(No Model.) 4 Sheets—Sheet 1.

E. LAWRENCE.

COIN OPERATED CHANCE VENDING MACHINE.

No. 536,355. Patented Mar. 26, 1895.

Fig. 1.

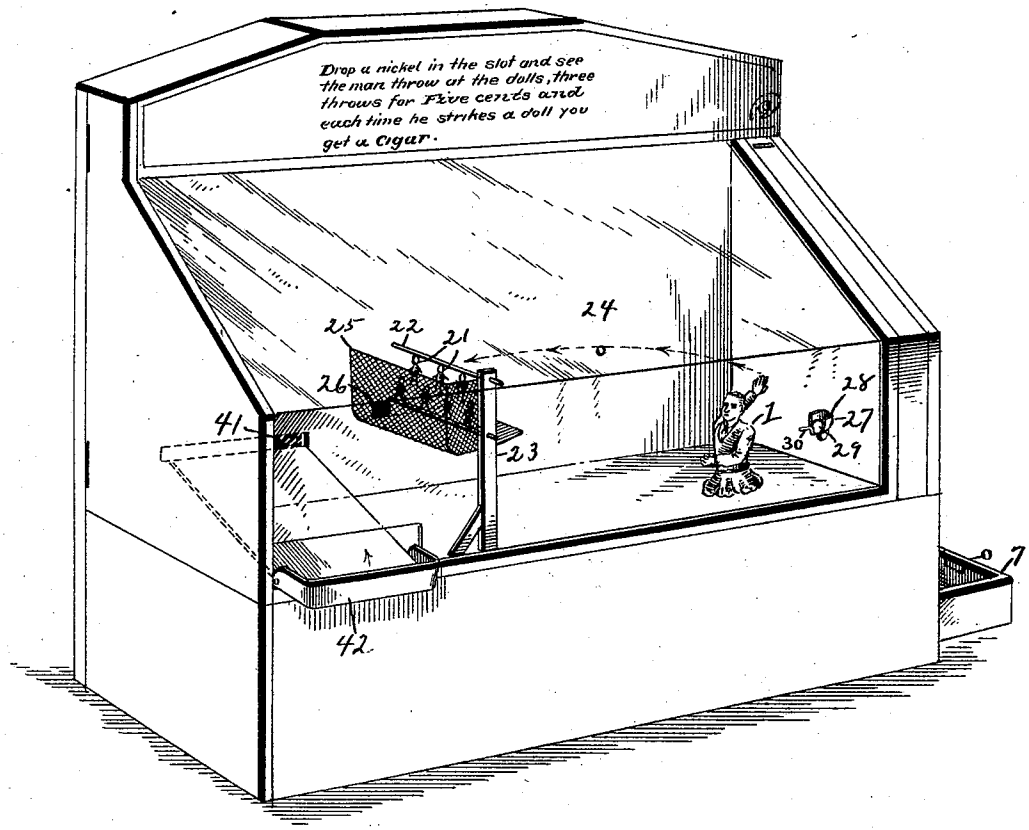

Fig. 2.

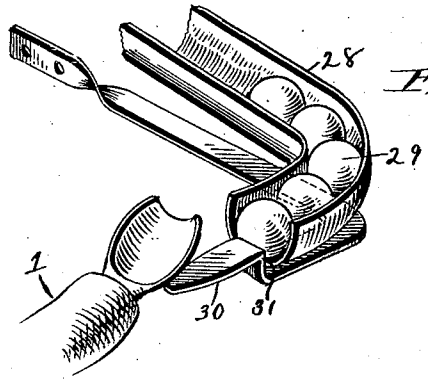

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Fig. 3.

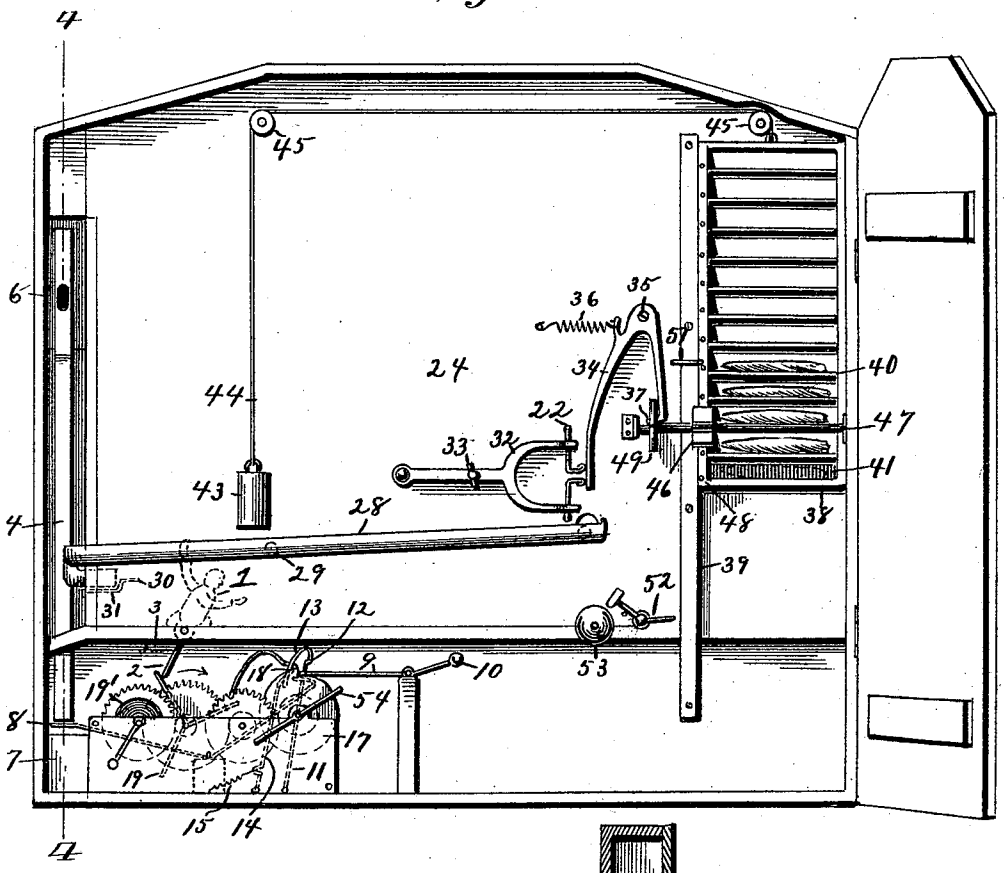

Fig. 4.

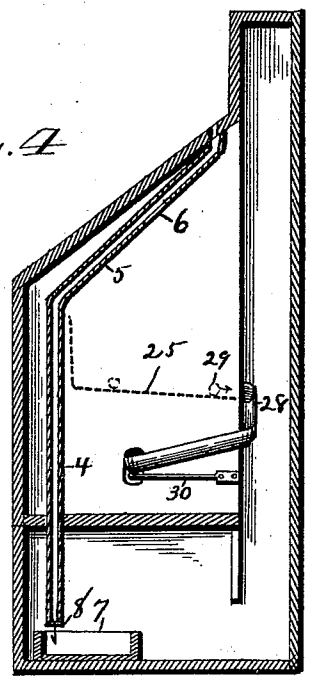

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Fig. 5.

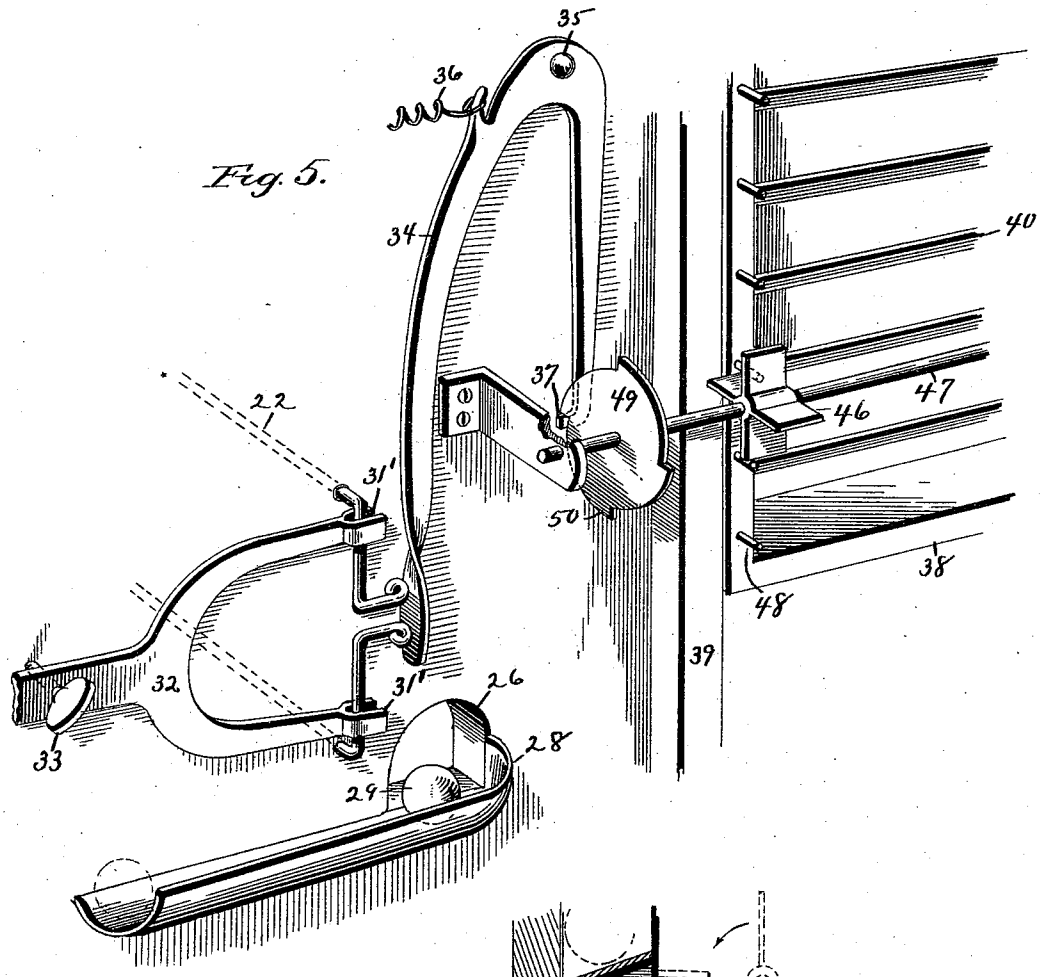

Fig. 6.

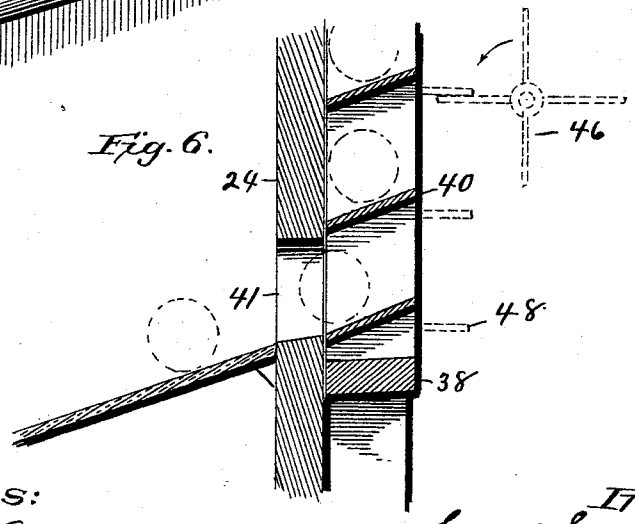

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Fig. 7.

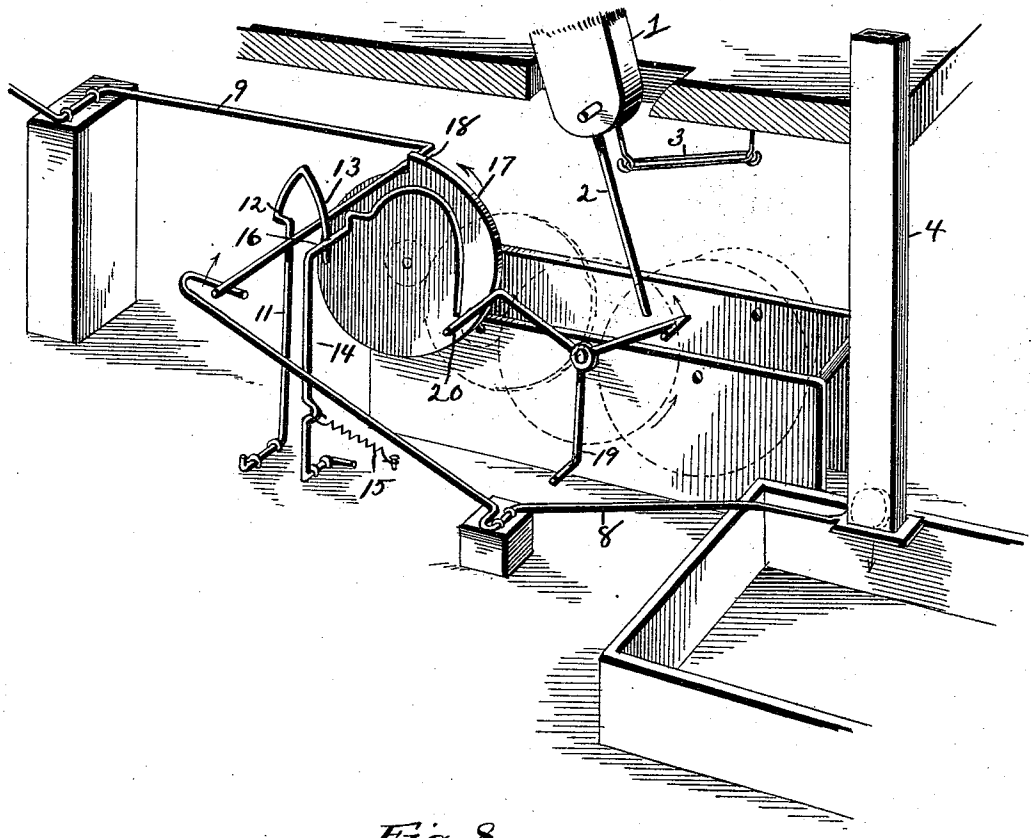
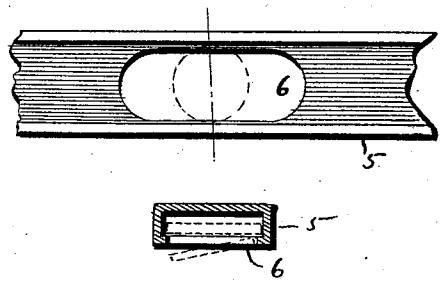


Fig. 8.



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UNITED STATES PATENT OFFICE.

ERNEST LAWRENCE, OF CAMPBELLSVILLE, KENTUCKY, ASSIGNOR OF ONE-HALF TO ISAAC T. BOMAR, OF SAME PLACE.

COIN-OPERATED CHANCE VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 536,355, dated March 26, 1895.

Application filed July 6, 1894. Serial No. 516,752. (No model.)

To all whom it may concern:

Be it known that I, ERNEST LAWRENCE, a citizen of the United States, residing at Campbellsville, in the county of Taylor and State of Kentucky, have invented a certain new, useful, and valuable Improvement in Coin-Operated Chance Vending-Machines, of which the following is a full, clear, and exact description.

My invention has relation to coin operated chance vending machines, and it consists of a figure of a man adapted to be operated by the coin and so arranged as to throw balls at pivoted rows of dolls; and if he strikes a doll, the machine automatically delivers one of the vending articles (cigars in this case), and if he fails to strike a doll, the operator forfeits his coin.

In the accompanying drawings—Figure 1, is a front perspective view of the machine. Fig. 2, is a detail perspective view of the ball delivering device. Fig. 3, is a rear view of the machine the back of the case being open. Fig. 4, is a transverse sectional view of the machine cut on the line 4, 4, of Fig. 3. Fig. 5, is a detail perspective view of the mechanism for delivering the vending article. Fig. 6, is a transverse sectional view of the containing case or box and the delivering chute for the vending article. Fig. 7, is a perspective view of the mechanism for operating the man. Fig. 8, comprises views of a device for testing the genuineness of the coin.

My invention is described as follows:

The figure of the man 1, is pivoted in the platform as shown in Fig. 7. The right arm of the figure 1, is elevated as in the act of throwing. The hand is scooped out or bowled, (see Fig. 2,) and is adapted to receive and hold one ball at a time. From the lower end of the figure extends the rod 2, and the figure is held in a normal forward position by the elastic 3, or its equivalent, which is secured at one end to the figure 1, and at the other end to the under side of the platform. (See Fig. 7.)

The coin tube 4, is located in the side of the machine. The inlet to said tube is shown in Fig. 1, just below the indicating hand in the upper right hand corner. Said tube has a section 5, that slants, and said section 5, is provided in its lower side with a perforation 6. (See in detail Fig. 8.) Said perforation is nearly as wide as the mean width of the tube, and all coins as wide as the mean width of the tube will pass over the said perforation, but those that are smaller will fall through and be confiscated without operating the machine. The lower end of the coin tube 4, passes below the platform having the pivoted figure and terminates just above the drawer 7. (See Fig. 4.)

The lever 8, is fulcrumed to the bottom of the machine. One end of said lever extends under the outlet of the coin tube 4, and normally rests against the end of said tube. (See Fig. 7.) The other end of said lever 8, bears against the under side of the catch rod 9, which in its turn is pivoted on a suitable support, and may be nearly counterbalanced thereon by the weighted end 10. (See Fig. 3.)

The supporting rod 11, (see Fig. 7,) is pivoted to the bottom of the machine and is provided with a suitable notch 12, adapted to receive the catch rod 9, when it is raised and the forward and downward extending end 13, passes over the catch rod 9. Said end 13, weights the supporting rod 11, in the direction of the catch rod 9. The rod 14, is also pivoted to the bottom of the machine, and is normally held back by the spring 15. Said rod 14, has a horizontal portion 16, against which rests the end 13, of the rod 11. The free end of rod 14, extends back as shown in Fig. 7.

A revolving disk 17, is mounted on an axle journaled in suitable bearings. Said disk is provided with the protrusion 18, and said disk is adapted to be revolved by a series of cog wheels (see Figs. 3, and 7), which in turn are actuated by the coil spring 19', or its equivalent.

To the axle of one of the cog wheels is secured the tri-arm part 19. The ends of the arms of said part 19 are bent at right angles as shown in Fig. 7, and the arm 20 is longer than the other arms and is adapted when the part revolves, to engage the free end of the rod 14.

The part 19 may be provided with more or less arms if desired and but one arm is longer

than the others. The ends of all the arms are adapted, when part 19, is revolving, to engage the rod 2, attached to the figure of the man.

The dolls 21, are rigidly attached to the pivoted rods 22, 22. The front ends of rods 22, 22, are journaled in the support 23, and the rear ends are journaled in the partition 24.

Just behind the dolls and beneath them is the cup or receptacle 25. Said cup is made of any suitable material and it slants toward the partition 24. A perforation 26, is located in the partition 24, at the rear end of the cup 25, and extending from said perforation 26, to the point 27, is an inclined chute 28, adapted to carry the balls 29, 29. The end of the chute 28, is provided with the spring arm 30, which holds the balls in the chute. Said spring is secured at one end to a stationary part and its other end extends toward the arm of the figure 1. Said spring arm 30, is provided with the protrusion 31, which holds the first ball in the chute. When the figure 1, is tilted to the rear the elevated arm thereof presses down the spring 30, and one ball rolls into the palm of the hand. The inner ends of the rods 22, 22, are bent at right angles and extend toward each other. (See Fig. 5.) The perpendicular parts of the said rods 22, 22, pass through the extreme bifurcated ends 31—1, 31—1 of the guide 32. Said guide 32, is secured to the rear side of the partition 24, and said guide can be shifted in or out by means of the thumb screw 33. The inner ends of the rods 22, 22, bear against one end of the generally V-shape part 34. Said part is pivoted at the point 35, to the rear side of the partition 24, and said part is held against the ends of the rods 22, 22, by the coil spring 26, or its equivalent, attached at one end to the part 34, and at the other to the partition 24. The opposite end of the part 34, is provided with the catch extension 37.

The box 38, containing the cigars or other vending article is adapted to pass up and down between the guide 39, and the side of the case, or another guide similar to 39. Said box is provided with the slanting partitions 40, on which the article rests. A perforation 41, is cut in the partition 24, immediately opposite the box 38, and said perforation is connected by a suitable chute with the hinged delivery cup 42. Said cup when not in use can be swung up as indicated by the arrow in Fig. 1, and thus the end of the chute can be closed.

The box 38, is nearly counterbalanced by the weight 43, attached thereto by the cord 44, which passes over the pulleys 45, 45. The box 38, is supported by the catch 46, which is secured to the revolving shaft 47, and on the flanges of which the pegs 48, 48, rest. The disk 49, is also attached to the shaft 47, and is provided with a number of protrusions 50, which correspond to the number of flanges on the catch 46. The catch extension 37, is adapted to come under the protrusions 50, of disk 49, and thus the box 38, is supported. The said box is also provided with a peg 51. When the box is empty or near the bottom of the case, said peg comes in contact with the trip hammer 52, and sounds the bell 53. To regulate the running of the cog wheels operated by the spring 19—1, one of the axles is provided with a governor 54. (See Fig. 3.)

The machine is operated as follows: The cigars or other vending articles are placed in the box 38, and said box is elevated to the highest possible point. The spring 19 is then wound up. A coin is then dropped in the tube 4, and if of the proper size falls on the end of lever 8. Thus the end of said lever is pushed down and the coin drops into the drawer 7. The other end of the lever rises and lifts the rod 9, above the protrusion 18, of disk 17. The spring 19—1, then operates the cog wheels which revolve the part 19. When the rod 9, is raised, the rod 11 falls forward and the rod 9, will rest in the notch 12, of said rod 11. As the part 19, revolves the end of each arm thereon engages in its turn the rod 2, and pushes its lower end forward. This causes the figure to tilt back and receive one ball in the palm of the hand as above described. When the arm on part 19, passes beyond the end of the rod 2, the spring 3, will suddenly pull the lower end of the rod 2, to the rear and at the same time causes the figure to throw the ball at the dolls. After the longest arm operates the figure the end 20, engages the free end of the rod 14, and pushes it forward, and the part 16, pushes the end 13, of rod 11, back and thus the notch 12, is pushed from under the rod 9, and said rod 9, falls and engages the protrusion 18, of disk 17, and thus stops the cogs. When the figure throws the ball at the dolls the ball is caught in the cup 25, and from thence rolls through the perforation 26, and along the chute 28, to the point 27, to be again thrown by the figure. If the ball strikes a doll it causes the rod 22, to make a partial revolution, and the inner end of the rod 22, will press against the V-shape pivoted piece 34, and cause the catch 37, to pass from under the notch 50, of disk 49. The weight of the box 38, will then cause the said box to descend and an article will roll out through the perforation 41, in the partition 24, and enter the cup 42. Thus the operator gets an article if the figure strikes the doll. As the box 38, descends the peg 48, pushes the catch 46, around and the next peg above will rest on the next flange of said catch and the spring 36, will force the catch 37, under the next protrusion 50, of the disk 49. Thus the machine is set ready for the next operation.

By adjusting the thumb screw 33, the dolls can be so arranged that the balls will probably hit or miss the dolls as desired, or by using balls of different weights they might be arranged to strike the dolls one in say three throws. If the balls are all of the same weight they will be thrown in substantially the same place every time.

Having described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

1. In a coin operated machine having a suitable device for throwing an article, a device for delivering to the throwing device one article at a time, consisting of a receptacle containing the articles; a spring catch having a protrusion adapted to hold the articles in the receptacle; the throwing device adapted to press aside the spring catch and receive the article by gravitation from the receptacle, as set forth.

2. In a coin operated machine having a pivoted figure adapted to throw an article, a device for operating said figure consisting of a revolving part having extended arms; said arms each in its turn adapted to bear against an extension of the figure and tilt the figure to the rear; a spring attached at one end to a stationary point and at the other end to the figure and adapted to throw the figure to the front when its extension is disengaged from the arm, as set forth.

3. In a coin operated machine a device for releasing the machinery consisting of a lever having one end below the outlet of the coin tube and its other end extending under a catch rod; the catch rod suitably pivoted; a series of spring actuated cog wheels having attached to the axle of one of the wheels a disk having a protrusion, said protrusion adapted to engage the said catch rod when down; a gravity actuated pivoted rod having a suitable notch adapted to pass under and support the catch rod when raised; a revolving arm secured to the axle of another cog wheel; a pivoted rod adapted to bear against the supporting rod, said revolving arm adapted to engage the end of said pivoted rod and thus push the supporting rod from under the catch rod, as set forth.

4. In a coin operated machine having a figure adapted to throw an article at an object; the said object secured to a pivoted rod, and when struck by the article adapted to revolve the said rod and thus operate a suitable delivery device for the vending article, as set forth.

5. In a coin operated machine having a figure adapted to throw an article at an object; the said object secured to a pivoted rod, a device for shifting said pivoted rod in or out and thus change the position of the object, as set forth.

6. In a coin operated machine a device for operating a perpendicular sliding box containing the vending article, consisting of a rotating support having flanges adapted to engage pegs on the box; a disk secured to the shaft of the support and having suitable protrusions; a pivoted catch arm having an end adapted to pass under the protrusions of the disk; and a partially revolving rod adapted to bear against the other end of said pivoted catch arm and a suitable means for operating the revolving rod, as set forth.

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

ERNEST LAWRENCE.

Witnesses:

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C. R. DUDGEON.