

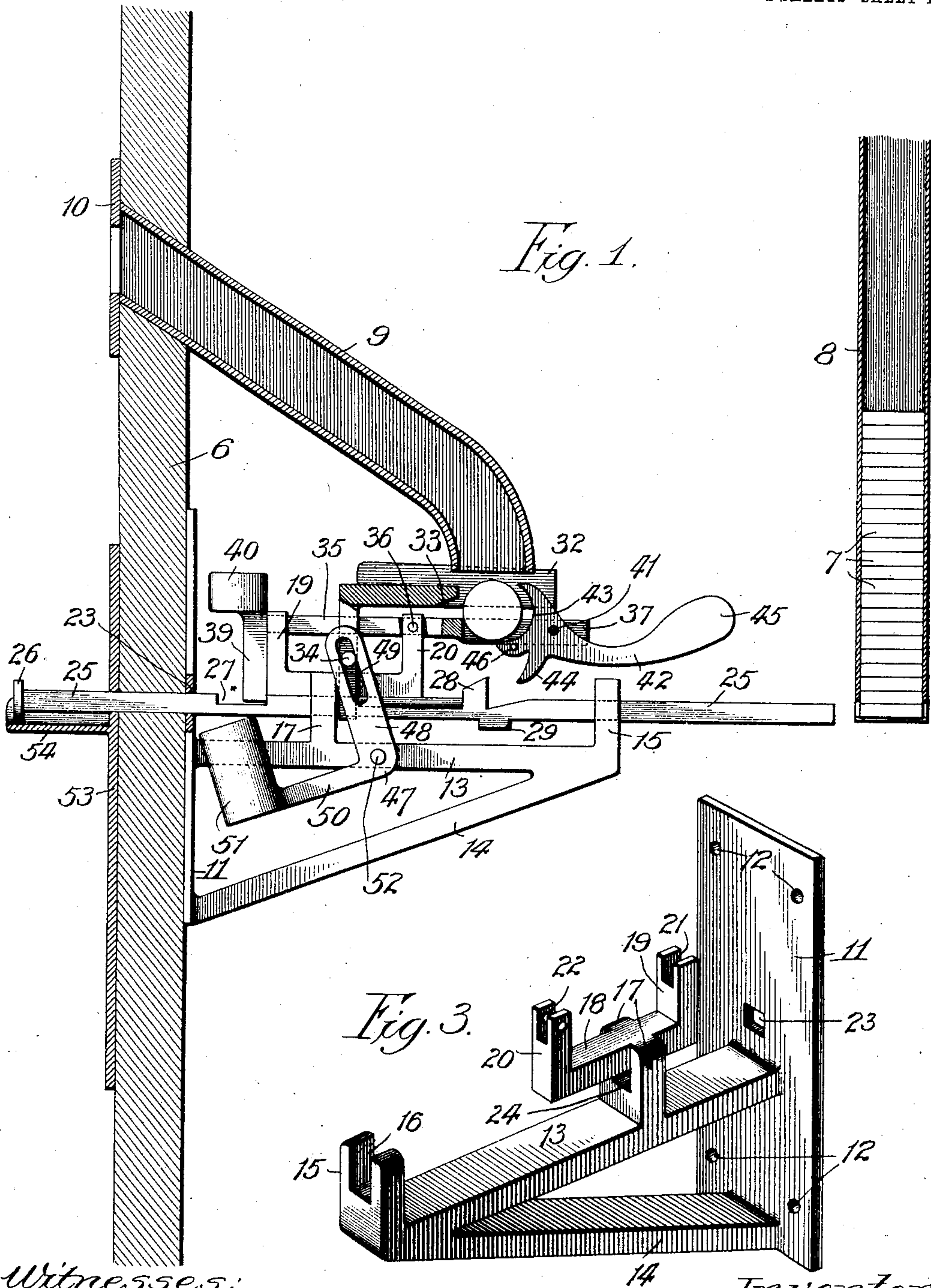
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PATENTED JAN. 10, 1905.

W. H. WALTER.  
COIN CONTROLLED VENDING MACHINE.

APPLICATION FILED AUG. 4, 1904.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2

Atty



# UNITED STATES PATENT OFFICE.

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## COIN-CONTROLLED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 779,824, dated January 10, 1905.

Application filed August 4, 1904. Serial No. 219,454.

*To all whom it may concern:*

Be it known that I, WILLIAM H. WALTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines, of which the following is a specification.

My invention relates to coin-controlled vending-machines of that type wherein the delivery of the goods to be vended is effected by the movement of a push-bar or similar device that is normally maintained locked against operative movement and is or may be released upon the deposit of a suitable coin in the machine. Such machines as heretofore constructed have, so far as I am aware, employed mechanisms of a considerably-complicated nature, involving the use of gears, ratchets, springs for effecting the resetting of the parts, &c., which are comparatively short-lived in point of wear, easily gotten out of order, and thus tend to make the machine unreliable in its operation.

My present invention has for its main object to eliminate these faults in such machines and render them more durable, certain, and reliable in operation.

Another object of the invention is to simplify and cheapen the cost of production of such machines through a reduction in the number of necessary operating parts and the employment of parts of simple construction capable of easy manufacture and assembling. Other minor objects of the invention will appear in connection with the following detailed description.

To these ends my invention consists in a coin-controlled mechanism for effecting the locking and release of the push-bar or equivalent device in a machine of this character having the novel features of construction and manner of operation, substantially as hereinafter described, and pointed out in the claims.

A mechanism embodying the principle of my invention in the best mechanical form which I have as yet devised is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation, partly in verti-

cal section, showing the parts in idle position with a coin deposited therein preliminary to the actuation of the push-bar. Fig. 2 is a similar view showing the relative positions assumed by the parts after the push-bar has been actuated to eject or deliver the merchandise and showing also the manner in which the coin is discharged from its seat. Fig. 3 is a perspective view of the main supporting-bracket of the mechanism. Fig. 4 is a perspective view of the push-bar and coin-impinging member carried thereby, and Fig. 5 is a perspective view of the counterweighted push-bar-locking lever.

Referring to the drawings, 6 designates a portion of the front wall of a suitable box or casing constituting a housing for the mechanism, within or adjacent to which casing may be disposed the merchandise to be sold, such merchandise being, for the sake of convenience, herein illustrated as a stack of packages of chewing-gum or the like contained in a vertical chute 8 in rear of the vending mechanism.

9 indicates a downwardly-inclined coin-chute secured at its upper end in or to the wall 6, the entrance-opening of which may be covered by a slotted escutcheon-plate 10.

Secured to the inner face of the wall 6 is the main supporting-bracket for the movable parts of the mechanism, which bracket, as best shown in Fig. 3, is preferably formed as a single integral casting consisting of the following parts: 11 is the base-plate, secured in upright position to the wall 6 by suitable screws passed through the hole 12. Extending horizontally from the face of the upright base-plate 11 is an arm 13, having an oblique underlying brace or strut 14, the meeting ends of the two having a short upright extension 15, in which is a vertical slot 16. Rising vertically from the arm 13 is a post 17, carrying an inverted yoke 18, disposed parallel with the arm 13, the inner and outer upright arms 19 and 20 of the yoke having vertical slots 21 and 22, respectively. The plate 11 has a substantially central aperture 23, and the post 17 has a similar aperture 24 beneath the yoke 18 and in alignment with the slot 16 and aperture 23.



The apertures 23 and 24 and slot 16 receive and seat the push bar or rod 25, shown in isolated detail in Fig. 4. This is simply a straight bar which at one end extends through a hole in the wall 6 of the casing and terminates in a head or button 26 and at its other or inner end extends into proximity to the lower end of the merchandise-holder 8. The bar 25 is further provided with a shallow rectangular notch 27 on its upper side and farther along toward its inner end with an upstanding lug 28, which serves as a trip for a counterweighted coin supporting and tripping lever hereinafter described. The bar 25 may also carry a depending lug 29, suitably located to limit the inward thrust of the bar by contact with the vertical extension 15 of the main supporting-bracket. Rising from the bar 25 at a point between the notch 27 and lug 28, and preferably cast integral therewith, is a forked upright 30, carrying at its upper end a horizontal rearwardly-extending coin-impinging plate 31, flanked on both sides by upright parallel flanges 32, serving as lateral guard-plates for the coin. The inner or free end of the plate 31 is adapted to strike the edge of the upper half of the coin, partially riding over and forcing down the latter, and for this purpose is preferably provided with a beveled or chamfered lower edge 33, as shown in Figs. 1 and 2. Projecting laterally from one side of the forked upright 30 is a pin 34.

Pivotaly mounted intermediate its ends in the slot 22 of the inner arm 20 of the stationary yoke 18 and guided in the slot 21 of arm 19 is the push-bar-controlling lever 35. (Shown in isolated detail in Fig. 5.) This lever consists of a straight bar having a substantially central pivot-bearing 36 and a forked inner end portion 37, the long slot 38 of which lies directly beneath the discharging-orifice of the coin-chute 9. At its forward end the lever 35 has a straight depending finger 39, the lower end of which when the parts are in idle position enters the notch 27 of the push-bar, as shown in Fig. 1, acting as a stop for the latter, and when the mechanism is operated with a properly-deposited coin rises out of said notch and permits the full inward or delivery movement of the push-bar, as shown in Fig. 2. The finger 39 is surmounted by a counterweight 40.

Pivotaly mounted in the forked end of the lever 35 on a pivot-pin 41 and playing in the slot 38 is a coin receiving and tripping lever 42. The short wide arm of this lever underlies the discharge end of the coin-chute 9 and, as best shown in Fig. 1, has formed in its forward edge a crescent-shaped coin-seat 43, beneath which is a depending spur 44, adapted to be struck by the lug 28 to tilt the lever on the inward delivery thrust of the push-bar, as shown in Fig. 2. The lever is restored to normal receiving position and maintained there by the counterweighted inner or rear arm 45,

a lateral stop-pin 46 limiting its play in this direction by contact with the lower edge of one of its lateral supports.

47 indicates the restoring-lever in the form of a bell-crank, one arm, 48, of which has a longitudinal slot 49 engaging the pin 34 on the upright 30, carried by the push-bar, while its other arm, 50, carries a heavy counterweight 51. The lever is pivoted at its elbow on a pivot-pin 52 to one side of the arm 13 of the main supporting-bracket.

The exposed portion of the push-bar may be provided with an escutcheon-plate 53, secured to the outer face of the casing-wall 6, which plate may carry a horizontal guide or guard 54 for the head 26 of the push-bar.

The operation is as follows: The normal or idle position of the parts is as shown in Fig. 1. If it be attempted to work the mechanism without first depositing a coin in the chute, the push-bar will simply move inwardly a slight distance until the edge of the notch 27 strikes the stop 39, when it can go no farther, this movement being insufficient to effect the exposure or delivery of the merchandise; but if the proper coin be deposited it comes to rest in the manner shown in Fig. 1. If then the push-bar be actuated, the edge 33, riding over the upper edge of the coin, crowds the coin hard back into its seat 43, which operation exerts a sufficient resultant downward pressure on the inner end of lever 35 to raise the counterweight 40 and stop-finger 39 out of and above the notch 27 and permit the push-bar to continue its inward movement. What then occurs is clearly shown in Fig. 2. All three levers 35, 42, and 47 are tilted against the gravity effect of their respective counterweights, and the lug 28, striking against the spur 44, imparts a quick coin-ejecting movement to the coin holding and tripping lever 42, the coin dropping down into a suitable coin-receptacle beneath (not shown) and the inner end of the push-bar ejecting the merchandise. On the release of the pressure on the head of the push-bar the counterweighted bell-crank lever 47, acting through the pin 34, returns the push-bar and coin-impinging plate to retracted position, which operation withdraws the lug 28 from the spur 44 and allows lever 42 under the action of its counterweight 45 to swing back to normal coin-receiving position. The retraction of the push-bar also brings notch 27 again beneath the stop-finger 39 and allows lever 35 to also tilt back, under the action of its counterweight 40, to the normal position shown in Fig. 1, locking the push-bar and returning the parts to a condition ready to repeat the above-described operations on the posit of the next coin.

From the foregoing it will be seen that my invention dispenses with all springs, ratchets, gears, and like elements depending solely on counterweights to restore the operating



parts to normal position. The mechanism is composed of but a few simple elements, the movements of which are limited to reciprocatory or oscillatory motions, and hence the mechanism is very unlikely to get out of order. The parts may be and preferably are made of metal castings and include no weak or delicate members easily subject to breakage from rough usage. Hence the mechanism possesses a high degree of durability. The movements are all entirely positive, thus insuring reliability of action.

It is evident that the mechanism as shown and described might be considerably varied and modified in respect to specific details of form and structure by those skilled in the art without departing from the principle and spirit of the invention or sacrificing any of the advantages thereof. Hence I do not limit the scope of the invention to the particular mechanical embodiment thereof herein shown and described, except to the extent indicated in specific claims. I also wish it to be understood that my present invention is not concerned with any particular manner or means whereby the inner end of the push-bar effects the delivery of the merchandise or with the particular merchandise handled by the machine. The showing of the drawings in this respect is illustrative merely of one manner in which said bar might operate on merchandise put up in uniform packages.

I claim—

1. In a coin-controlled vending mechanism, the combination with a rigid notched push-bar adapted to effect the delivery of merchandise, of a pivoted lever, a stop-finger carried by one arm of said lever normally engaging said notch and having a limited relative movement therein longitudinally of said push-bar, a coin-seat carried by the other arm of said lever, and a coin-impinging device operable upon a deposited coin through the initial inward movement of the push-bar to tilt said lever and retract said stop-finger from said notch, substantially as described.

2. In a coin-controlled vending mechanism, the combination with a rigid notched push-bar adapted to effect the delivery of merchandise, of a pivoted lever, a stop-finger carried by one arm of said lever normally engaging said notch and having a limited relative movement therein longitudinally of said push-bar, a coin-seat carried by the other arm of said lever, a weight also carried by said lever normally serving to keep said finger in engagement with said notch, and a coin-impinging device operable upon a deposited coin through the initial inward movement of the push-bar to tilt said lever in opposition to said weight and retract said stop-finger from said notch, substantially as described.

3. In a coin-controlled vending mechanism, the combination with a rigid notched push-bar adapted to effect the delivery of merchandise, of a weighted lever carrying on one arm a depending stop-finger engaging said push-bar notch with capacity for a limited relative play longitudinally thereof and on the other arm a coin-receiving seat, and a coin-impinging device carried by said push-bar adapted to ride over a deposited coin on the inward movement of the push-bar and by depressing said coin tilt said lever and retract said stop-finger, substantially as described.

4. In a coin-controlled vending mechanism, the combination with a push-bar adapted to effect the delivery of merchandise, of a counterweighted lever carrying on one arm a stop for said push-bar and on the other arm a counterweighted lever having a coin-receiving seat, a coin-impinging device carried by said push-bar and operating upon a deposited coin through the initial inward movement of the push-bar to retract said push-bar stop, and means operable upon the further inward movement of said push-bar to rock said coin-receiving lever and discharge the coin, substantially as described.

5. In a vending-machine of the type described, the combination with a stationary bracket and a notched push-bar slidably mounted therein, of a counterweighted lever pivotally mounted on said bracket and carrying a stop-finger movable into and out of said notch of the push-bar, a coin-seat carried by said lever, and a device carried by said push-bar adapted to ride over and depress a deposited coin, thereby tilting said lever and withdrawing said stop-finger from the notch of the push-bar, substantially as described.

6. In a vending device of the type described, the combination with a stationary bracket and a notched push-bar slidably mounted therein, of a counterweighted lever pivotally mounted on said bracket and carrying a stop-finger movable into and out of said notch of the push-bar, a counterweighted oscillatory member pivoted on one arm of said lever and having a coin-seat formed therein, a coin-impinging device carried by said push-bar and operating to tilt said lever and retract said stop-finger on the initial inward movement of said push-bar, means carried by said push-bar adapted to rock said oscillatory member and discharge the coin on the further inward movement of the push-bar, and weight-operated means serving to return said push-bar at the completion of its inward movement, substantially as described.

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