W. T. FOSTER.

COIN CONTROLLED VENDING MACHINE.

APPLICATION FILED MAY 8, 1913.

1,080,754.

Patented Dec. 9, 1913.

2 SHEETS—SHEET 1.

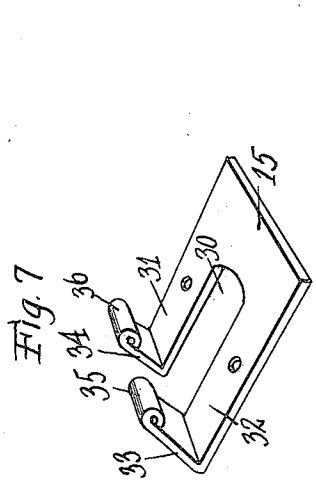


Fig. 7

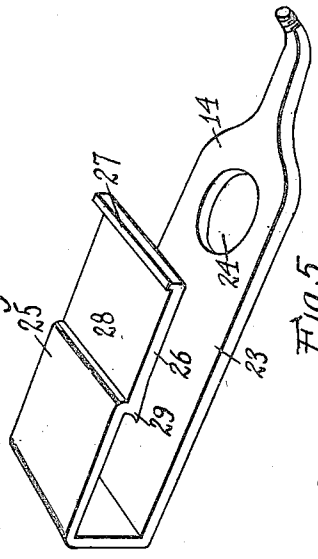


Fig. 6

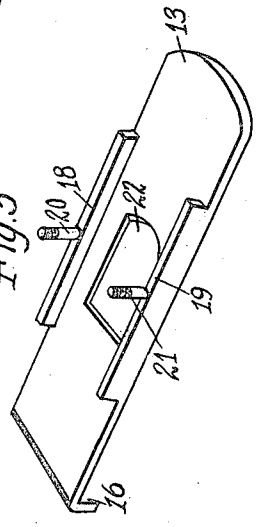


Fig. 5

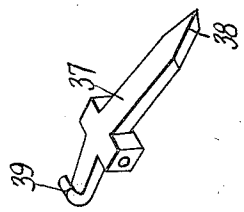


Fig. 8

Fig. 1

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2 SHEETS—SHEET 2.

Fig 2

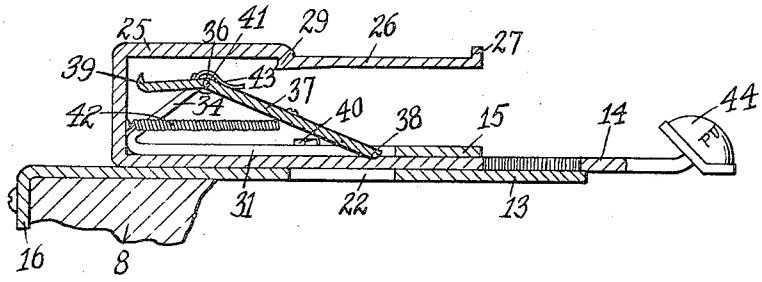


Fig. 3

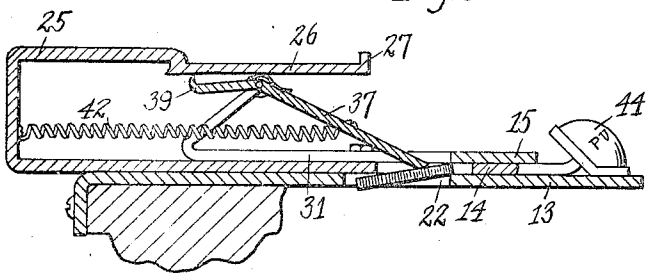
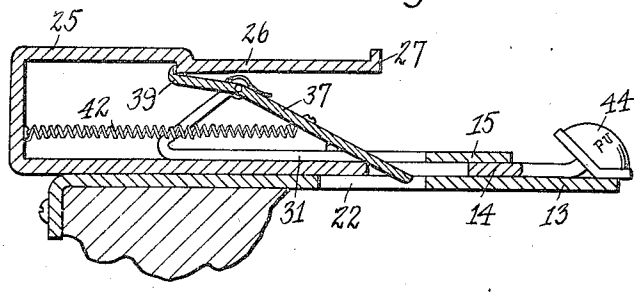


Fig. 4



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UNITED STATES PATENT OFFICE.

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COIN-CONTROLLED VENDING-MACHINE.

1,080,754. Specification of Letters Patent. Patented Dec. 9, 1913.

Application filed May 8, 1913. Serial No. 766,382.

To all whom it may concern:

Be it known that I, WALTER T. FOSTER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in coin controlled vending machines.

As its principal object this invention aims to provide a machine of the character set forth, which will deliver an article or package of goods when a piece of money representing the value of the article or package is deposited in the machine.

A further object is to construct the control mechanism in such manner that the delivery apparatus will be locked in inoperative position if an attempt is made to actuate the control mechanism without depositing a coin in the machine.

The above and additional objects are accomplished by such means as are illustrated in the accompanying drawings, described in the following specification and then more particularly pointed out in the claims which are appended hereto and form a part of this application.

With reference to the drawings, wherein I have illustrated the preferred embodiment of my invention as it is reduced to practice, and throughout the several views of which similar reference numerals designate corresponding parts: Figure 1 is a vertical section taken through the machine, illustrating the various parts in assembled position; Fig. 2 is a longitudinal section of the coin controlled delivery mechanism in normal position; Fig. 3 is a longitudinal section illustrating the operation of the coin controlled mechanism when a coin has been inserted; Fig. 4 is a longitudinal section illustrating the operation of the coin controlled mechanism when an attempt has been made to operate the delivery apparatus without the insertion of a coin; Fig. 5 is a detail view of the base plate; Fig. 6 is a detail view of the delivery plate; Fig. 7 is a detail view of the cover plate; and Fig. 8 is a detail view of the locking pawl.

Proceeding now to the description of the drawings, the numeral 1 designates as an entirety the cabinet of this invention, in which are arranged the article magazine and the delivery coin controlled operating mechanism for vending the articles. The article magazine and coin controlled mechanism respectively are designated as entireties in Fig. 1 by the numerals 2 and 3.

The cabinet 1 includes the front and rear walls 4 and 5, top and bottom walls 6 and 7, and a supporting block 8, which is mounted interiorly of the cabinet and on the bottom wall 7 thereof, being disposed in spaced relation to the lower portion of the front wall 4 to produce a coin till, designated by the letter A in Fig. 1. The lower portion of the wall 4 may be provided with a door 9, by which access may be had to the coin till for an obvious purpose. The rear wall 5 of the cabinet is preferably hinged, as at 10, to the rear edge of the member 7, and may be locked by a hook 11 and padlock 12, or any other desired form of lock. The purpose of hinging the rear wall 5 to produce what is essentially a door is, of course, to permit the refilling of the article magazine 2.

The coin controlled operating mechanism of this invention includes a base plate 13, a coin slide 14 and a cover plate 15. The member 13 is preferably formed of metal and is, in the embodiment of this invention illustrated in the drawings, rectangular in shape, being formed at its rear terminal with a downwardly extending rib 16, which may be secured to the rear face of the supporting block 8 by a bolt, screws, or any other suitable fastening means, designated by the numeral 17. The plate 13 extends from the block 8 to the front wall 4 and projects a slight distance beyond the outer face of this wall, being seated in a suitable slot formed in the member 4. Extending upwardly from the longitudinal edges of the member 13 are a pair of parallel side walls 18 and 19, approximately central of which are arranged the upwardly projecting screw threaded pintles 20 and 21. The member 13 is formed with an opening designated at 22, which is arranged between the side plates 18 and 19 and approximately centrally of the base plate, being provided for the purpose of permitting the coin, when inserted in the proper manner, to drop into the till A.

Mounted for sliding movement over the

base plate 13, and between the side walls 18 and 19, is a coin slide 14 which, as illustrated in detail in Fig. 6, is stamped from a sheet of metal and is formed to produce a substantially U-shaped plate. The base portion 23 of the plate 14 is reduced at its free end and is bent to form an operating handle, to which a push button, illustrated in Figs. 2, 3 and 4, may be attached. Adjacent the reduced terminal of the plate 23 there is provided a coin receiving opening 24, which may be of sufficient size to receive a cent, nickel, or quarter, according to the value of the goods which are to be placed in the vending machine. The member 25 is offset at its free end in the direction of the member 23, as at 26, the extreme terminal of the member 25 being turned upwardly, as at 27. It will be observed that by this formation of the terminal portion of the member 25 there is provided an article receiving depression, designated by the numeral 28. On the lower face of the plate 25, and at the rear edge of the depression 28, there is formed a laterally extending substantially wedge-shaped locking rib 29, provided for a purpose to be hereinafter more fully disclosed in the portion of the specification devoted to the description of the operation of the machine.

Coöperating with the members 13 and 14 is a cover plate 15, illustrated in detail in Fig. 7. This plate is, as are the members 13 and 14, stamped of a sheet of metal and is of equal breadth to the member 13, being shorter in length, however, and corresponding in this regard to the longitudinal dimensions of the side walls 18 and 19. The plate 15 is longitudinally bifurcated to produce an elongated slot 30, the free ends of the forked arms 31 and 32, resulting from the bifurcation of the plate, being bent upwardly to form the tongues 33 and 34, the free terminals of which are rolled, as at 35 and 36, for a purpose to be hereinafter disclosed. In the preferred embodiment of this invention the tongues 33 and 34 are disposed at an acute angle to the arms 31 and 32, as will be observed by reference to Fig. 7.

As a means for locking the delivery plate against movement in the event that the operator has failed to insert a coin in the openings 24, this invention employs a locking pawl 37, one terminal of which is reduced and beveled on its lower edge, as at 38, and the other terminal of which is bent to produce a hook 39. In the assembled position of the various elements of the coin mechanism, the hook is arranged to engage the rib 29 of the delivery plate when an attempt is made to withdraw an article from the magazine 2, without depositing a coin in the openings 24.

Having thus described the actual construction of the various features of the coin controlled mechanism, it now remains to describe the manner in which the various parts are arranged when in assembled position, and to explain the operation of the device. As regards the assembling of the parts reference is had particularly to Figs. 2, 3 and 4. In Fig. 2, in which the coin controlled mechanism is illustrated in its normal position, it will be seen that the base plate 13 is secured to the supporting block 8 and wall 4 in the manner previously described. The delivery slide 14 is then arranged on the member 13, being thus disposed for sliding movement between the side walls 18 and 19. The next step in the assembling of the various elements of the device is to mount the plate 15 on the side walls 18 and 19 with the pintles 20 and 21 extending through the apertures formed in the forked arms 31 and 32 of the plate 15. The plate 15 may be held in assembled position by the application of burs or nuts to the threaded terminals of the members 20 and 21, as indicated at 40, in Figs. 1, 2 and 3. Following this step, the pawl 37 is arranged between the tongues 33 and 34, being pivoted on a pin 41, which is journaled in the rolled ears 35 and 36 of the plate 15. A retractive spiral spring 42 is then arranged within the U-shaped coin slide 14, being fixed at one terminal to the bight portion of the member 14 and attached at its other terminal to the pawl 37 at a point approximately midway between the pivot point 41 and beveled terminal 38. An additional leaf spring 43 may be secured at one terminal to the rolled ear 36 and arranged to permit its free end to bear against the pawl 37 between the pivotal point 41 and beveled terminal 38.

From the foregoing it will be observed that in the normal assembled position of the base plate, coin slide, delivery plate, cover plate, and locking pawl, that the terminal 38 of the pawl extends through the slot 30 of the plate 15 and rests on the member 23 of the coin slide 15. It will further be noted that the spring 42 operates to hold the terminal 38 of the pawl in engagement with the face of the member 23 at all times, being aided in the performance of this function by the spring 43. It is to be further observed that the coin opening 24 is normally disposed exteriorly of the front wall 4 of the cabinet and is closed by the extreme terminal of the base plate upon the inward movement of the coin slide.

The actual construction and arrangement of the several parts of this invention being thus described, it now remains to explain the operation of the device. Briefly it is as follows: After inserting a coin in the opening 24, the operator moves the member 15 inwardly by pushing on the button 44. By reference to Fig. 3, it will be observed that as the member 14 moves inwardly the beveled terminal of the pawl 37 is held

against downward movement into the opening 22 by the supporting surface presented by the coin, and the hook 39 is held against engagement with the rib 29. As the member 14 continues to move inwardly, the coin drops through the opening 24 and into the till. When the coin slide has been pushed in a sufficient distance to bring the opening 24 into registration with the opening 22, thus permitting the coin to drop into the slot, the article receiving depression 28 of the member 25 has come into receiving position at the bottom of the article magazine. After the article drops into the depression 28, which will occur simultaneously with the engagement of the push button 44 with the forward terminal of the member 15, the button is released, and through the action of the spring 42 the coin slide is returned to its normal position. It will be observed that if an attempt is made to push the coin slide inwardly without the insertion of a coin in the opening 24 that the beveled terminal 38 of the locking pawl will drop through the opening 24 of the coin slide, thus bringing the hook terminal of the pawl into alinement with the rib 29. As the slide continues to move inwardly, the hook 39 engages the rib 29, as illustrated in Fig. 4, and locks the coin slide 14 against further inward movement, thus preventing the depositing of an article from the article magazine in the receiving depression 28.

It is desirable to emphasize the fact that this machine may be employed in vending chewing-gum, matches, postal-cards, or any other articles of similar nature.

In reduction to practice, I have found that the form of my invention, illustrated in the drawings and referred to in the above description, as the preferred embodiment, is the most efficient and practical; yet, realizing that the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize the fact that various minor changes in details of construction, proportion and arrangement of parts may be resorted to, when required, without sacrificing any of the advantages of my invention, as defined in the appended claims.

What is claimed is:

1. A coin controlled vending machine including a cabinet, an article magazine arranged therein, a delivery slide, a coin slide, said delivery and coin slides being formed integrally in the nature of a U-shaped plate, a base plate for said coin slide, a pair of longitudinally extending side walls for said base plate, said coin slide being adapted for movement over said base plate and between said side walls, a bifurcated plate mounted on said side walls and between said coin and delivery slides, a locking pawl pivotally mounted on said bifurcated plate, a locking rib carried on said delivery plate, a retractive spring for said pawl, said spring being secured at one end to a bight portion of said U-shaped plate and at its other terminal to the said pawl, said pawl being adapted to engage said locking rib and hold said delivery slide against movement into receiving relation to said magazine in the absence of a coin in said coin slide during the manipulation of said coin slide.

2. A coin controlled vending machine comprising a cabinet, an article magazine mounted therein, an article delivery slide for said magazine, a coin slide operatively connected with said delivery slide, a base plate for said coin slide, a pair of longitudinally extending side walls formed integral with said base plate for guiding said coin slide, said coin and delivery slide being formed integral in the nature of a U-shaped plate, and means mounted between the said coin and delivery slides for preventing the operation of the slides in the absence of a coin in said coin slide comprising a fixed substantially V-shaped plate, a locking pawl mounted upon said V-shaped plate and a locking rib formed on the under side of said delivery slide adapted for engagement with said locking pawl to hold said delivery slide against movement into receiving relation to said magazine in the absence of a coin in said coin slide during the manipulation of said coin slide.

3. A coin controlled vending machine comprising a cabinet, an article magazine arranged therein, an article delivery slide for said magazine, a coin slide for operating said delivery slide, a base plate for supporting said coin slide, a pair of longitudinally extending guide walls formed integral with said base plate for guiding said coin slide, a substantially V-shaped fixed plate mounted between said delivery and coin slides, means carried by the guide wall for securing said V-shaped plate in fixed position, a locking pawl pivoted upon said V-shaped plate, a locking rib formed on said delivery slide and said V-shaped plate slotted to permit access of said pawl to said coin slide whereby the locking pawl is disposed so as not to engage the locking ribs when a coin is within said coin slide and to permit one terminal of said locking pawl to drop down through the opening in the coin slide during the absence of a coin in the coin slide whereby the other terminal of said locking pawl is disposed for engagement with the locking rib and prevents the moving of the delivery slide into registration with the magazine upon the manipulation of said coin slide.

4. A coin controlled vending machine comprising a cabinet, an article magazine disposed within said cabinet, a delivery slide adapted to be moved into registration with

the article magazine and out of registration therewith, a coin slide formed integral with said delivery slide, a base plate for said coin slide, guiding means carried by said base plate and adapted for engagement with the coin slide, a locking pawl, a locking pawl supporting plate rigidly secured to said base plate, means carried by said guiding means for securing said pawl supporting plate to said base plate, a pair of spaced upstanding angularly disposed arms formed integral with said pawl supporting plate, said pawl pivotally mounted between said arms, said delivery slide offset adjacent its outer terminal and forming an article receiving portion adapted for registration with the magazine and forming a locking rib at the beginning of its offset portion, said locking pawl adapted for engagement with the locking rib upon the absence of a coin within the coin slot and the manipulation of the coin slot whereby said delivery slide is held against registration with the magazine and a spring secured to said locking pawl and adapted to move said locking pawl into engagement with the locking rib upon the absence of a coin in said coin slide and upon the manipulation of said coin slide.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER T. FOSTER.

Witnesses:
WM. H. ONIONS,
JOHN MANDIZE.