No. 740,563. PATENTED OCT. 6, 1903.

F. G. HARTELL.

COIN CONTROLLED VENDING MACHINE.

APPLICATION FILED DEC. 17, 1902.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 2.

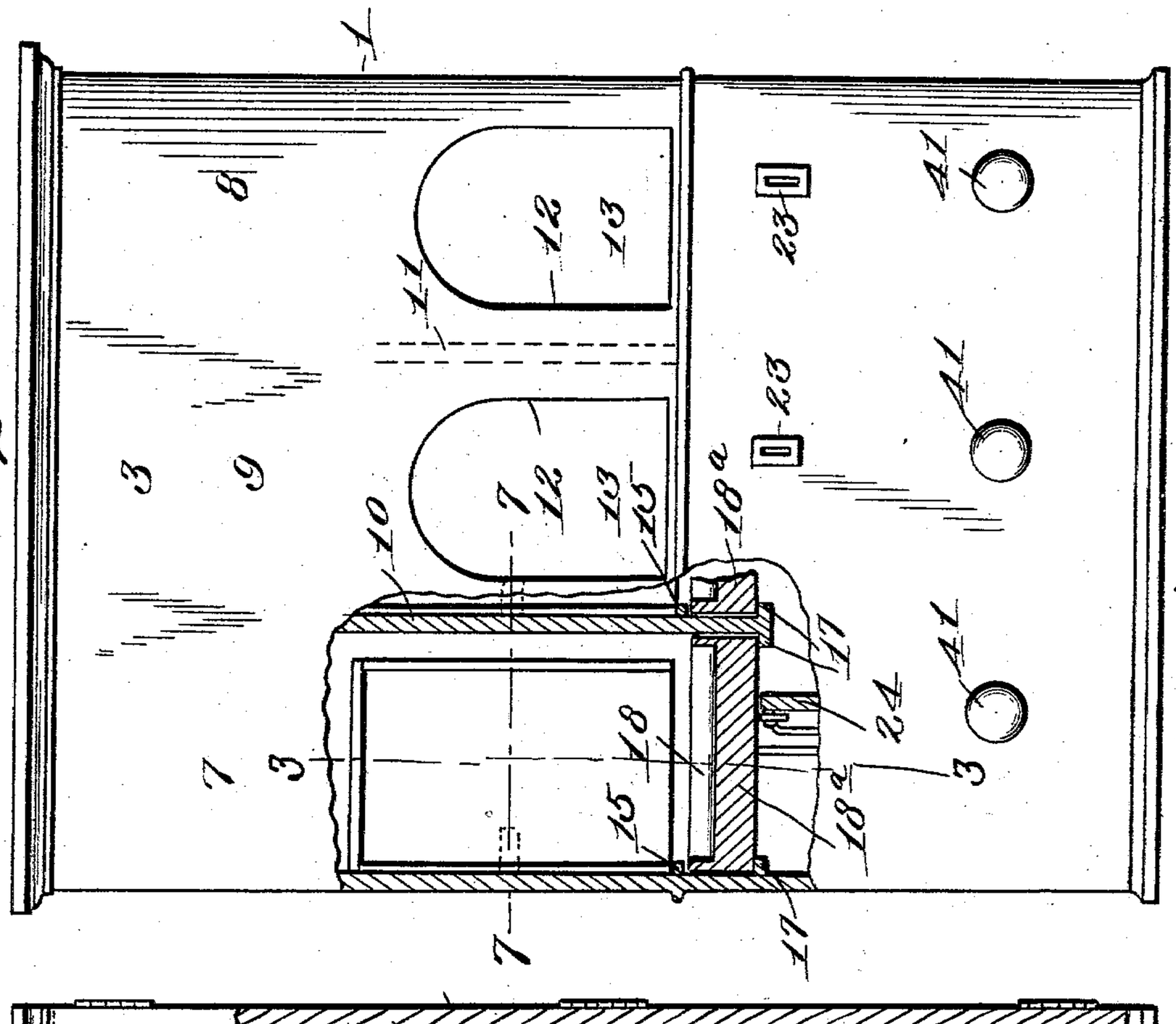

Fig. 1.

Witnesses:
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James L. Norris, Jr.

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NO MODEL. 3 SHEETS—SHEET 2.

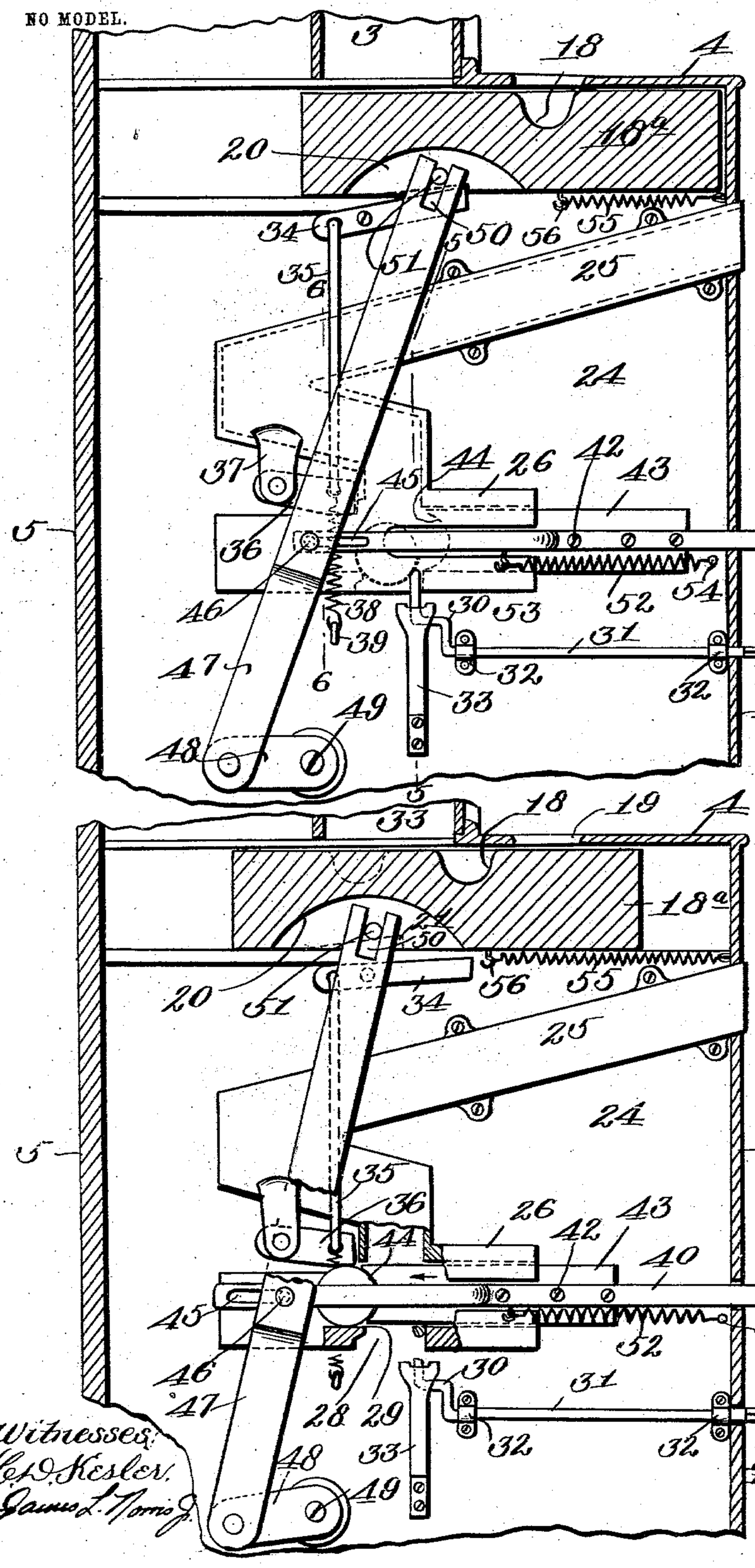

Fig. 3.

Fig. 4.

Witnesses:
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NO MODEL. 3 SHEETS—SHEET 3.

Fig. 5

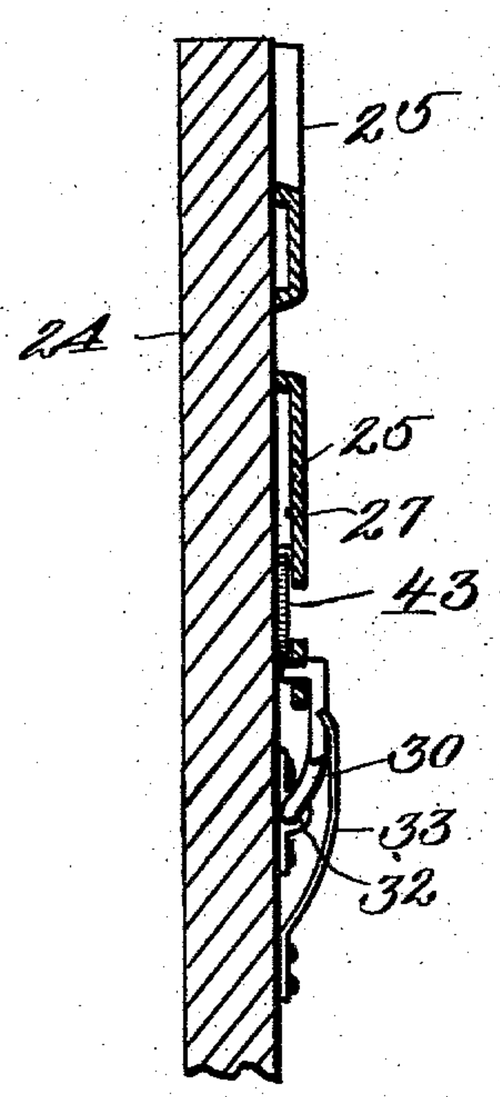


Fig. 6.

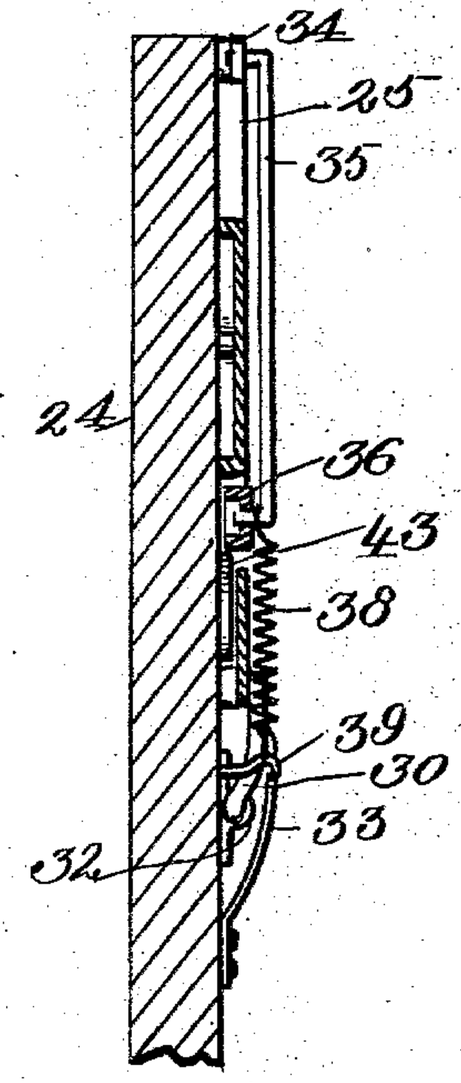


Fig. 8.

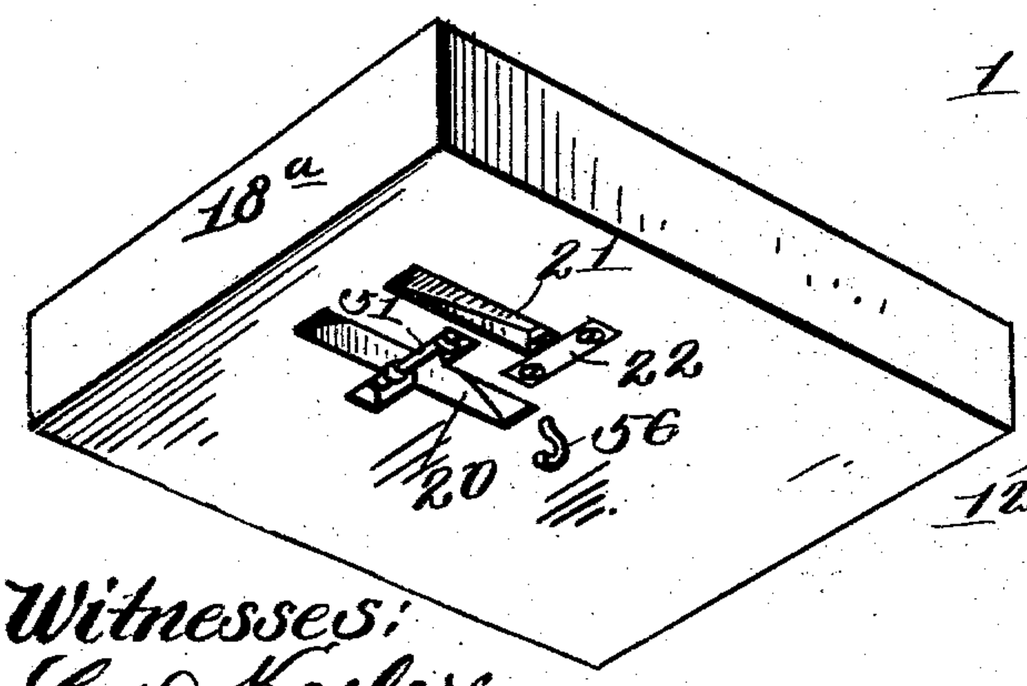
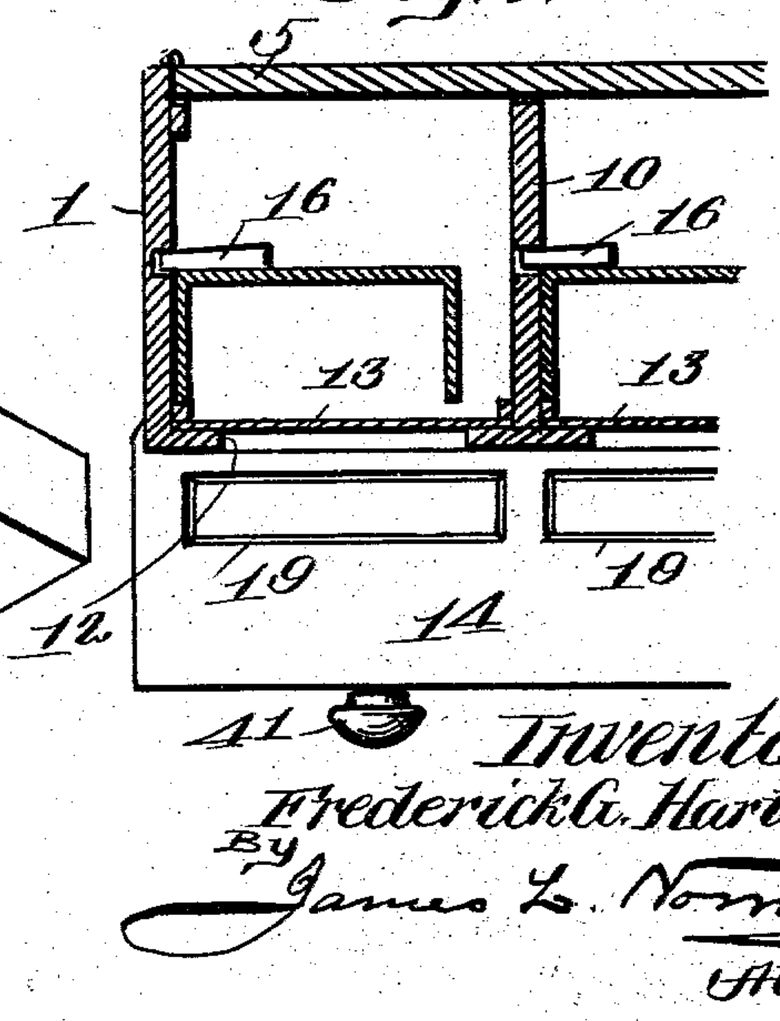


Fig. 7.



Witnesses:
C. D. Kesler.
James L. Norris, Jr.

Inventor
Frederick G. Hartell
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No. 740,563. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

FREDERICK G. HARTELL, OF SHAWNEE, OKLAHOMA TERRITORY, ASSIGNOR OF TWO-THIRDS TO WILLIAM D. FUGATT, JAMES R. JACOBS, AND ALONZO JACOBS, OF SHAWNEE, OKLAHOMA TERRITORY.

COIN-CONTROLLED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 740,563, dated October 6, 1903.

Application filed December 17, 1902. Serial No. 135,559. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK G. HARTELL, a citizen of the United States, residing at Shawnee, in the county of Pottawatomie and Territory of Oklahoma, have invented new and useful Improvements in Coin-Controlled Vending-Machines, of which the following is a specification.

This invention relates to coin-controlled vending-machines, and is more especially designed for vending cigars.

Said invention has for an object to provide improved mechanism by means of which the cigars are vended directly from the original box in which they are placed on the market.

It also has for an object to prevent the vending apparatus from being operated by the insertion of a coin of an improper size.

It has for another object to prevent the vending apparatus from being operated by a disk or coin of the proper size, but made from a soft and base metal—such as lead, for example.

Finally, it has for its object to provide a machine of the class referred to which will be simple and inexpensive in construction and efficient and certain in operation.

To these end my invention consists in features and in the construction, combination, and arrangement of parts hereinafter described, and particularly pointed out in the claims following the description, reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a view in side elevation, partially in section, of my improved vending apparatus. Fig. 2 is a view in front elevation, partially in section, of the vending-machine. Fig. 3 is a vertical sectional view taken on the line 3 3 of Fig. 2 and showing the parts in their normal position. Fig. 4 is a similar view taken on the line 4 4 of Fig. 2, showing the parts in the position they assume after a coin of the proper size has been inserted and showing the parts in one of the positions they assume while in the act of delivering a cigar. Fig. 5 is a sectional view taken on the line 5 5 of Fig. 3. Fig. 6 is a similar view taken on the line 6 6 of Fig. 3. Fig. 7 is a partial horizontal sectional view taken on the line 7 7 of Fig. 2. Fig. 8 is a detail perspective view looking from the under side of the cigar-delivery slide.

Referring to the drawings, the numeral 1 indicates a cabinet comprising a base 2 and a vertical portion 3, which is of less width than the base, constituting a ledge 4 on the upper front portion of said base. The entire rear portion of the cabinet is closed by a door 5, which is common to both the base 2 and the upper cigar-containing portion 3.

It will be obvious to those skilled in the art that the cabinet may be divided by suitable partitions into any suitable number of compartments, each adapted to contain a box of cigars and each provided with independent mechanism for vending the cigars from such box. In the present instance I have shown the cabinet adapted to contain three separate boxes of cigars, which may be of different qualities and prices—as, for example, the two end compartments 7 and 8 may be arranged to contain a box of cigars which are intended to be retailed at five cents each and the central compartment 9 may be arranged to contain a box of cigars designed to be retailed at, for example, one dime each. The upper portion of the cabinet is divided, in the present instance, into the three compartments 7, 8, and 9 by vertical partitions 10 and 11. Said partitions extend a suitable distance vertically in the upper portion 3 of the cabinet and extend from the rear inner portion of the front of said upper portion of the cabinet approximately to the rear thereof and also extend a suitable distance down into the base portion 2 of the cabinet, as indicated most clearly in Fig. 2 of the drawings. Formed in the front of the upper portion 3 of the cabinet are three apertures 12, which are adapted to be closed by glass panels 13, which are fitted in suitable rabbets formed around the edges of said apertures on the inner side of the front wall and are secured in place therein by beads 14 and 14′. Attached to the end wall of the cabinet and to the partitions 10 and 11 at the bottom of the apertures 12 are beads 15, and the boxes containing the cigars which are to be vended first have their tops and one of their ends re-

moved, and the box is stood up on end immediately in rear of the glass front and resting at one edge on the bead 15 and securely held in place against the interior of the bead 14 and of the front wall of the upper portion 3 of the cabinet by wedge-shaped pins 16, which may be inserted in corresponding openings in the end wall of the upper portion of the cabinet or of the partitions 10 and 11 therein. These wedge-shaped pins bear with sufficient force against the bottom of the cigar-boxes and hold them rigidly in place.

Attached to the bottoms of the partitions 10 and 11 and to the inner sides of the end walls of the cabinet are cleats 17, on which are adapted to slide the cigar-delivery slides 18ª, each of said slides constituting a solid rectangular block having formed transversely in its upper side at a suitable point a recess 18 of a size suitable to receive one cigar at a time.

Formed in the ledge 4 of the base of the cabinet are three apertures 19, each of which is adapted at a certain time to be caused to register with the cigar-receptacles 18, whereby a cigar may be removed by the operator.

Formed in the bottom of each of the slides 18ª is a semicircular, or approximately semicircular, recess 20, and also formed in said bottom is a substantially triangular recess 21, reinforced at its deepest end by a metallic plate 22, for a purpose hereinafter described.

Formed in the front of the base 2 of the cabinet are three coin-escutcheons 23, throug which are adapted to be inserted the coins for actuating the coin vending mechanism, and arranged in said base portion of the cabinet, slightly to one side of said escutcheons, are vertical partitions 24, which practically extend from the front to the rear of the cabinet and from the bottom thereof into close proximity to the bottoms of the cigar-delivery slides 18ª. Attached to each of said partitions is a tortuous coin-chute 25, which extends from a corresponding coin-escutcheon 23 to a coin-detector mechanism, which will now be described. Said detector mechanism comprises a horizontal plate 26, grooved upon its under side, as at 27, (see Fig. 5,) and attached on its grooved side to one of the partitions 24. The lower end of the coin-chute 25 communicates with the upper side of said plate intermediate the ends of the latter, as shown at 27, and is provided at its under edge opposite the point 27 with an aperture 28. The rear upper side of said aperture is provided with a sharp or knife edge 29, and adapted to rest in said aperture at the opposite upper edge thereof is one end of a bell-crank lever 30, the free end of said bell-crank lever projecting through a suitable aperture formed in the lower portion of the plate 26. The bell-crank lever 30 is formed on or carried by a rock-shaft 31, which is pivoted in bearings 32, fixed on the partition 24, and projects through the front of the lower portion 2 of the casing, said projecting end being squared or similarly formed in order that it may be turned by a detachable key, (not herein shown,) but which may be conveniently formed similar to a clock-key. The free end of the bell-crank lever 30 is normally held in the aperture 28 by a spring 33, fastened to the partition 24.

Pivoted to the upper edge of the partition 24 is a dog 34, the free end of which is adapted to enter the triangular recess 21, formed in the cigar-delivery slide 18ª and when in this position prevents any rearward movement of said slide. To the other end of the dog 34 is attached one end of a rod 35, the opposite end of the rod being pivotally connected to a pawl 36, which is pivoted at one end to the partition 24 or to a lug 37, formed with the coin-chute 25, and the lower forward end of said pawl is slightly beveled, as shown. To the free end of said pawl is attached one end of a coil-spring 38, the other end of said spring being connected to any suitable fastening—such as a hook 39, for example—attached to the partition 24, said spring operating to draw down the rod 35 and the end of the dog 34, connected thereto, thus maintaining the free end of said dog in the recess 21, whereby the cigar-delivery slide 18ª cannot be moved rearwardly to receive a cigar until the pawl 36 has been raised to depress the free end of said dog.

Arranged to slide between the grooved portion of the plate 26 and the adjacent side of the partition 24 is a steel plate 43, to which is attached by fastenings 42 a plunger-rod 40, which projects at one end outside of the base 2 of the cabinet and is provided on its end with a knob 41.

The inner end of the plate 43 is concaved, as at 44, so as to accurately fit the edge of a coin, such as a nickel, for example.

The inner end of the plunger 40 is longitudinally slotted, as at 45, and passing through said slot is a pivot-pin 46, rigidly fixed in a lever 47, the lower end of which is pivoted to one end of a link 48, which at its other end is pivoted to a journal 49, fixed to the partition 24.

The upper end of the lever 47 is longitudinally slotted, as at 50, and passes into the recess 20 in the bottom of the cigar-delivery slide and loosely embraces a pin 51, which is fixed in said slide and passes transversely through the recess referred to. Normally the plunger 40 is held projected out from the cabinet by a coil-spring 52, one end of which is fastened to a hook 53 on the plunger-rod, and at its other end is secured to a fixed support 54, attached to the partition 24.

The operation of my improved vending-machine is as follows, it being assumed that that part of the vending-machine designed to deliver cigars at a cost of five cents each being referred to: The front and one end of the box containing the cigars intended to be vended are broken off, and the box is fixed in the upper portion 3 of the cabinet opposite the glass panel in the manner described and as most fully shown in Figs. 1 and 2 of the

drawings. Let it be assumed that the parts are in their normal position, which is that illustrated in Fig. 3. Then in order to procure a cigar it is merely necessary to drop a nickel in the escutcheon surrounding the outer end of the coin-chute 25, whereupon the nickel will roll down through said tortuous coin-chute and drop down through the aperture 27 and will rest on the knife-edge 29 and on the end of the bell-crank lever 30. Owing to the distance between the two last-named parts, the upper edge of the coin will rest slightly below the lower forward edge of the pawl 36. When the rod 40, however, is pushed inward by its handle 41, the concaved end of the plate 43 will engage the edge of the coin and will cause it to roll up from between the knife-edge 29 and the free end of the bell-crank lever into the position shown in Fig. 4, thus raising up the pawl 32 and, through the medium of the rod 39, lowering the free end of the dog 34 from out of the recess 21 in the cigar-delivery slide 18ª and so releasing the latter. Owing to the pin 46, carried by the lever 47, resting in the slot 49, formed in the end of the plunger-rod, said plunger-rod will not move the cigar-delivery slide 18ª sufficiently far rearwardly to permit of a cigar dropping into the transverse recess in the upper side of said slide until the coin has been pushed from off its support to a point, say, beneath the pivot of the pawl 36; but when the coin has been thrust to such a point it being deprived of its support will drop to the bottom of the base 2 of the cabinet. The inward movement of the plunger 40 being continued, the cigar-delivery slide will be pushed farther inward until it reaches the position shown in dotted lines in Fig. 4 of the drawings. As the slide moves in this manner under the lower open end of the cigar-box one cigar will drop by gravity into the recess formed in the upper side of the slide, and when the plunger is again drawn out the slide will draw out said cigar with it until the cigar rests under the aperture 19, formed in the ledge 4 of the cabinet, when it may be readily removed by the purchaser. The machine is then in readiness to be again operated upon the insertion of a proper coin to deliver another cigar. Should a coin of too small size be inserted in the coin-chute—such, for example, as a penny—when it arrives at the aperture 28 it will continue its course down through said aperture and will drop to the bottom of the cabinet, and hence should the rod 40 be pushed in with the purpose of operating the delivery mechanism the upper rear corner of the concaved end 44 of the plate 43 will strike against the front end of the pawl 36 and will thereby be prevented from moving any farther inwardly. Hence the cigar-delivery slide 18ª could not be operated to deliver a cigar, first, because the locking-dog 34 would remain in place in the recess 21 in the bottom of the slide, and, secondly, because the plunger could not be moved to operate the lever 47 to actuate the slide. If a coin of the proper size, but of a base metal—such as lead, for example—be introduced into the chute, it will be caught by the knife-edge 29 and the free end of the bell-crank lever 30 in the same manner as a legal nickel; but owing to the softness of the metal when the rod 41 is forced inward to cause the coin to operate the mechanism instead of the leaden disk being raised up under the pawl 36 in the same manner as a nickel it would be grasped between the knife-edge 29 at one side of the aperture 28 and the lower sharpened edge of the concaved end 44 of the plate 43, and hence these parts would operate to strip or plane off the lower portion of the leaden disk between them, and after this has occurred the leaden disk would not be of a sufficient height to operate against the under side of the pawl 36, and hence the latter would remain in its normal position. The leaden coin would then be passed positively beneath said pawl by the plate 43 and would fail to depress the locking-dog, so as to unlock the delivery-slide or to slide the cigar-delivery slide back underneath the cigar-box to receive a cigar. When a leaden disk is inserted in the coin-chute, should the plunger 40 be pressed inwardly with sufficient force only to cause the knife-edge 29 and the corner of the plate 43 to nick or indent the edge of the coin, but fail to strip or plane it off entirely, the coin would then be liable to stick in the aperture 28 and render inoperative the cigar-delivery mechanism. When this occurs, it is only necessary to place the key referred to on the squared end of the shaft 31 and give the latter a partial rotation, thereby lifting the free end of the bell-crank 30 out of and away from the recess 28, whereupon the spurious leaden coin will drop down to the bottom of the cabinet and the parts will be in position again in readiness for operation.

I have described the invention as being arranged for the reception of a nickel only; but it will of course be understood that by altering the size of the parts they may be constructed to be operated by a coin of any desired size. I have also shown and described the mechanism arranged for vending cigars alone; but it will be obvious to those skilled in the art that by altering the size and shape of the recess formed in the delivery-slide the machine may be adapted to deliver articles of various different natures.

Ordinarily the delivery-slide 18ª will be held in the position shown in Fig. 3 by means of the spring 52 through the medium of the plunger 40 and lever 47. To withdraw said delivery-slide to the normal position shown with certainty, however, I prefer to provide a coil-spring 55, which is attached at one end to the front of the interior of the base of the cabinet and at its rear end to a hook 56, attached to the under side of the slide.

Having thus described my invention, what I claim is—

1. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide provided on its upper side with a recess arranged to receive a single article when said slide is pushed beneath the receptacle, a pivoted dog arranged to engage the slide to hold the latter against inward movement, a pivoted pawl connected with said dog for releasing the delivery-slide, a reciprocatory plate operable from the outside of the machine for releasing and reciprocating the delivery-slide, means arranged, when a proper coin is introduced, to put said plate in operative connection through the medium of the coin with the pawl, and cause the latter to release the delivery-slide when said plate is pushed inward, said means being constructed to permit a coin of insufficient size to pass inoperatively through the coin-controlled mechanism, and a support for the coin, the lower end of the plate and the opposite end of the support being sharp, whereby when a counterfeit coin or disk of soft metal is introduced into the machine and the plate is forced inward a portion of such coin or disk will be stripped and fail to raise the pawl, substantially as described.

2. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide provided on its upper side with a recess and arranged to receive a single article when said slide is pushed under the receptacle and to expose it for removal when the slide is pushed out, a pivoted dog arranged to engage the slide to hold the latter against inward movement, a pivoted pawl connected with said dog for releasing the slide when the pawl is rocked, a reciprocatory plate arranged to engage the end of said pawl and be held against inward movement when no coin or a coin of insufficient size is introduced, a coin-support arranged to hold a coin of proper size slightly beneath the plane of the lower end of the pawl, said plate when pushed inward being arranged to push the coin underneath the pawl and raise the latter, whereby the delivery-slide is released, substantially as described.

3. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide provided on its upper side with a recess arranged to receive a single article when said slide is pushed under the receptacle and to expose said article for removal when the slide is pushed out, a pivoted dog arranged to engage the slide to hold the latter against inward movement, a pivoted pawl connected with said dog for releasing the slide when the pawl is rocked, a reciprocatory plate arranged to engage the end of said pawl and be held against inward movement thereby when no coin or a coin of insufficient size is introduced, and a coin-support arranged to hold the upper side of a coin of proper size slightly beneath the plane of the lower end of the pawl, said plate when pushed inward being arranged to push the coin underneath the pawl and raise the latter, whereby the delivery-slide is released, said plate being arranged to reciprocate the slide to receive and deliver an article from the receptacle.

4. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide provided on its upper side with a recess arranged to receive a single article when said slide is pushed under the receptacle and to expose for removal said article when the slide is pushed out, a lock for normally holding the slide against inward movement, a pivoted pawl connected with said lock for releasing the slide when the pawl is rocked, a reciprocatory plate having a concaved end shaped to fit a coin and arranged to engage the end of the said pawl and be held against inward movement thereby when no coin or a coin of insufficient size is introduced, a coin-support arranged to hold the upper edge of a coin of proper size slightly beneath the plane of the lower end of the pawl, said plate when pushed inward being arranged to push the coin underneath the pawl and raise the latter, whereby the delivery-slide is released, said plate being arranged to reciprocate the slide to receive and deliver an article from the receptacle, the lower end of the plate and the opposite end of the support being sharp, whereby when a counterfeit coin or disk of soft metal is introduced into the machine, and the plate is forced inward, a portion of such coin or disk will be stripped and fail to raise the pawl, substantially as described.

5. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide provided on its upper side with a recess arranged to receive a single article when said slide is pushed under the receptacle and to expose the article for removal when the slide is pushed out, a lock for normally holding the slide against inward movement, a pivoted pawl connected to said lock for releasing the slide when the pawl is rocked, a reciprocatory plate arranged to engage the end of said pawl and be held against inward movement thereby when no coin or a coin of insufficient size is introduced, a coin-support arranged to hold the upper edge of a coin of proper size slightly beneath the plane of the lower end of the pawl, said plate when pushed inward being arranged to push the coin underneath the pawl and raise the latter, whereby the delivery-slide is released, and an oscillatory rod connected at its free end to the slide and intermediate its ends to the plate whereby when the slide is released and the plate is reciprocated, the slide will also be reciprocated to receive and deliver an article, substantially as described.

6. In a vending-machine, the combination with a receptacle for the articles to be vended,

of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside the receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected with said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, means for holding a coin of the proper size in the lower passage, a reciprocatory plate arranged to push said coin under the end of the pawl, thereby releasing the slide, a plunger connected at one end to said plate and projecting at its other end outside the machine for reciprocating the plate, and a spring for retracting said plunger and plate, substantially as described.

7. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside the receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected with said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, means for holding a coin of the proper size in the lower passage, a reciprocatory plate arranged to push said coin under the end of the pawl, thereby releasing the slide, a plunger connected at one end to said plate and projecting at its other end outside the machine for reciprocating the plate, a spring for retracting said plunger and plate, and means connected to the plunger for reciprocating the delivery-slide, substantially as described.

8. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside of the receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected to said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, means for holding a coin of proper size in the lower passage, a reciprocatory plate arranged to push said coin under the end of the pawl, thereby releasing the slide, a plunger connected at one end to said plate and projecting at its other end outside the machine for reciprocating the plate, an oscillatory lever pivotally secured at one end to a support and at its other end loosely connected to the delivery-slide, and a loose connection between the end of the plunger and the intermediate portion of said lever, substantially as described.

9. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside the receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected with said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, means for holding a coin of the proper size in the lower passage, a reciprocatory plate arranged to push said coin under the end of the pawl, thereby releasing the slide, a plunger connected at one end to said plate and projecting at its other end outside the machine for reciprocating the plate, a spring for retracting said plunger and plate, an oscillatory lever pivotally secured at one end to a support and at its other end loosely connected to the delivery-slide, and a loose connection between the ends of the plunger and the intermediate portion of said lever, substantially as described.

10. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside the receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected with said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, means for holding a coin of the proper size in the lower passage, a reciprocatory plate arranged to push said coin under the end of the pawl, thereby releasing the slide, a plunger connected at one end to said slide and projecting at its other end outside the machine for reciprocating the plate, a spring for retracting said plunger and plate, an oscillatory lever pivotally secured at one end to a support and at its other end loosely connected to the delivery-slide, and a pin carried by said lever intermediate its ends and projecting into a longitudinal slot formed in the end of the plunger, substantially as described.

11. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside the

receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected with said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, means for holding a coin of the proper size in the lower passage, a reciprocatory plate arranged to push said coin under the end of the pawl, thereby releasing the slide, a plunger connected at one end to said plate and projecting at its other end outside the machine for reciprocating the plate, a spring for retracting said plunger and plate, a pivoted link in the lower part of the machine, an oscillatory lever pivotally connected at one end to said link and at its other end loosely connected to the delivery-slide, and a pin carried by said lever intermediate its ends and projecting into a longitudinal slot formed in the end of the plunger, substantially as described.

12. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside of the receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected to said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, means for holding a coin of the proper size in the lower passage, a reciprocatory plate arranged to push said coin under the end of the pawl and thereby release the slide, a plunger connected at one end to said plate and projecting at its other end outside the machine, a spring for retracting the plunger and plate, an oscillatory lever pivotally connected at one end to a support and forked at its other end and embracing a pin passing transversely through a segmental slot formed in the bottom of the slide, and means loosely connecting the end of the plunger to said lever, substantially as described.

13. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside the receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected to said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, a rock-shaft provided at one end with a bell-crank lever arranged to project into one side of said lower passage and projecting outside said machine whereby the rock-shaft may be withdrawn to permit of a mutilated coin dropping through said lower passage, a reciprocating plate arranged to push a proper coin under the end of the pawl, thereby releasing the slide, and means for reciprocating the plate and delivery-slide when the latter is released, substantially as described.

14. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recess to receive a single article and carry it outside the receptacle, a lock for normally holding the slide against inward movement, a pivoted pawl connected with said lock for releasing the slide when the pawl is rocked, a horizontal grooved and slotted coin-casing provided with coincident coin-passages in its top and bottom, a coin-chute communicating at its bottom with the upper of said passages, a rock-shaft provided at one end with a bell-crank lever arranged to project into one side of said lower passage and projecting outside of said machine, whereby the rock-shaft may be withdrawn to permit of a mutilated coin dropping through said lower passage, a spring for normally holding the end of the bell-crank lever in said passage, a reciprocating plate arranged to push a proper coin under the end of the pawl and thereby release the slide, and means for reciprocating the plate and delivery-slide when the latter is released, substantially as described.

15. In a vending-machine, the combination with a receptacle for the articles to be vended, of a reciprocatory delivery-slide arranged to close the lower end of the receptacle and provided on its upper side with a recesss to receive a single article when said slide is pushed under the receptacle and expose it for removal when the slide is pushed out, a triangular slot formed in the bottom of the slide, a pivoted dog adapted to enter said slot and prevent the slide from being moved inward, a coin-chute, a casing for receiving the coin from the chute, a pivoted pawl, a rod connected to one end of the pawl and operating to withdraw the dog and release the slide when the pawl is raised, a spring arranged to normally hold the pawl depressed, and means adapted to push a proper coin under the pawl and raise the latter to release the slide, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FREDERICK G. HARTELL.

Witnesses:

VINTON COOMBS,

J. R. JACOBS.