W. J. MORSE.

COIN OR CHECK CONTROLLED VENDING MACHINE.

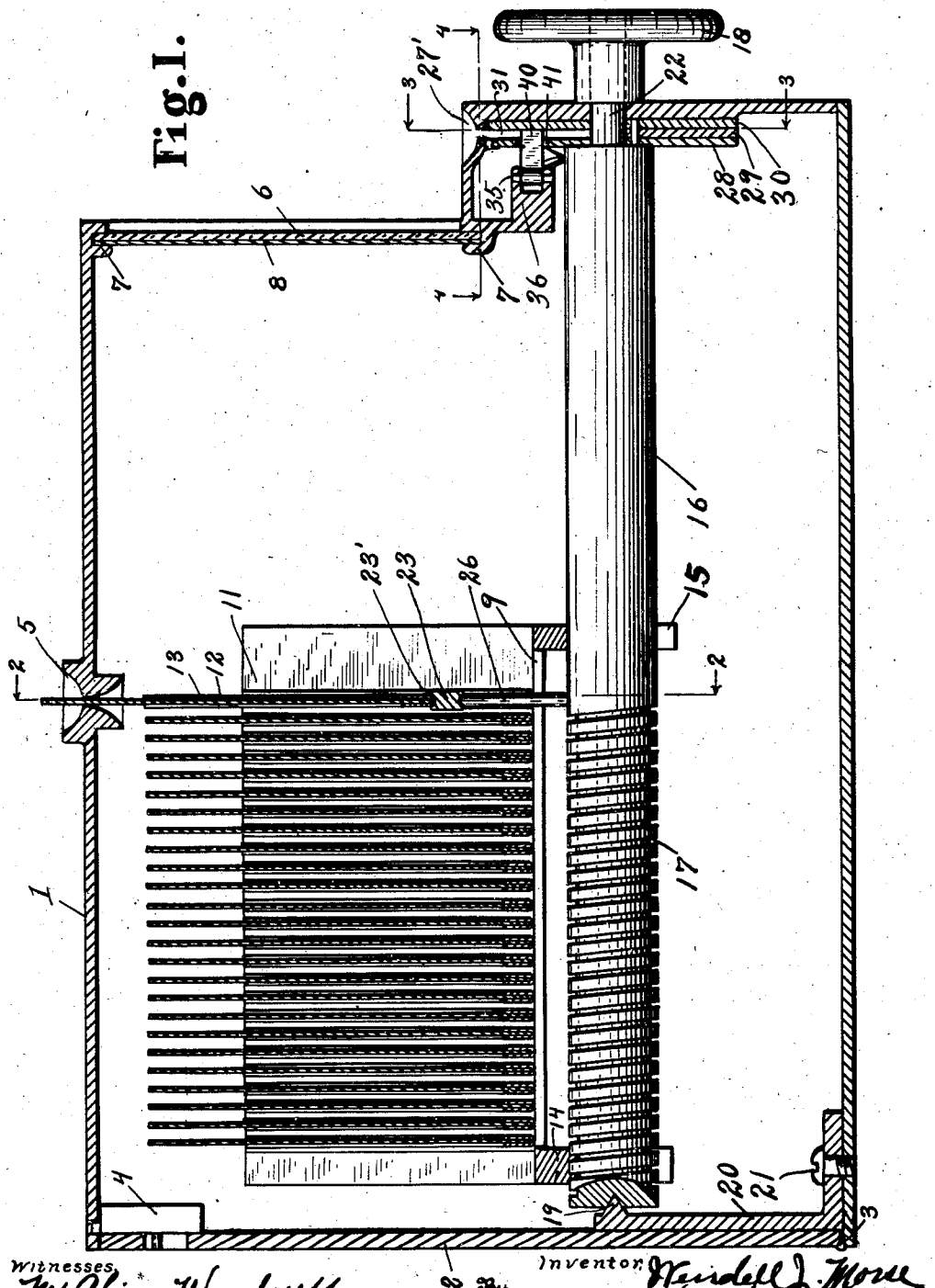
APPLICATION FILED AUG. 6, 1910.

1,021,723.

Patented Mar. 26, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS-SHEET 2.

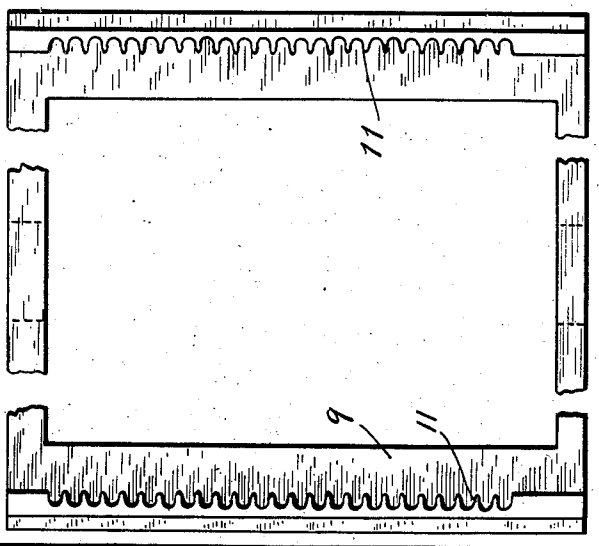

Fig. VI.

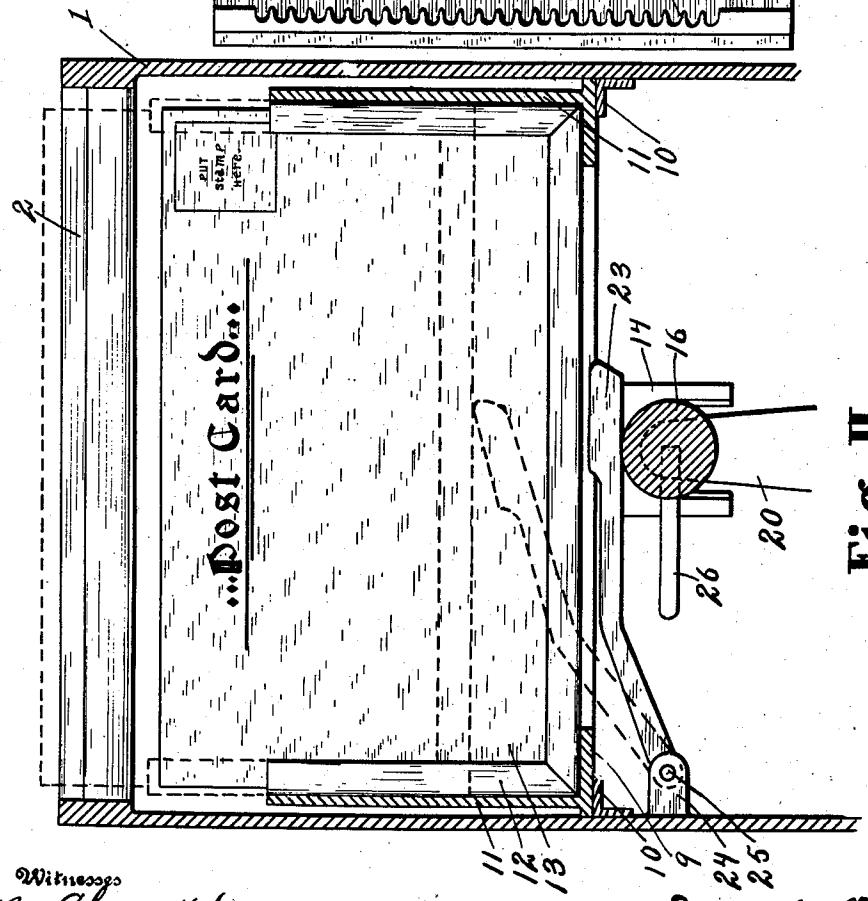

Fig. II.

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3 SHEETS—SHEET 3.

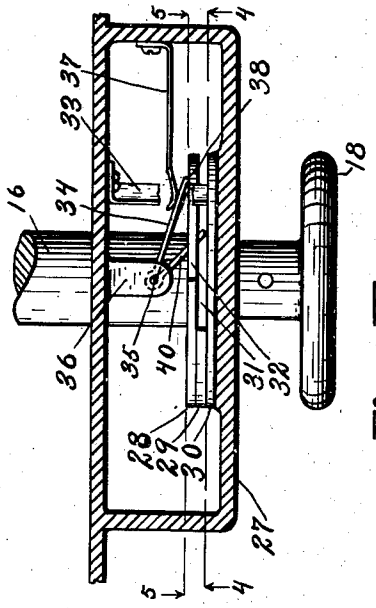

Fig. IV.

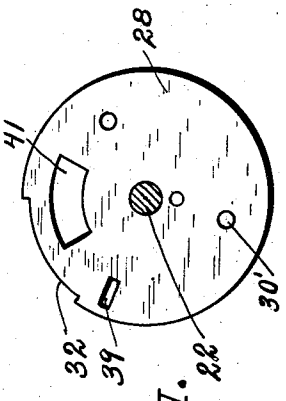

Fig. V.

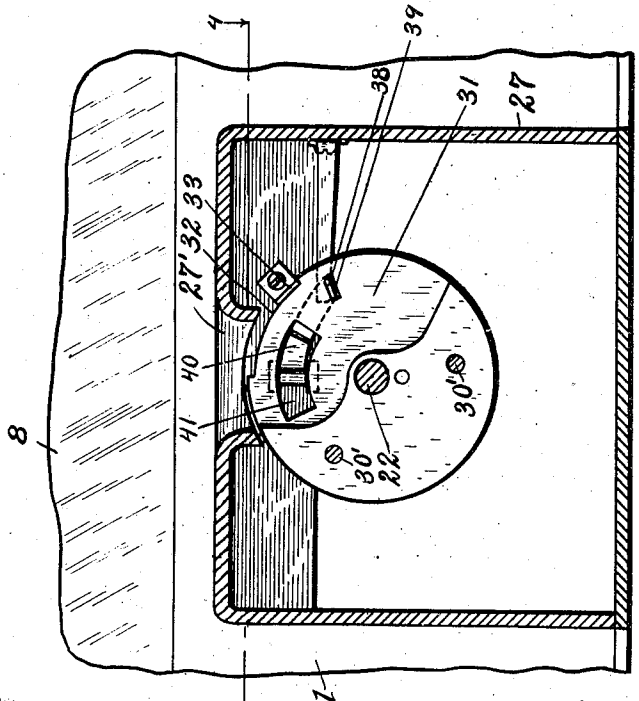

Fig. III.

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UNITED STATES PATENT OFFICE.

WENDELL J. MORSE, OF ALBION, MICHIGAN.

COIN OR CHECK CONTROLLED VENDING-MACHINE.

1,021,723. Specification of Letters Patent. Patented Mar. 26, 1912.

Application filed August 6, 1910. Serial No. 575,910.

To all whom it may concern:

Be it known that I, WENDELL J. MORSE, a citizen of the United States, residing at Albion, county of Calhoun, State of Michigan, have invented certain new and useful Improvements in Coin or Check Controlled Vending-Machines, of which the following is a specification.

This invention relates to improvements in coin or check controlled machines.

The objects of the invention are: First, to provide in such an apparatus an improved magazine for cards or packages of similar form. Second, to provide improved delivery devices for such vending machines. Third, to provide improved coin or check controlled locks for releasing the delivery mechanism.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure constituting a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure 1 is a longitudinal detail sectional elevation through a vending apparatus embodying my invention, taken on a line corresponding to line 1—1 of Fig. 2. Fig. 2 is a detail transverse sectional elevation taken on the irregular line 2—2 of Fig. 1, showing the progressive operation of the delivery device. Fig. 3 is a detail transverse sectional elevation, taken on a line corresponding to line 3—3 of Figs. 1 and 4, showing details of construction of my improved coin-released lock. Fig. 4 is a detail transverse sectional plan view, taken on a line corresponding to lines 4—4 of Figs. 1 and 3, certain portions being broken away to show details. Fig. 5 is a detail sectional elevation view, taken on a line corresponding to line 5—5 of Fig. 4, showing details of the lock disk 28. Fig. 6 is a detail sectioned view of the card or packing magazine, showing the details of the compartments.

In the drawings, the sectional views are taken looking in the direction of the little arrows at the ends of the section lines and similar numerals of reference refer to similar parts throughout the several views.

Considering the reference characters, the main case 1 is provided with a door 2 at the rear, having a hinge 3 at the bottom and a lock 4 at the top. A transverse slot 5 in the top is for the delivery of post-cards or packages of like form from the magazine within. A front window 6 is provided for displaying a sample of the cards or goods which is to be delivered, the same being held by a flange 7—7, and a card or package 8 being supported in the said flanges, back of the window 6.

A magazine 9 is provided within the case and is adapted to travel on the angular rails 10 and 10,—see Fig. 2. The sides 11 of the case are vertical and corrugated, or grooved,—see Fig. 6, where a plan view of the sides appears showing the compartments. Into these grooves are inserted the card holders 12, containing the cards 13, or an envelop or package containing goods. A screw-threaded nut 14, open on its under side, is on the under side of the magazine 9 at its rear end, and a bifurcated bracket 15 is at the front end of the magazine. These rest upon a horizontal shaft 16 provided with screw-threads 17 for engaging the nut 14, so that the magazine will be caused to travel when the shaft is rotated. The hand-wheel 18 is secured to the outer end of the shaft 16 to actuate the same. The shaft 16 is supported by a pintle 19 at its rear end, and by journals 22 at its forward end. The pintle 19 is on the removable bracket 20, which is secured in place by the screw 21. When the shaft is rotated by means of the hand-wheel 18, the projecting finger 26 will be actuated, and, by its contact, operates the delivery device for the card or package from the magazine and also advances or feeds the magazine by the screw action to position for the next delivery.

On the inside of the case 1 is supported a swinging arm 23, pivoted to a bracket 24 by a pivot 25, the upper end of which arm is grooved at 23′. This arm is acted upon by the finger 26 on the shaft 16 whenever the shaft is turned over; and, by such actuation, lifts up the card-holder 12 and projects the upper edge of the post-card, or other pack-

age, out through the slot 5, so that the purchaser can seize the same and remove it from the machine. I provide an improved coin-controlled lock for releasing this shaft, so that it can be turned once over on the introduction of a coin or check. This lock is disposed in the lock case 27, provided with coin or check slot 27′. The lock consists of a lock disk 28, which is provided with segmental plate 29, cut out at 31 to receive a coin, which is delivered through the slot 27′ in the case 27. A disk or washer 30 is on the opposite side of the disk 28. This lock disk 28 is provided with a peripheral notch 32, extending one-sixth of the distance around the same, which is engaged by a transverse spring finger 33, which limits the movement of the shaft 16 and prevents its operation until a proper coin has been introduced.

A pawl 34, having a bent end 38, is pivoted on the pivot 35 on the bracket 36 for engaging the lock disk and preventing its rotation in either direction. The bent end 38 engages in the radial slot 39 in the said disk. A spring 37, secured inside of the case 27, holds the pawl 39 yieldingly in position. This pawl 34 is connected to and made integral with the finger 40, which extends obliquely through the slot 41 in the lock disk 28, as clearly appears in Figs. 1 and 4. This slot is circumferential and extends about one-sixth of the distance around the disk. This slot could be considerably less or considerably more than one-sixth of the distance around the disk. I have mentioned a convenient and satisfactory length.

Having described the various parts of my improved vending machine, I will now state definitely the operation of the various parts in use.

A coin is introduced through the slot 27′ and pushed down by the purchaser. This coin passes under the oblique finger 40 and raises the pawl 34, against the pressure of the spring 37, and releases the lock disk 28 by withdrawing the offset end 38 of the pawl from the slot 39. The hand-wheel can now be rotated and is turned toward the right. If the coin or check is of too small diameter, as a penny, for instance, it will not contact with the spring finger 33, and the coin will be discharged out at the slot 31 in the bottom of the casing which constitutes the coin receptacle, without releasing the delivery mechanism. If a coin of the right dimension, a five-cent piece, for instance, has been introduced, it will contact with the spring finger 33 and raise the same, thereby releasing completely the lock disk 28. This can now be turned over, which, of course, rotates the shaft 16, and the finger 26 will be swung around as it is carried by the shaft. This first permits the swinging arm 23 to drop down against the shaft, and, as the shaft continues to rotate, the screw-thread 17 advances the magazine one step,—that is, the distance of one thread. The finger 26 then passes up from the position indicated in Fig. 2, against the arm 23, up to the vertical position illustrated in Fig. 1. When the lock disk reaches this point, the bent end 38 of the pawl 34, snaps into the slot 39 and locks the disk with the finger 26 projecting upwardly. The movement of the finger 26 upwardly against the arm 23 causes it to rise and carry up the holder 12 and force the card or other package therein upwardly, so that its upper edge will project through the transverse slot 5 in position to be grasped by the purchaser. The finger 26 is held vertically by the lock until released by a coin. Any coin that can be introduced into the machine, whether it operates the delivery mechanism or not, will be discharged out of the cut-out 31 into the bottom of the casing which is the coin receptacle. The slot 27′ is of such dimension that it will not receive coins larger than the predetermined size, and thus it is not necessary to provide mechanism for disposing of such larger coins, as they cannot be introduced. On the introduction of another coin, this evolution will be repeated, and the magazine will be advanced another step, so that its next holder will deliver its contents. When this magazine has become exhausted, it can be readily removed by unlocking the door 2 and lifting the same out, owing to the fact that the bracket 15 and the nut 14 are slotted on the under side; or, if desired, the coin-controlled lock can be suppressed and the whole structure fed back to the beginning point by the reverse movement of the hand-wheel 18.

I have described my invention in the form which I prefer, but I desire to remark that it is capable of very many structural variations without departing from my invention. I desire to claim the specific form in which I have shown it and also to claim the broad features.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a vending machine, the combination of a suitable casing with a transverse delivery slot in the top thereof; a magazine with an open top provided with oppositely-disposed slots forming compartments, supported in suitable ways within the said casing; ways for said magazine to travel upon; open top holders adapted to reciprocate in the compartments of said magazine; a threaded nut underneath the said magazine for moving the same; a shaft journaled in the lower part of said casing and screw-threaded to act upon the said nut, and provided with an arm to actuate the delivery device and with a hand-wheel for actuating

the same; an arm pivoted within the said casing and having a suitable engaging notch disposed to engage and elevate the said holders when actuated by said shaft arm; and a lock for locking the said shaft and limiting its movement, as specified.

2. In a vending machine, the combination of a suitable casing with a transverse delivery slot in the top thereof; a magazine; a threaded nut underneath the said magazine for moving the same; a shaft journaled in the lower part of said casing, screw-threaded to act upon the said nut and provided with an arm to actuate the delivery device and with a hand-wheel for actuating the same; an arm pivoted within the said casing, disposed to engage and elevate articles from said magazine; and a lock for locking the said shaft and limiting its movement.

3. In a vending machine, the combination of a suitable casing with a transverse delivery slot in the top thereof; a magazine; a threaded nut underneath the said magazine for moving the same; a shaft journaled in the lower part of said casing, screw-threaded to act upon the said nut and provided with an arm to actuate the delivery device and with a hand-wheel for actuating the same; an arm pivoted within the said casing, disposed to engage and elevate articles from said magazine; and a lock for locking the said shaft and limiting it movement, as specified.

4. In a vending machine, the combination of a suitable casing, with a transverse delivery slot in the top thereof; a magazine; a threaded nut underneath the said magazine for moving the same; a shaft journaled in the lower part of said casing, screw-threaded to act upon the said nut and provided with an arm to actuate the delivery device and with a hand-wheel for actuating the same; a delivery device to be actuated by said arm; and a lock for locking the said shaft and limiting its movement, as specified.

5. In a vending machine, the combination with a suitable casing provided with a delivery slot in the top thereof, of a magazine supported on suitable ways within said casing, said magazine being open at the top and bottom and provided with oppositely disposed slots forming a series of compartments therein; open top holders loosely supported in said compartments of said magazine; means for feeding said magazine; and a delivery mechanism operatively associated therewith adapted to successively engage and elevate said holders to project the articles carried thereby through said delivery slot as the magazine is advanced.

6. In a vending machine, the combination with a suitable casing provided with a delivery slot, of a magazine supported in suitable ways within the casing, said magazine being open at the top and bottom and provided with oppositely disposed slots forming compartments; a threaded shaft journaled below said magazine, said magazine being provided with a thread engaging member; an arm pivoted within said casing and projecting over said shaft; and an arm on said shaft adapted to engage said pivoted arm as said shaft is rotated.

7. In a vending machine, the combination with a suitable casing of a magazine comprising side and end members, the side members being provided with opposed vertical grooves forming compartments; slide ways for said magazine; open top holders adapted to reciprocate in the said compartments of said magazine; a threaded shaft journaled below said magazine, one of the end members of said magazine being provided with a thread engaging nut; and an arm pivoted within said casing below said ways and resting on said shaft, said shaft being provided with an arm adapted to engage said pivoted arm as the shaft is rotated, whereby the holders are successively raised as said magazine is advanced.

8. In a vending machine, the combination with a suitable casing provided with a delivery slot in the top thereof, of a magazine open at the top and bottom; slideways for said magazine at the sides of said casing; means for feeding said magazine comprising a threaded shaft arranged below said magazine, said magazine being provided with a downwardly-projecting thread engaging member; delivery means comprising an arm pivotally mounted below said magazine; an arm on said shaft adapted to actuate said delivery arm whereby said delivery arm is actuated to project the articles through said slot as said magazine is advanced above the same; and a lock for said shaft adapted to lock the same when the delivery arm is in its actuated position to support the article projected through said slot.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

WENDELL J. MORSE. [L. S.]

Witnesses:

R. B. KENNEDY,

D. C. VANDERCOOK.