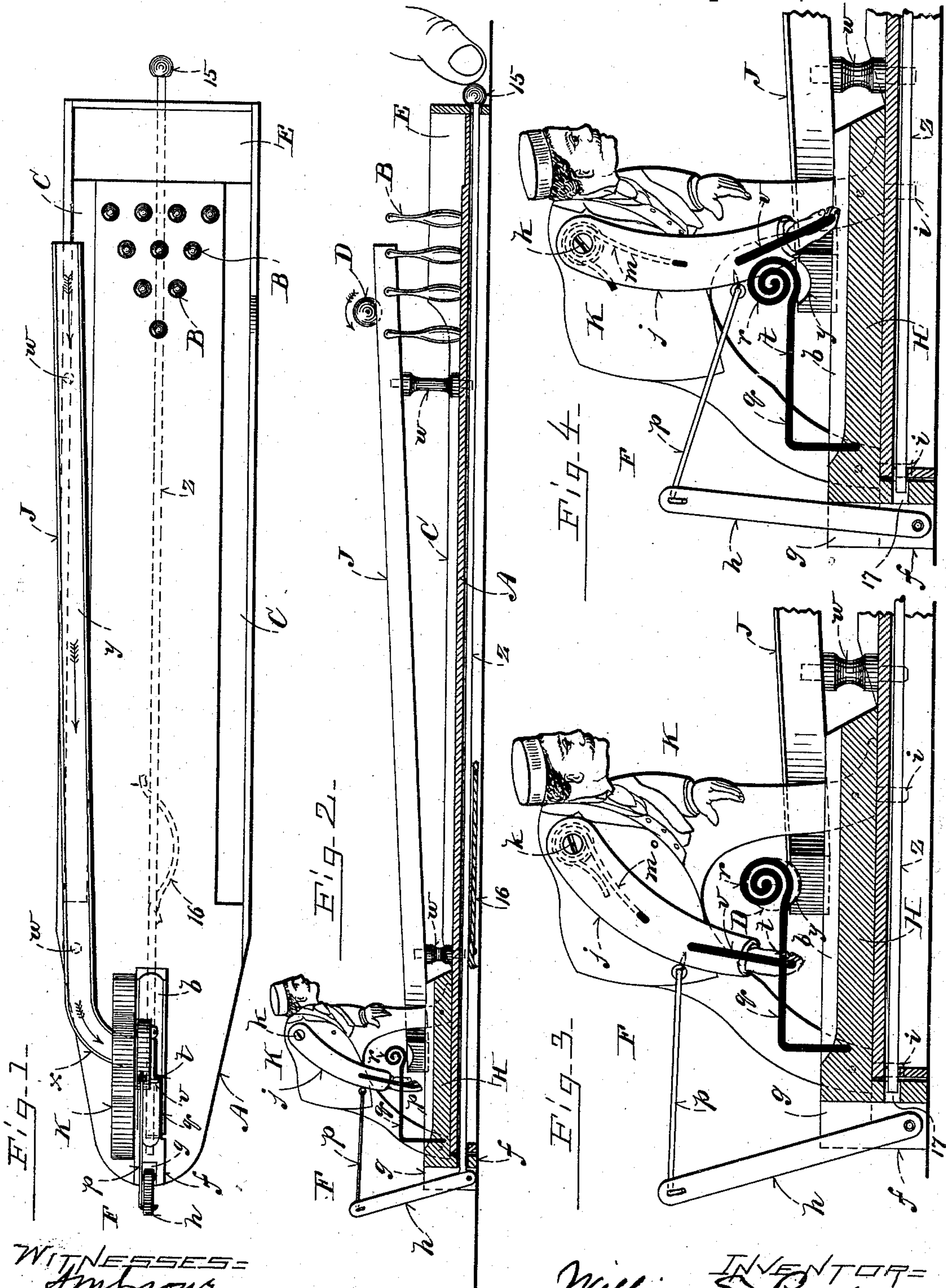


(No Model.)

W. S. REED.
TOY BOWLING ALLEY.

No. 505,536.

Patented Sept. 26, 1893.



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UNITED STATES PATENT OFFICE.

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TOY BOWLING-ALLEY.

SPECIFICATION forming part of Letters Patent No. 505,536, dated September 26, 1893.

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To all whom it may concern:

Be it known that I, WILLIAM S. REED, of Leominster, in the county of Worcester, State of Massachusetts, have invented certain new and useful Improvements in Toy Bowling-Alleys, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved bowling-alley; Fig. 2 a vertical longitudinal section of the same, the parts being shown in position assumed when set to throw the ball; Fig. 3 a sectional elevation enlarged; and Fig. 4 a like view showing the position assumed by the figure and other parts after the ball has been delivered.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to a miniature toy bowling alley in which the ball is delivered at the pins by an automatically actuated figure preferably representing a man, the object being to produce a simple, inexpensive device of this character.

In the drawings, A represents the alley which is preferably constructed of wood and of a suitable size for use indoors.

B represents the ten-pins which are disposed in the regular order at one end of the alley, the players being stationed at this end.

At either side of the alley proper there is a trough or run, C, which receives the ball, D, when misdirected thereon, a space or receiving trough, E, being arranged at the end of the alley back of the pins in the usual manner of bowling alleys.

The propelling mechanism, F, is arranged at the opposite end of the alley. This comprises a base block, H, grooved longitudinally of its top at, b, and provided at its outer end with a block or lug, f, which sets into a suitable slot cut in the end of the alley. This block is slotted vertically at, g, and in said slot a lever, h, is pivoted by its lower end.

An image, K, cut from wood and preferably representing a man in the position assumed when delivering a ball on an alley is

pinned or otherwise secured to one edge or side of the block, H. Vertical pins, i, on the feet of the image are fitted to enter pin-holes in the alley-board maintaining the image in position. Said image has one arm, j, pivoted at, k, to its shoulder. A torsion-spring, m, secured on said pivot tends to throw said arm forward. A wire, p, connects the arm, j, with the top of the lever, h, said wire being pivoted. A horizontally arranged spring-arm, q, is secured by one end of the block, H, the opposite end being curled to form a head, r, disposed between the legs of the image and over the groove, b, in the block, H. Said spring-arm or latch is off-set at, t, as best shown in Fig. 1, forming a shoulder in position to engage a lug or wire, v, on the arm, j, of the image and latch it against forward movement. A run or way, J, leads from the forward end of the alley and inclines toward the figure or image. Said run is mounted on detachable standards, w, inserted in suitable openings in the alley-board. The lower end of the run is curved laterally at, x, its mouth, y, registering with the head, r, of the latch over the groove, b, of the block, H.

On the under side of the alley-board a rod, z, is fitted to slide said rod having a knob or handle, 15, exposed at the forward edge of the board. An elastic cord, 16, connects the rod and board, the function of said cord being to return said rod after having been forced inward as in Fig. 2. The opposite or free end of the rod, z, works in an opening, 17, in the lug or block, f, in position to engage a vertically swinging lever, h, above its pivot.

In playing my improved game the pins, B, are set at the forward end of the alley in the usual manner. The propelling mechanism, F, is set by forcing the rod, z, from right to left or inward as viewed in Fig. 2. This drives the lever, h, backward drawing with it the arm, j, of the image. The wire, v, on said arm forces the spring-arm, q, laterally until said wire, v, catches on the shoulder, t, of said arm locking the figure arm, j, in this position. As soon as the rod, z, is released by the hand, the elastic cord, 16, returns it to its original position. The ball, D, is started by the player in the upper end of the trough or run, J, said ball traveling down said trough

when it reaches the mouth, *y*, thereof strikes the head, *r*, of the latch-arm, *q*, forcing it laterally and freeing the arm, *j*, of the figure. The ball drops into the groove, *b*, of the block, H. The torsion-spring, *m*, at once acts to throw the figure arm, *j*, thus freed, forward, the hand on said arm striking the ball and delivering it with force down the alley where it will hit the pins, B. The direction of the ball varies with each movement of the image arm; this variation being caused by the rapidity with which the ball is delivered from the trough against the latch.

I do not confine myself to employing the figure of a man with the spring-tensioned arm as propelling mechanism as any suitable image representing animals or a simple spring-actuated-plunger-bar may be substituted therefor without departing from the spirit of my invention.

It will be seen that by mounting the image and block, H, and rim or trough, J, in the manner described, the same can be readily knocked down and packed in compact space for storing or shipping.

The plunger-rod, *z*, may be returned by other suitable means than that described. The connecting rod, *p*, preferably hooks into an eye on said arm so that it may be detached.

It will be seen that the ball propelling mechanism may be set from the players' end of the board, the pins reset and the balls delivered as frequently as desired, the score of the game being kept in the usual manner.

Having thus explained my invention, what I claim is—

1. The combination of an alley-board, a vertically inclined-trough running longitudinally thereof; a spring-pushed plunger-arm fitted to swing transversely of the mouth of said trough longitudinally of the alley; a latch for locking said arm against the force of its spring, said latch having a projection disposed

adjacent the mouth of said trough in position to be engaged by a ball therefrom, substantially as and for the purpose set forth.

2. The combination of an alley-board, an image disposed at one end thereof and having a spring-pushed member; a ball-trough opening into the path of said member; a latch for said member adapted to be released by contact with the ball, and a pusher-bar running longitudinally of the alley for setting said member, substantially as described.

3. The combination with an alley-board of an image disposed at one end thereof; a spring-pushed member on said image fitted to move longitudinally of the alley; a latch for locking said member; a series of levers for moving said member against its spring from the opposite end of the alley; an inclined trough running longitudinally of the alley and adapted to deliver a ball in the path of said member and release said latch, substantially as described.

4. The combination of the alley-board, an inclined trough with the image, K, detachably mounted on said board and provided with the spring-pushed member, *j*; the spring-latch, *q*, for locking said member having its free end registering with the mouth of said trough and the levers, *h*, *p*, for returning said member to receive the latch, substantially as described.

5. The combination with the alley-board and pins of the image, K, having the spring-pushed member, *j*, the spring latch, *q*, for locking said member; the inclined trough, J, opening at the free end of said latch; the levers, *h*, *p*, connecting said member and board and the spring-returned push-bar, *z*, for actuating said levers all being arranged to operate substantially as described.

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Witnesses:

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