

(No Model.)

2 Sheets—Sheet 1.

J. DOYLE.
AUTOMATIC TOY.

No. 250,060.

Patented Nov. 29, 1881.

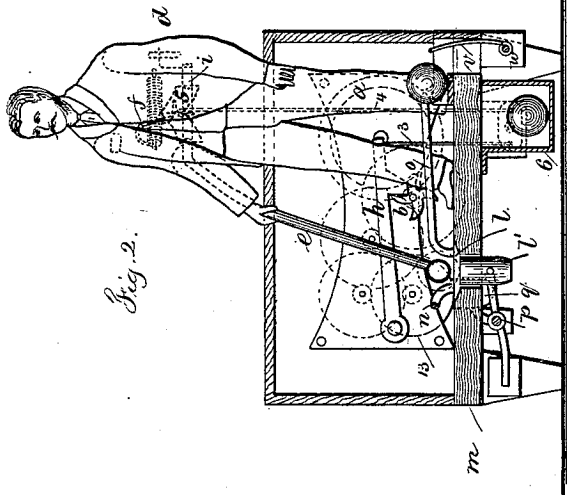


Fig. 2.

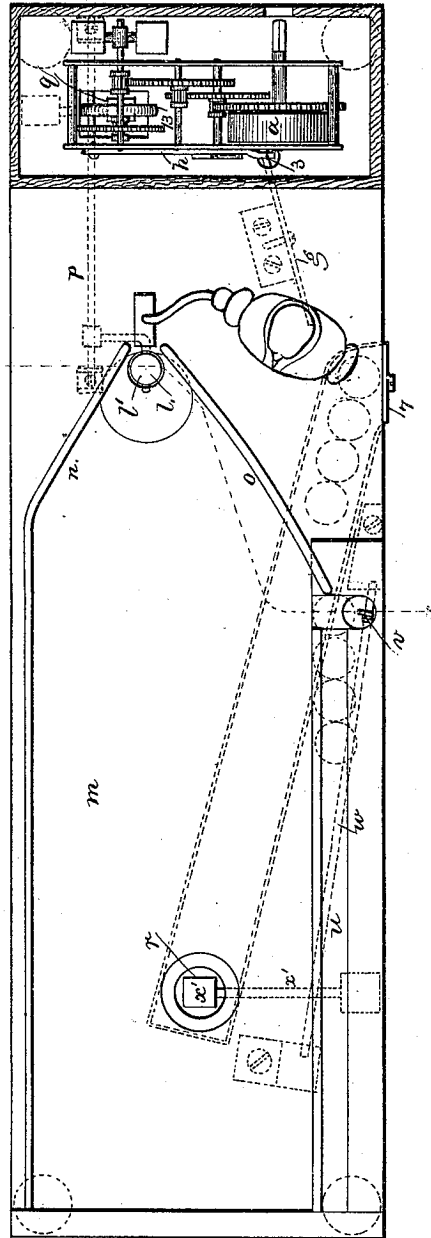


Fig. 1.

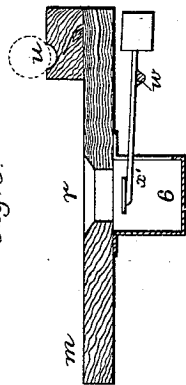


Fig. 3.

Witness

*Chas. H. Smith
J. A. Smith*

Inventor

*John Doyle
per Lemuel W. Perrell atty*

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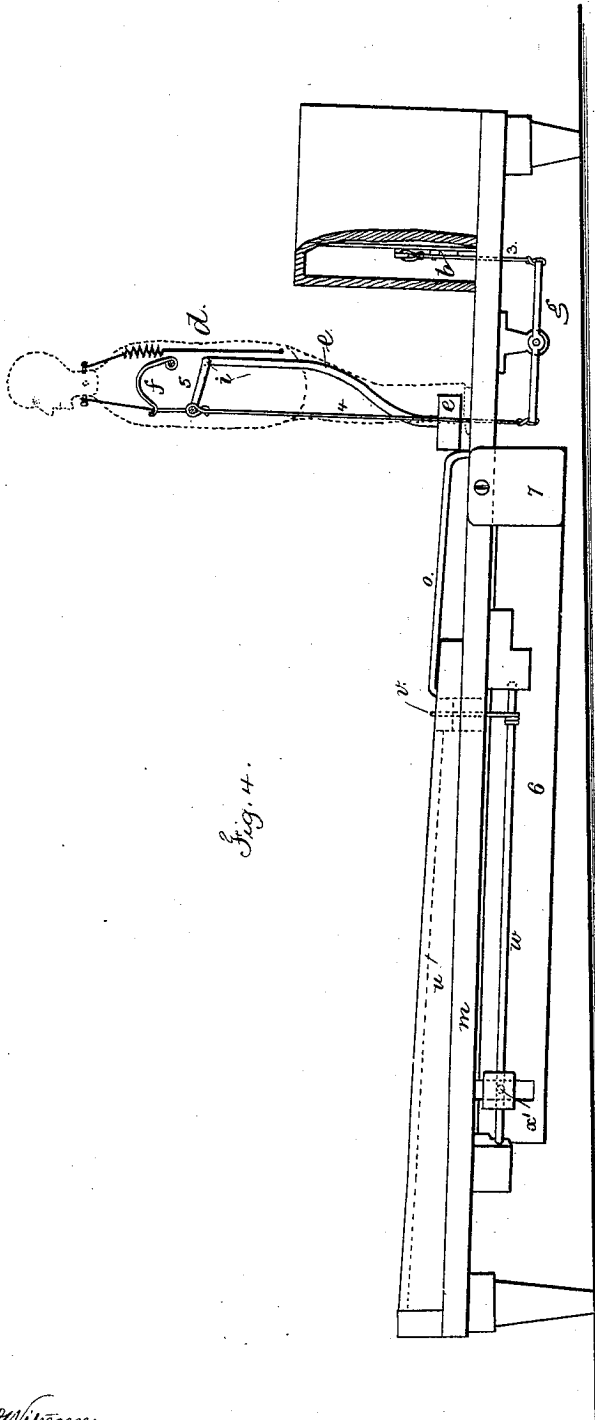


Fig. 4.

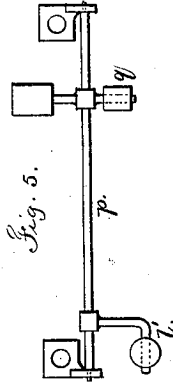


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN DOYLE, OF HOBOKEN, NEW JERSEY, ASSIGNOR TO WILLIAM L. HUBBELL, OF NEW YORK, N. Y.

AUTOMATIC TOY.

SPECIFICATION forming part of Letters Patent No. 250,060, dated November 29, 1881.

Application filed April 18, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN DOYLE, of Hoboken, in the county of Hudson and State of New Jersey, have invented an Improvement in Automatic Toys, of which the following is a specification.

This invention is for operating a toy automatically for rolling balls to a pocket or receptacle, and it is for the amusement of young persons in watching the automaton roll such balls. The toy figure is provided with a mallet with which to strike the marble or ball. The mechanism that operates the automaton is brought into action by the weight of the ball when it reaches the place where it is to be struck by the mallet, and the ball, rolling into the pocket, causes the liberation of another ball, that rolls down to the place where it is to be struck by the automaton. By this means the gearing is not running, except when there is a ball in position to be struck by the mallet.

In the drawings, Figure 1 is a plan view of the toy. Fig. 2 is a cross-section at the line *xx*, showing also the automaton figure and the clock-work in elevation. Fig. 3 is a detached sectional view of the lever that is operated by the ball that falls through the hole in the table. Fig. 4 is a side elevation of the toy, the mechanism of the automaton being in full lines; and Fig. 5 is a plan of the means for starting the motor by the weight of the marble.

The clock-work or motor is of any suitable character. I have shown a spring, *a*, with gearing that drives the cam wheel *b*, and there may be a fly or vibrator to control the speed of movement.

The automaton figure *d* is provided with a mallet, *e*, that is upon a shaft, *i*, passing into the figure at the elbow, and it is acted upon by a spring, *f*, and crank *5*. The cam-wheel *b* acts through the lifter *h*, lever *g*, and links 3 and 4 upon the crank *5* to swing back the mallet *e*, and when the lifter *h* is liberated by the tooth of the cam-wheel turning from beneath it the spring *f* acts to project the mallet *e* and cause it to strike forcibly against the ball at *l*. The platform or table *m* is at a slight inclination, so that the balls or marbles roll toward the position *l*, and are guided thereto by the

inclined wires or ledges *n* and *o*. There is a concavity in the table *m* at the place where the wires *n* and *o* converge, so that the ball to be struck will remain therein, ready for the action of the mallet, and there is a hole through the table beneath the ball, and into this there is received a pin, *l'*, upon one arm of the rock-shaft *p*, that is counterbalanced so as to raise the pin *l'*, and a friction pad or pawl, *q*, upon another arm of the rock-shaft, acts upon the balance-wheel *13* of the train of gearing, or upon one of the gear-wheels, to stop the motor until one of the balls, rolling into the position *l*, acts upon the pin *l'*, and by its weight depresses the said pin and liberates the gearing by moving the pad or pawl *q* away from the wheel.

In order to render the toy more amusing, a hole is provided in the table *m* at *r*, and the object sought is to have the ball or marble roll into this hole when it has been struck by the mallet. I make use of this ball as it passes through the hole *r* to discharge another ball or marble, that rolls down into position ready to be struck by the mallet. The trough *u* is adapted to receive the marbles or balls, and they roll down toward the lowest end and are stopped by the end of the trough. There is a finger, *v*, that passes up through an opening in the table *m*, and this finger projects from the balanced rock-shaft *w*, and there is an arm, *x'*, that extends from the rock-shaft out below the hole *r*, so that as a ball or marble runs into the said hole it rests upon the arm *x'*, and by its weight moves the rock-shaft *w* and finger *v*, pressing the marble that is at the lowest end of the trough off laterally, and it rolls down to the place where it is in position to be struck by the mallet. There is a receptacle, *6*, beneath the bed or table *m*, into which the marbles pass, and a gate or slide, *7*, at one end allows them to be taken out and placed in the trough *u*.

I claim as my invention—

1. The automaton figure with a mallet, in combination with a spring-motor, levers connecting the same to the automaton, and a stop mechanism operated by the weight of the marble or ball to liberate the motor, substantially as set forth.

2. In combination with an automaton and mallet, an inclined table with converging guides to direct the ball into position to be struck by the mallet, substantially as set forth.
- 5 3. The combination, with an automaton figure and mallet, of an inclined table, an opening for the ball to pass into, and a rock-shaft operated by the ball and a finger to discharge another ball upon the table, substantially as
10 set forth.
4. The combination, with the automaton and the motor, of a stop to the motor and mechanism acted upon by the ball to liberate the stop, substantially as specified.
- Signed by me this 8th day of April, A. D. 15
1881.

JOHN DOYLE.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.