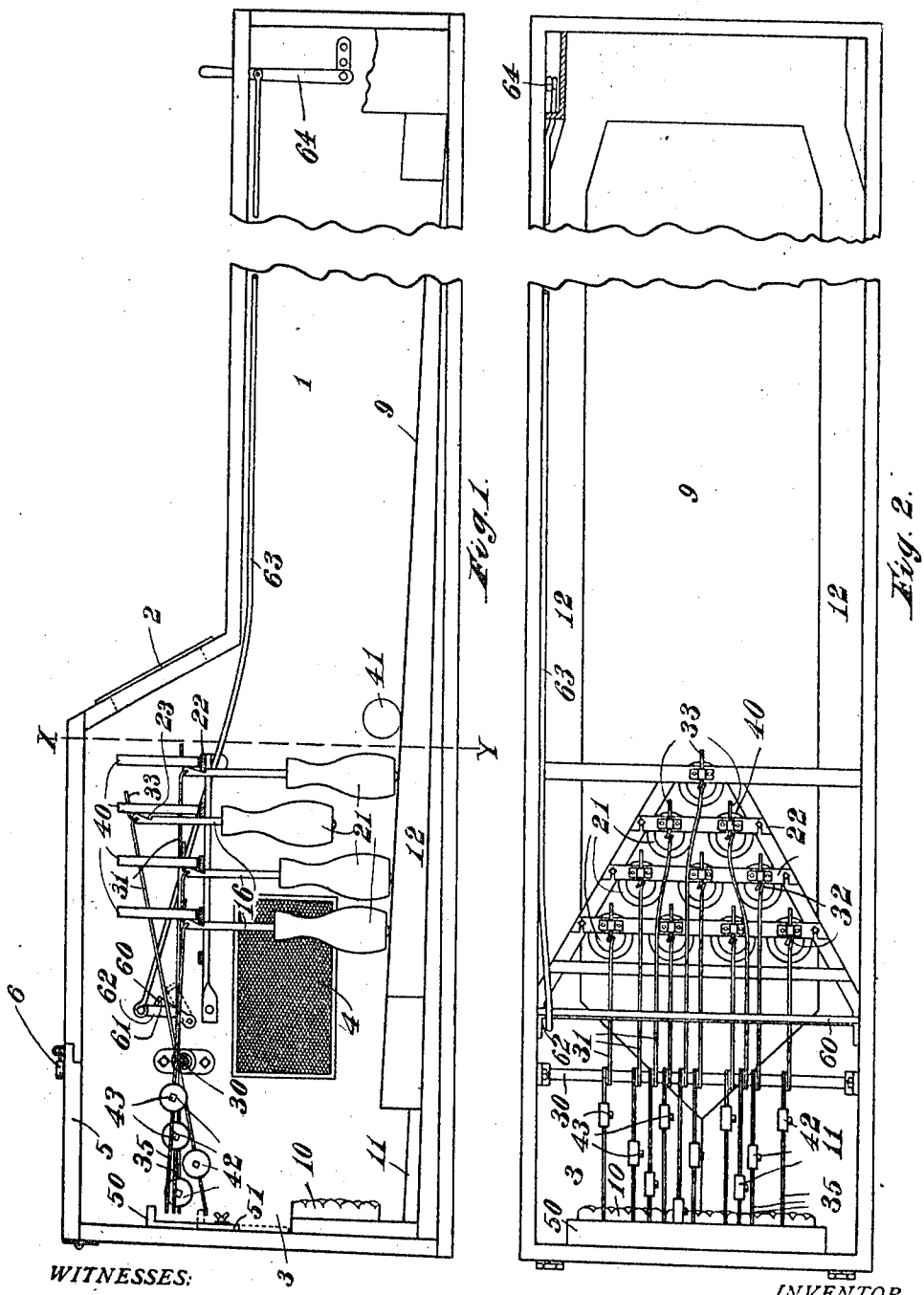


1,064,063.

Patented June 10, 1913.

2 SHEETS—SHEET 1.



WITNESSES:

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TENPIN GAME.

APPLICATION FILED JAN. 3, 1913.

Patented June 10, 1913.

2 SHEETS—SHEET 2.

1,064,063.

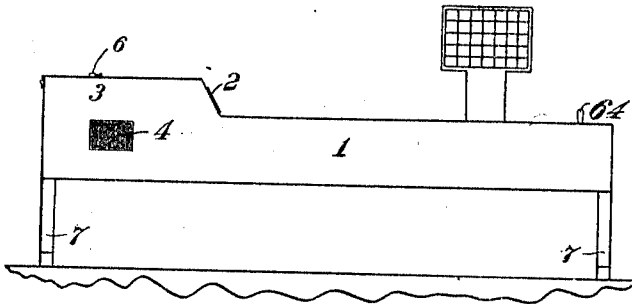


Fig. 3.

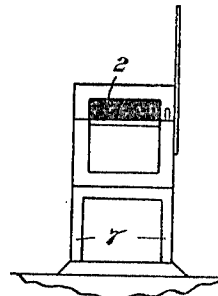


Fig. 4.

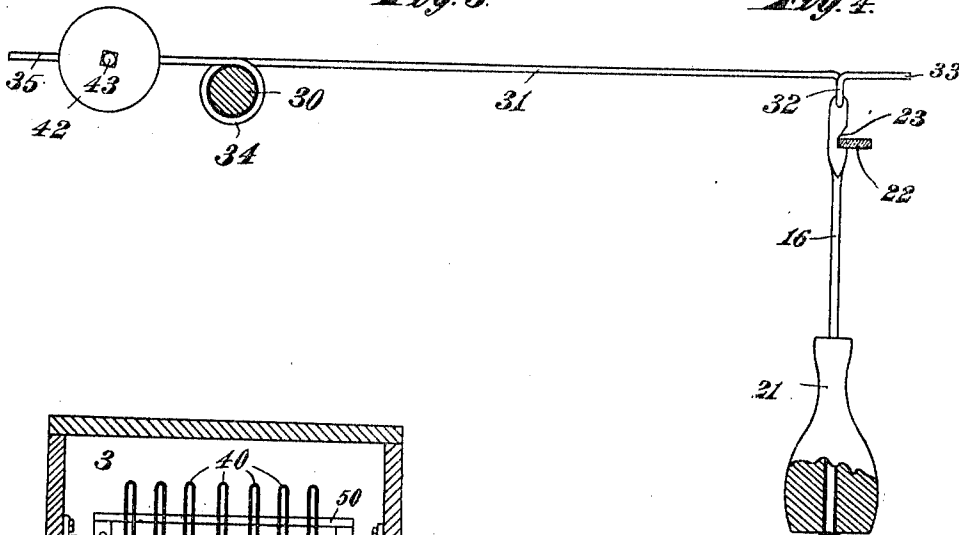


Fig. 5.

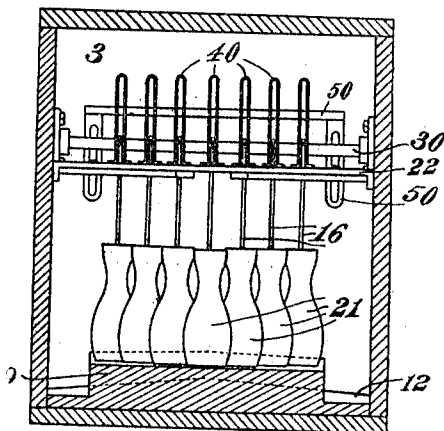


Fig. 6.

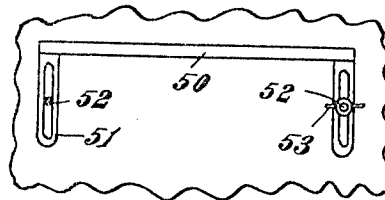


Fig. 7.

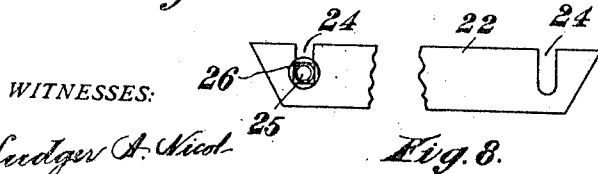


Fig. 8.

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UNITED STATES PATENT OFFICE.

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TENPIN GAME.

1,064,063.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed January 3, 1913. Serial No. 739,981.

To all whom it may concern:

Be it known that I, ALBERT FERLAND, a citizen of the United States, residing at Lawrence, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Tenpin Games, of which the following is a specification.

My invention relates to devices for playing ten pins or bowling.

It is especially useful in connection with miniature bowling alleys but may be used if desired on full sized alleys.

It is of the type wherein the pins which are struck by the ball or by other pins are lifted into the air out of the way and in which all the pins which have been displaced can be reset collectively after each player's turn.

My present invention comprises improved means for removing the pins and improved means for resetting them.

Some of its purposes are to provide mechanism whereby when a pin is displaced, by the ball or by another pin, it will be lifted slowly if desired so that it may have a chance to swing and strike other pins instead of being suddenly jerked out of the way. At the same time by my construction I can so adjust the parts that the pins will be jerked out of the way very quickly if desired.

In the drawings, Figure 1 is a side elevation with the side removed and some parts in section. Fig. 2 is a plan view with the top removed. Fig. 3 is a side elevation of a miniature alley from the side, and Fig. 4 from the front. Fig. 5 is a detail of the pin lifting action. Fig. 6 is a view from the front on line X—Y of Fig. 1 with the side in place. Fig. 7 is a detail view from the front of the tail locking means. Fig. 8 is a view from the top of one of the locking bars.

The body of the alley which as shown may consist of a substantially rectangular box 1 which may have an opening covered with glass or netting 2. At the back I prefer to have a superstructure or box 3 which I will call the "pin house" because it contains the ten pins and the mechanism immediately connected with them. The alley if of the miniature type may be suitably supported upon proper standards 7 as shown in Figs. 3 and 4.

I prefer to have gratings 4 on each side of pin house 3 through which and through

grating 2, the mechanism can be seen. I prefer to have the top 5 of the pin house hinged so as to reach the inside readily. It may be locked by a hasp and padlock 6 if desired. The main floor 9 upon which the balls are rolled may incline upward toward the back. At the rear wall of the pin house is preferably a suitable back stop or buffer 10. The back of floor 9 may be of wedge or diamond shape and below buffer 10 I prefer to have a floor 11 which inclines downward to the right and left and joins at each side an inclined runway 12 by means of which the balls are returned to the player's position.

My invention relates especially to the pin raising and resetting means. Each ten pin 21 of the body of ten pins is carried by a pin hanger 16 which is preferably a flat metallic strip each of which at the forward edge has a locking notch 23. The notches of all these pin hangers are substantially on a level when the pins are depressed and are adapted to engage one of the locking bars 22 as shown.

Near the rear of the pin house is a fixed transverse shaft 30 which extends across the pin house and may be supported by the walls thereof. Upon this are pivotally mounted a plurality of lifting rods or springs 31. These lifting rods are of varying lengths corresponding to the distance of the different pins from shaft 30, each is coiled around the shaft loosely and each has near its front end a loop 32 which passes through a suitable hole in a pin hanger 16 thus supporting it. A guide member 33 extends beyond the pin hanger between one of the U shaped guides 40 which are attached respectively to and rise above the locking bars 22. Thereby side swaying of any of the rods 31 is prevented and their upward movement is limited. Each rod 31 is bent in the form of a coiled spring at 34 around the shaft 30 and extends backward therefrom at its back end in the form of a tail 35.

On each tail 35, I place a slidable weight 42 which is pierced so as to slide thereon. Each weight is provided with a set screw whereby it can be adjusted in any position upon the tail 35. It is manifest that the weight 42 may be of such weight that it will counterbalance the pin 21 and the other parts in front of shaft 30.

On a well known physical principle, the weight 42 may be slid back and forth until

it is in a position where it will only slightly overbalance the pin 21 and attachments with the result that when a pin is struck by the ball 41 or by another pin so as to swing it back releasing notch 23 from bar 22, it will rise slowly instead of being jerked upward. This is a great advantage as it permits strikes and spares so called to be made more readily. If it is desired, however, to obtain a quick action of the pins, the tail locking member 50 may be used. This member comprises a cross bar 50 which extends out over the ends of the tails 35, and slidable slotted side members 51, the slots in which pass over bolts 52 upon which are thumb nuts 53. If it is desired to use a spring action instead of a weight or gravity action, bar 50 is forced down against the tails 35 as shown by the dotted lines in Fig. 1 and when they are sufficiently depressed, thumb nuts 53 are tightened thus locking them in position. In this way, the weights 42 are rendered useless and the spring action of each tail 35, coil 34 and arm 31 are brought into play.

In order to set the pins collectively, I use a setting bar 60 which by means of side arms 61 is pivoted on each side of pin box 3. By means of an arm 62 connected with a setting rod 63 and a hand lever 64, at the front end of the alley, setting bar 60 may be depressed as shown by the dotted lines in Fig. 1 thereby depressing all of the rods 31 with the pin hangers 16 and pins 21 until the notches 23 engage the locking bars 22.

The locking bars 22 as shown in Fig. 8 are preferably provided with notches 24 through which pass bolts 25 on which are nuts 26 whereby the bars may be adjusted back and forth to properly engage notches 23.

What I claim as my invention and desire to cover by Letters Patent, is:

1. In a game apparatus, the combination of a fixed shaft, a plurality of lifting rods of varying lengths pivoted thereon each having a tail at its back end and a loop at its front end, and weights adjustable on said tails, with pin hangers supported by said loops each having a notch, pins carried by said hangers, and locking bars in operative relation with said notches, together with means for depressing the lifting rods collectively until the notches engage the locking bars as described.

2. In a game apparatus, the combination of a fixed shaft, a plurality of lifting rods

of varying lengths coiled around said shaft each having a tail at its back end and a loop near its front end and a guide member, and weights adjustable on said tails, with pin hangers each having a notch supported by said loops, pins carried by said hangers, locking bars in operative relation with said notches, and U shaped guides attached to the locking bars for the guide members of the lifting rods, together with means for depressing the lifting rods collectively until the notches engage the locking bars as described.

3. In a game apparatus, the combination of a fixed shaft, a plurality of lifting rods of varying lengths coiled around said shaft each having a tail at its back end and a loop near its front end and a guide member, and weights adjustable on said tails, with pin hangers each having a notch supported by said loops, pins carried by said hangers, locking bars in operative relation with said notches, and U shaped guides attached to the locking bars for the guide members of the lifting rods, together with means for depressing the lifting rods collectively comprising a setting bar carried by pivoted side arms having an arm connected with a setting rod and a hand lever as described.

4. In a game apparatus, the combination of a fixed shaft, a plurality of lifting rods of varying lengths coiled around said shaft each having a tail at its back end and a loop near its front end and a guide member, and weights adjustable on said tails, with pin hangers each having a notch supported by said loops, pins carried by said hangers, locking bars in operative relation with said notches, and U shaped guides attached to the locking bars for the guide members of the lifting rods, together with means for depressing the lifting rods collectively comprising a setting bar carried by pivoted side arms having an arm connected with a setting rod and a hand lever, and a tail locking member comprising slidable slotted side members, a cross bar carried thereby above the ends of the tails and adjusting bolts and nuts for the side members.

In testimony whereof I hereto affix my signature in presence of two witnesses.

ALBERT FERLAND.

Witnesses:

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FISHER H. PEARSON.