A. C. PANN.

VENDING MACHINE.

APPLICATION FILED JUNE 16, 1915.

1,308,960.

Patented July 8, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

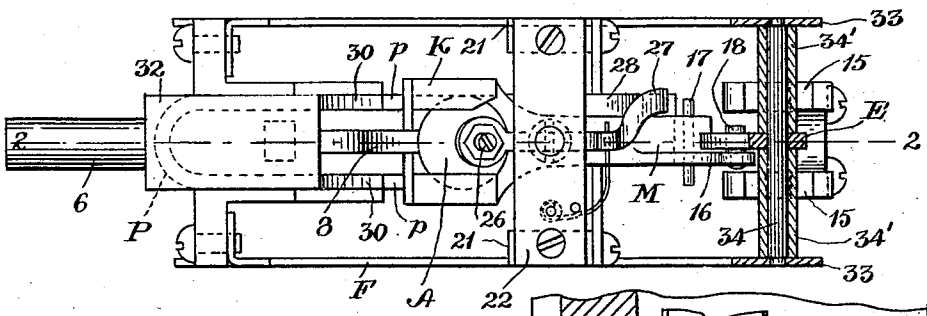


Fig. 3.

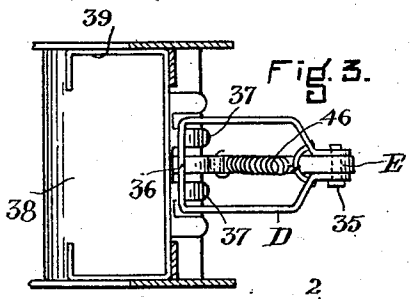


Fig. 2.

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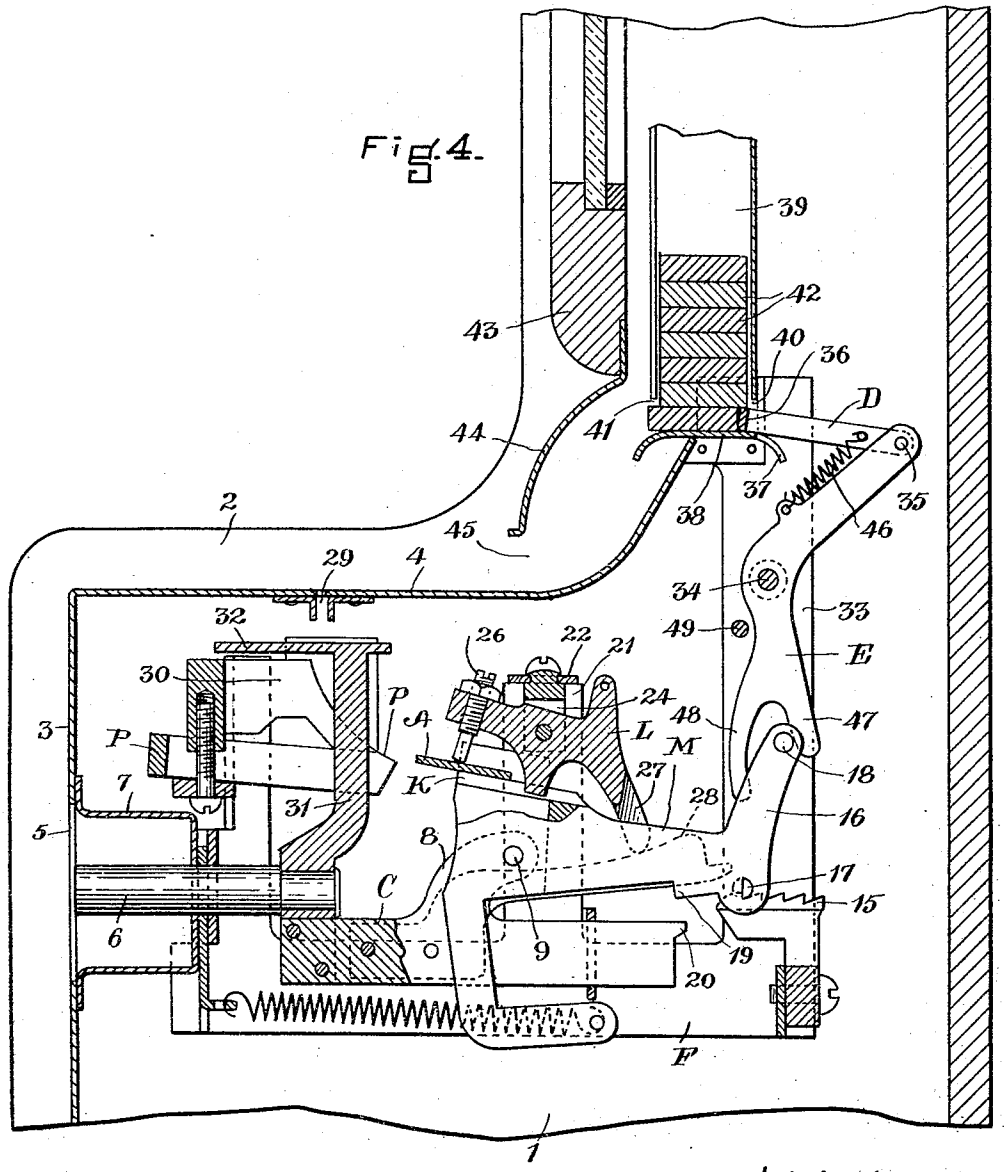
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Fig. 4.



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UNITED STATES PATENT OFFICE.

AUGUST C. PANN, OF RIDGEWOOD, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AUTOSALES CORPORATION, A CORPORATION OF NEW YORK.

VENDING-MACHINE.

1,308,960. Specification of Letters Patent. Patented July 8, 1919.

Application filed June 16, 1915. Serial No. 34,358.

To all whom it may concern:

Be it known that I, AUGUST C. PANN, a citizen of the United States, and a resident of Ridgewood, Long Island, in the county of Queens and State of New York, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

The object of my invention is to provide a vending machine of the magazine-type involving certain improvements and advantages over machines of that kind heretofore constructed.

One feature of my invention resides in a pivoted ejecting lever which is so constructed and arranged that when the hand-operated actuating member is moved forwardly it actuates the lever into ejecting position, and when the hand-operated member returns to normal position it actuates the lever back to normal position. By virtue of this construction and arrangement the ejecting lever does not require a return spring and is simply a "dead" member which remains in actuated position until moved by the hand-operated member.

Another feature of my invention resides in the ejector pivoted at the upper end of the swinging lever referred to. This ejecting member rests at all times at its forward or ejecting end on the plate or shelf member which forms the bottom of the magazine. Preferably, a spring is employed to press this ejecting member against the shelf and thereby insure its proper path of travel. The ejecting member rests normally behind the magazine in alinement with the discharge opening thereof, and when the lever is actuated the ejecting member is moved into engagement with the lowermost article in the magazine and ejects the same at the forward end of the magazine.

The forward ejection of the articles which takes place in a machine embodied in my invention is preferable to the rearward ejection of many kinds of vending machines heretofore constructed. Where the article is ejected forwardly in the magazine, it is delivered in a convenient position on the shelf or extension beneath which the ejecting mechanism is housed. On the other hand, where the ejection is rearward, the article is discharged at the very bottom of the machine casing where it is sometimes difficult to see, where it is inconvenient for the purchaser to grasp.

The above and other objects and advantages of my invention will become apparent from a detailed description of the drawings which form part of this specification, and in which—

Figure 1, shows a transverse cross-section, looking downwardly, on line 1—1 of Fig. 2, the parts being shown in normal position.

Fig. 2, is a longitudinal cross-section of a machine embodying my invention, the view being taken on line 2—2 of Fig. 1, with parts of the casing broken away.

Fig. 3, is a view approximately on line 3—3 of Fig. 2, looking downwardly, showing the ejector in its normal position behind the magazine; and

Fig. 4, is a view similar to Fig. 2, showing the ejecting mechanism in a partly operated position.

The casing 1 of the machine may be of any approved construction and is at its lower portion provided with side extensions 2 to provide a chamber for accommodating the hand-operated ejecting mechanism. This chamber is covered by a front wall 3 and a top plate 4 which are preferably formed out of one piece of sheet metal. The front wall 3 has an opening 5 through which extends the hand-operated plunger 6. Around the opening 5 is secured the cup-shaped cover 7 which extends inwardly and provides room for the finger of the operator in pushing the plunger inwardly. The plunger 6 is at its inner end secured to a slidable carriage indicated as a whole by C. This carriage is provided with an ear or lug 8 on which is pivoted the actuating member M by means of a pin or stud 9. The carriage C is slidably mounted in the fixed framework indicated as a whole by F. The actuating member M is provided with a suitable coin-carrier K adapted to receive the deposited coin. An L-shaped extension 10 projects downwardly from the actuating member M in front of the portion 11 of the slidable carriage C. A spring 12 is at one end connected to the fixed framework F at the point 13 and at the other end to the extension 10 at the point 14. This spring 12 not only holds the actuating member M in its

normal position, but also returns the carriage C and the parts mounted thereon to normal position upon release of the plunger. At the lower rearward end of the framework F is provided a pair of spaced ratchet bars 15, which are held in place by any suitable means. At its inner end the actuating member M is formed with the extension 16 which is at its lower end provided with a split pin 17 and at its upper end with an engaging lug 18. The split pin 17 is so arranged as to ride over the ratchet bars 15 during the forward elevated movement of the member M. This member has two paths of travel—namely, a normal or inoperative path during which the split pin 17 rides under the ratchet bars 15, and an operative or elevated path during which the lug 18 is raised into engaging position and maintained in that position by the split pin 17 riding over the ratchet bars 15. The engagement between the pin 17 and the ratchet bars 15 is such as to prevent return movement of the parts before completion of the forward movement, while readily permitting forward movement thereof. The rocking action of the spring 12 on the actuating member M is limited by suitable stop means, such as the shoulder piece 19 of the member M abutting against the lug 20 on the carriage C.

The framework F is provided with a pair of standards 21 connected on top by the cross-piece 22 from which extends the block 23 having bifurcations 24. These bifurcations carry the pin 25 on which is pivotally mounted the coin-engaging lever L. This lever is at one end provided with an adjustable pin 26 and at the other end with the extension 27. The pin 26 is arranged substantially midway of the spaced arms which constitute the coin-carrier K. From the extension 11 of the carriage C projects the cam arm 28.

The top plate 4 is provided with the usual coin-entrance slot 29. The inserted coin is guided from the slot 29 to the coin-carrier K by the curved guide pieces 30 suitably fixed upon the framework F. Preferably, a permanent U-shaped magnet P is so mounted that its polar faces p are interposed between the guide pieces 30 and the coin-carrier K, so as to intercept magnetic disks and prevent them from reaching an operative position on the coin-carrier.

The operation of the mechanism so far described will now be understood and may be briefly stated as follows:

When the plunger 6 is pushed in without a coin having been previously deposited, the carriage C and the member M carried thereby are moved toward the rear of the casing. During this operation the member M moves in its lower or inoperative path, the pin 17 traveling beneath the ratchet bars 15. When a proper coin is deposited in the machine, it finds its way into the coin-carrier K and is held thereby in proper position. In Figs. 1 and 2 the deposited coin is shown at A. When now the plunger 6 is pushed inwardly, the cam extension 28 of the carriage C engages the extension 27 of the lever L and thereby rocks the same so that the pin 26 bears down upon the coin A in the coin-carrier K. As the inward movement of the carriage C continues, this engagement between the pin 26 and the coin A causes rocking of the member M in a direction to elevate the free end 16 thereof. This elevation of the member M takes place before the pin 17 reaches the ratchet bars 15. As the carriage C with the member M is moved inwardly, the pin 26 forces the coin A out of the coin-carrier K. That is to say, the coin A remains practically stationary while the carriage K moves inwardly toward the rear of the machine. However, the coin is not ejected out of the coin-carrier until after the pin 17 has engaged the ratchet bars 15 thereby supporting the member M in elevated position independently of the coin. The parts cannot be returned to normal position unless the plunger is pushed in fully so that the pin 17 moves beyond the ratchet bars 15, whereupon the actuated member M drops to normal or lower position under the action of the spring 12. Upon release of the plunger 6, the spring 12 returns the carriage C and member M to normal position.

The carriage C is at its front end provided with an upright arm 31 having at its upper end a plate 32 which is adapted to close or obstruct the coin-slot 29 when the parts are out of normal position. The purpose of this closure or obstruction is to prevent the deposition of a coin when the coin-carrier K is not in a position to receive it.

The above described coin-controlled mechanism—that is to say, the carriage C, actuating member M and coin-engaging lever L—does not in and of itself constitute part of my present invention, as it is disclosed in Cook Patent No. 627,685, dated June 27, 1899, and I have shown said mechanism merely to illustrate a suitable or convenient means adapted to operate the delivery mechanism which I am about to describe.

At its rear end the framework F is provided with a pair of standards 33 between which is mounted the shaft or rod 34 carrying the ejecting lever indicated as a whole by E. Sleeves 34^1 maintain the lever E centrally on the shaft 34. At its upper end the lever E has pivoted thereto the ejecting or delivery member D. The point of pivot is indicated at 35. As best shown in Fig. 3, the delivery member D is approximately U-shaped in form and its forward or delivery end 36 normally rests upon the flanges 37 of the plate or shelf member 38 which forms

the bottom of the goods-magazine 39. This magazine is of any approved construction and is firmly held in place by any suitable means. The rear wall of the magazine is at its lower end provided with an opening 40 through which the ejector D is adapted to pass when the machine is operated, while at its lower front end the magazine has a discharge opening 41 sufficiently large to allow one package or piece of goods to pass through. The vendible articles are conventionally indicated in Figs. 2 and 4 at 42. The front panel 43 of the machine casing is at its lower end provided with a curved metallic guard 44 which terminates above the top plate 4 to provide the delivery-opening 45.

The ejector D is preferably formed of a single piece of sheet metal. Unless the ejector is sufficiently heavy to rest firmly by its own weight against the shelf 38, I prefer to employ a spring 46 to force the ejector firmly against the shelf so as to insure its proper operation.

The pivoted lever E is at its lower end provided with a pair of spaced extensions 47 and 48, the extension 47 being shorter than the other. A fixed stop pin 49 arranged between the standards 33 is adapted to limit the movement of the lever E to normal position.

When the coin-actuated member M, previously described, is in normal position, as shown in Fig. 2, the path of travel of the lug 18 is below the extension 47 of the lever E. So that when the push-rod 6 is actuated without the deposition of a coin, no movement of the lever E takes place. However, when a proper coin is deposited and the carriage C actuated, the free end of the member M is elevated into the position shown in Fig. 4, and in that position the lug 18 is adapted to engage the extension 47 of the lever E and rock the same counter-clockwise (as viewed in Figs. 2 and 4). During this rocking movement of the lever E, the ejector D is carried across the bottom of the magazine and pushes the lowermost article off the shelf 38, so that it drops through the delivery opening 45 on to the top plate 4, whence it may be easily removed by the purchaser.

When the plunger 6 is released after a full inward stroke, the pin 18 of the coin-actuated member M does not engage the extension 47 of the lever E, which remains in its actuated position, but the longer extension 48 is engaged by the pin 18 with the result that the lever E is rocked in the opposite direction until it reaches the position shown in Fig. 2. During this return of the lever E the ejector D simply slides over the shelf 38 from under the column of goods which drop down upon the shelf as soon as the ejector D is withdrawn out of the magazine.

It will be observed from the foregoing that the lever E carrying the ejector D is not provided with any spring but remains in its normal and actuated position until moved by the actuating member M. In this way the only spring to be overcome when the rod 6 is pushed in is the common return spring 12. Were an additional spring to be overcome, the operation of the push-rod would be rendered more difficult, which would be an objectionable feature.

It will be observed that the ejector D always rests upon the shelf 38 which forms the bottom of the magazine, and it therefore has but a short distance to travel in an almost straight path to cause the ejection of the goods. Furthermore, the delivery of the goods is from the front of the magazine, as distinguished from the back delivery of prior machines (as for instance, the machine of Cook Patent No. 627,685, above referred to), with the advantages previously noted.

While I have herein set forth a specific construction, I would have it understood that I do not intend to be limited to the details shown and described, but that modifications and alterations may be made by those skilled in the art without departing from the scope of the invention as defined in the appended claims.

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

1. In a vending machine, a magazine for containing the vendible articles, a pivoted lever having means at its upper end to eject the articles from said magazine, a hand-operated actuating member for said lever, said member having a normal or inoperative path of travel and an operative path, an extension provided at the lower end of said lever and arranged out of the normal or inoperative path of said member but adapted to be engaged by said member when the latter travels in its operative path, whereby said member actuates said lever to eject the articles, said lever remaining in actuated position, means whereby said member during its return movement actuates said lever back to normal position, and mechanism for adjusting the path of travel of said member.

2. In a vending machine, a magazine for containing the vendible articles, a pivoted lever having means at its upper end to eject the articles from said magazine, a hand-operated actuating member for said lever, said member having a normal or inoperative path of travel and an operative path, an extension provided at the lower end of said lever and arranged out of the normal or inoperative path of said member but adapted to be engaged by said member when the latter travels in its operative path,

whereby said member actuates said lever to eject the articles, said lever remaining in actuated position, a second extension at the lower end of said lever arranged to be engaged by said member during its return movement to actuate said lever back to normal position, and mechanism for adjusting the path of travel of said member.

3. In a vending machine, a magazine for containing the vendible articles, a pivoted lever having means at its upper end to eject the articles from said magazine, a hand-operated actuating member for said lever, said member having a normal or inoperative path of travel and an operative path, means whereby said member when traveling in its operative path actuates said lever to eject the articles, said lever remaining in actuated position, means whereby said member during its return movement actuates said lever back to normal position, and mechanism for adjusting the path of travel of said member.

4. In a vending machine, a magazine for containing the vendible articles, a pivoted lever having means at its upper end to eject the articles from said magazine, a pair of spaced extensions at the lower end of said lever, one of said extensions being longer than the other, and a hand-operated member adapted to engage the shorter extension in its forward movement to actuate said lever into ejecting position, and to engage the longer extension during its return movement to actuate said lever back to normal position.

In witness whereof, I hereunto subscribe my name this 9 day of June, 1915.

AUGUST C. PANN.

Witnesses:
A. D. GROVER,
FLORENCE E. LANG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."