(No Model.) 2 Sheets—Sheet 1.

C. H. THOMPSON.

COIN CONTROLLED VENDING APPARATUS.

No. 437,527. Patented Sept. 30, 1890.

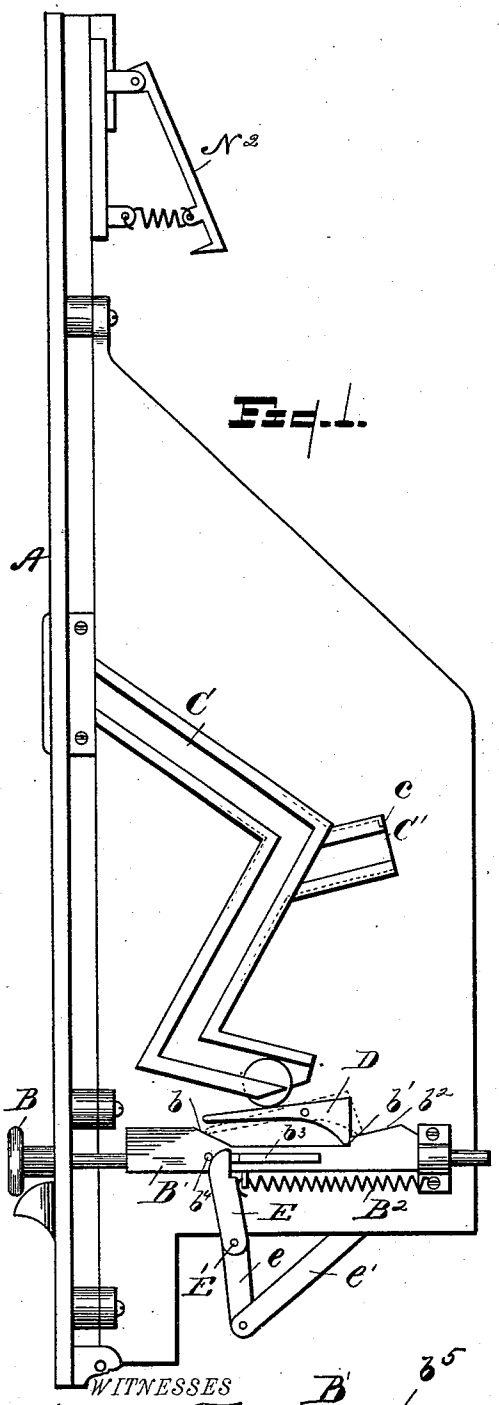


Fig. 1.

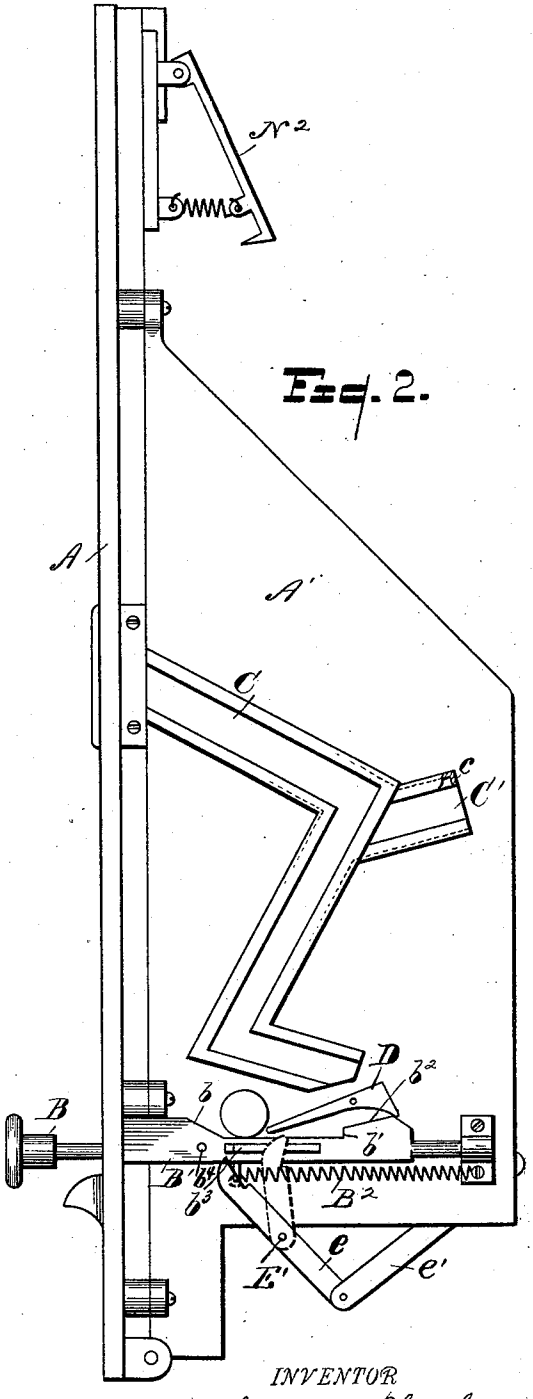


Fig. 2.

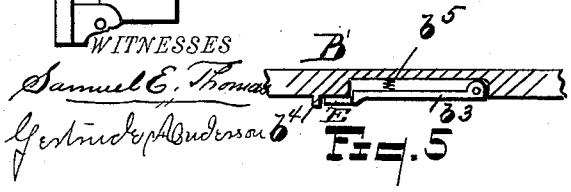


Fig. 5.

WITNESSES

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COIN CONTROLLED VENDING APPARATUS.

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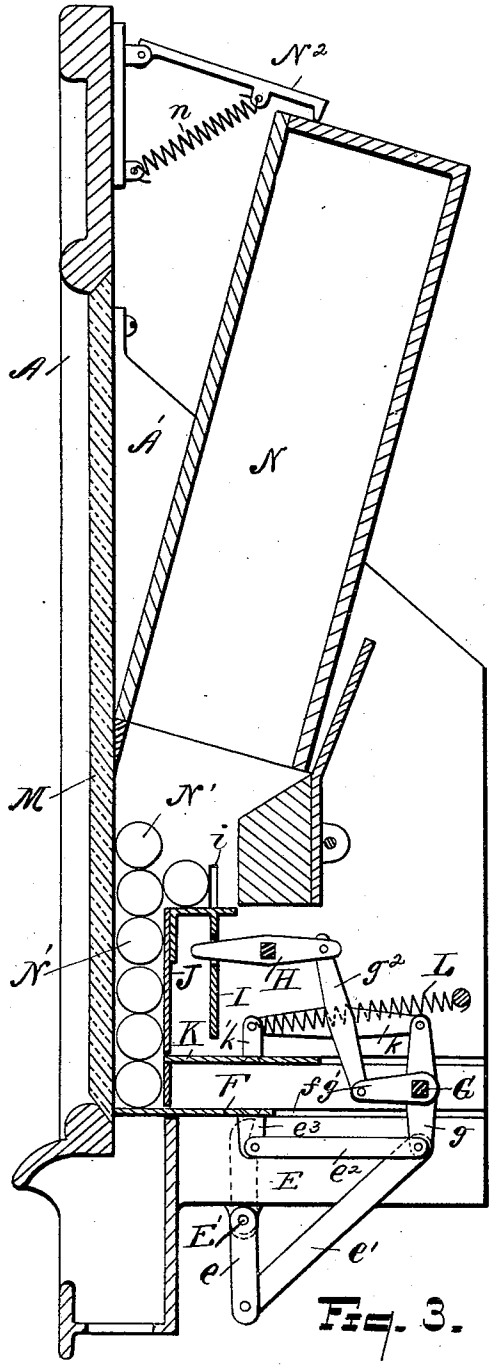


Fig. 3.

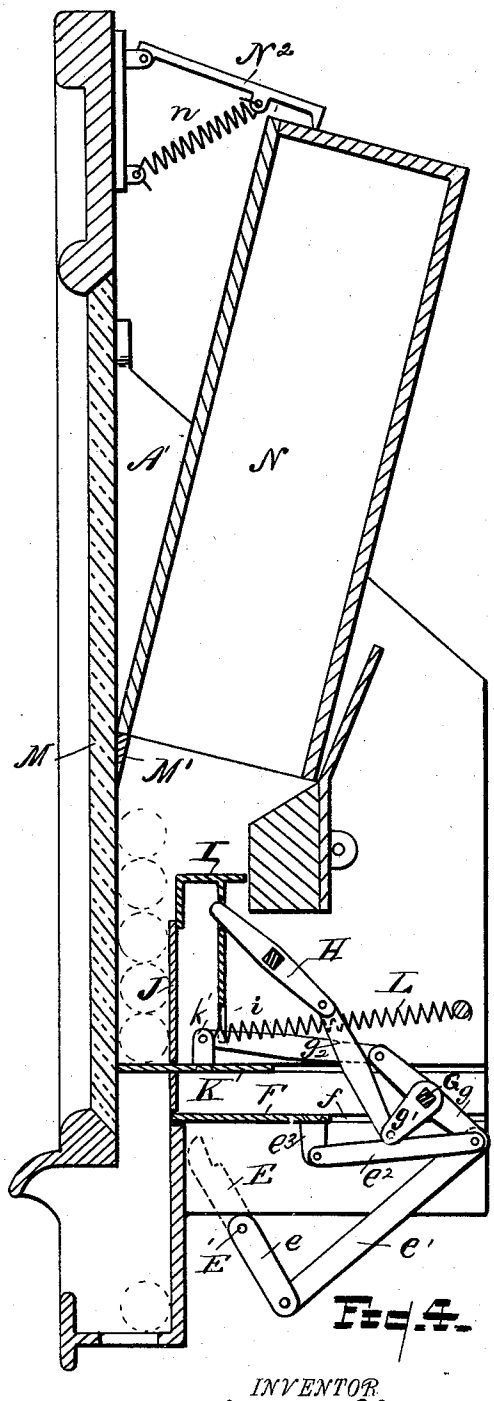


Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES H. THOMPSON, OF DETROIT, MICHIGAN, ASSIGNOR TO THE AUTOMATIC CIGAR SELLER COMPANY, OF SAME PLACE.

COIN-CONTROLLED VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 437,527, dated September 30, 1890.

Application filed February 25, 1890. Serial No. 341,719. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. THOMPSON, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Coin-Controlled Vending Apparatus, of which the following is a specification.

My invention consists in a coin-controlled vending apparatus, hereinafter fully described and claimed.

Figures 1, 2, 3, and 4 are side elevations, Figs. 3 and 4 being partly in section; and Fig. 5 is a partial horizontal section through bar B′.

A represents the frame of the apparatus, which may be of any suitable size or shape for the article which is intended to be sold therein, the machine in this case being illustrated as a cigar-seller and the frame having a front made partly of glass, as shown at M. The top, back, and bottom of the frame is omitted in all the drawings.

A′ represents one of two plates secured to the front wall of the machine and projecting backward to carry the working parts.

N represents a cigar-box placed in the upper part of the machine, its lower end resting on lugs, and its upper end being held by a dog N^2, pivoted to the frame of the machine and held in engagement with the end of the box N by a spring *n*.

N′ indicates cigars which have descended from the box N and are lying in position to be delivered.

C represents the coin-chute, which is made herein of a zigzag form, and at the lower end of the first incline is provided with an open inclined extension C′, into which all articles going through the chute pass, the end being made with a depending lip *c*, leaving the opening just too small to pass a nickel, while all smaller coins or slugs pass and are discharged into a waste-receptacle without operating the machine. The coin of proper size will be arrested by projection *c′* and will run back into the chute C, passing down to operate the mechanism.

B′ represents an actuating-bar normally held in its inmost position by spring B^2 and provided at its outer end with a knob B for operating, in which is formed a shoulder *b′* and an inclined plane b^2, extending back from said shoulder *b′*.

D represents a pivoted dog, one end of which is made heavier than the other, the heavy end being adapted to lock bar B′ by engaging with shoulder *b′*.

b represents an inclined plane on B′, adapted to limit the descent of the light end of the dog D until the bar B′ is drawn out. The lower end of the coin-chute C terminates above the light end of the dog D, so that when a coin of proper size and weight is introduced into the coin-chute it tilts the dog into the position shown in dotted lines in Fig. 1, thereby releasing the bar B′ from the dog, so that said bar can be drawn outward. The delivery mechanism is illustrated in Figs. 3 and 4 and lies in the other side of the plate A from that shown in Figs. 1 and 2.

K and F represent two sheet-metal plates or cut-offs, whose ends are supported and travel in ways formed in plate A′ and a similar plate which is not shown, and both plates K and F are adapted to pass through slots in the rear wall J of the channel through which the cigars descend, and to alternately close said channel. Plate K is above plate F a distance which corresponds with the diameter of one cigar, as illustrated, but may be set higher to deliver two or more cigars at once. Each plate is provided at one side with a lug marked *k′* and e^3 to connect it with the actuating mechanism.

G represents a rock-shaft journaled at its ends in the plate A′ and its fellow, and is shown as square in cross-section to more firmly engage with the arms which are thereto attached, though said rock-shaft may be of any form and the arms may be keyed or otherwise fastened thereon.

g represents an arm rigidly secured at its center to rock-shaft G, and from which rock-shaft G is connected with the actuating-bar B′ as follows: E′ represents a short rock-shaft journaled in the lower part of plate A′, or,

as shown, in a lug depending therefrom, to one end of which is rigidly secured a downwardly-extending arm *e*, the lower end of which is pivoted to one end of a connecting-rod *e'*, the other end of which is pivoted to the lower end of arm *g*, and to the other end of rock-shaft E' is rigidly secured an upwardly-extending arm E, whose upper end is preferably rounded and lies, when the machine is at rest, between a stop b^4, formed on the side of bar B', and a spring-actuated pin b^3, carried in a slot in the side of bar B' and pressed outward by a small spring b^5. e^2 represents a connecting-rod pivoted at one end to the lower end of arm *g* and at the other end to lug e^3 on plate F, and *k* represents a similar connection between the upper end of arm *g* and plate *k*.

L represents a spiral spring attached at one end to plate K and at the other end to plate A' and constantly exerting a pull on plate K.

H represents a lever pivoted to plate A', one end of which is connected by a connecting-rod g^2, with an arm *g'*, rigidly secured to rock-shaft G and having its other end engaging with a slot in the plate I, vertically movable in ways *i* in plate A' and its fellow. The upper end of plate I is formed to fill the cigar-channel back of wall J, so that the motion of plate I will agitate the cigars as they descend from box N, and thus prevent them from becoming wedged. Having a broad upper surface, it will not break the cigars.

The operation of my invention is as follows: The machine being in the position shown in Figs. 1 and 3, the plate F lies below the lowest cigar, and the bar B' is firmly locked by the dog D, so that a pull on knob B produces no action. Upon inserting a coin in the slot it passes down the chute C into the incline C', whence if too small it passes out without effect, but if of proper size it is checked by the lip *c*, and descends through the chute until it rests on the light end of dog D. If the coin be of sufficient weight, it depresses the light end of dog D sufficiently to release bar B' from the dog; but its descent is checked by the bevel *b* on bar B' to prevent the coin from leaving the chute, in which case it would fall off from the dog and relock the machine before the operator could pull knob B. The operator now pulls knob B, drawing the bar B' outward until it assumes the position shown in Fig. 2. The light end of dog D rides down the bevel *b* on the bar B', thus permitting the coin to descend below the end of the coin-chute and fall into the money-box. The end of pin b^3, pressing against the upper end of lever E, carries this lever with it, thus swinging the rock-shaft E' and moving the arm *e*, which, through the connecting-rod *e'*, moves arm *g*, thus rocking shaft G. As the arm *g* moves the connecting-rods *k* and e^2 operate to give the plates K and F a reverse motion, pushing the plate K forward between the lowest cigar and the one next above it, and drawing the plate F backward until the lowest cigar is released and drops down where it can be reached by the purchaser. At the same time arm *g'* is moved, thus rocking the lever H and forcing the agitating-plate I upward to shake up the cigars in the upper end of the channel. Just before the bar B' reaches the limit of its outward motion the upper end of lever E swings below the end of pin b^3, the distance between shaft E' and pin b^3 increasing as the bar B' moves outward, thus releasing the lever E from the bar B', when the spring L instantly draws the plate K backward, thus rocking arm *g* in the reverse direction and advancing plate F and at the same time bringing the lever E and its connections back to their initial position. On releasing knob B the spring B^2 draws the bar B' back to its original position, the end of lever E passing the spring-pin b^6, which yields to permit this, the dog D again falls behind shoulder *b'*, and the machine is set for another operation, the cigars in the channel falling down until they rest upon plate F.

The pin b^4 locks the lever E against motion, except when the bar B' also moves.

The plates or cut-off K and F are so proportioned that the plate K will be pushed forward far enough to support the cigars above it before the plate F releases the cigar or cigars below it.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an automatic vending apparatus, the combination, with a coin-chute C, of the open-ended extension C', having on its upper side a lip *c*, substantially as shown and described.

2. In an automatic vending apparatus, the combination, with the delivery apparatus, of the lever E, bar B', having thereon the spring-pin b^3 and stop b^4, and the pivoted dog D below the coin-chute, substantially as shown and described.

3. In an automatic vending apparatus, the combination, with a rock-shaft, of two cut-offs connected therewith, a vertically-movable agitator connected with said rock-shaft, and a connection from said rock-shaft to the actuating-bar, substantiallly as shown and described.

4. In a cigar-vending apparatus, the combination, with lugs adapted to sustain one end of a cigar-box, of a spring-dog adapted to hold the other end of the box, substantially as shown and described.

5. In an automatic cigar-vending apparatus, the combination, with the rock-shaft G, having thereon the arms *g'*, of the pivoted lever H, connected at one end with said arm *g'* and at the other end with a vertically-movable plate I, substantially as shown and described.

6. In an automatic cigar-vending machine, the movable cut-off plates K and F, having

their ends set in channels in the side supporting-plates A′, substantially as shown and described.

7. In an automatic vending apparatus, the combination, with the bar B′, having on its upper side the bevel *b* and shoulder *b*′ and carrying a fixed stop b^4 and spring-pin b^3, of a pivoted dog below the coin-chute, and a pivoted lever having its free end between said stop and spring-pin and its other end connected with the delivery apparatus, substantially as shown and described.

CHARLES H. THOMPSON.

Witnesses:
BETHUNE DUFFIELD,
GERTRUDE H. ANDERSON.