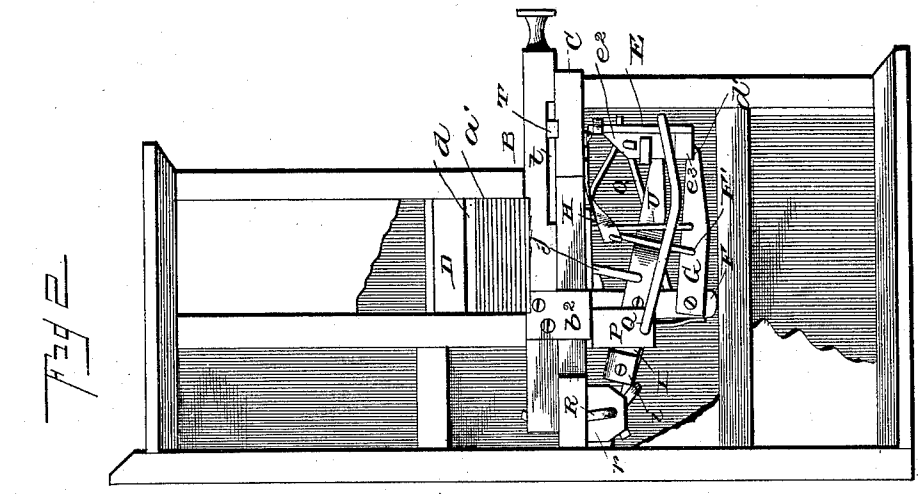
(No Model.) 5 Sheets—Sheet 1.

J. G. MacPHERSON.

COIN CONTROLLED VENDING APPARATUS.

No. 468,724. Patented Feb. 9, 1892.

Fig. 2.



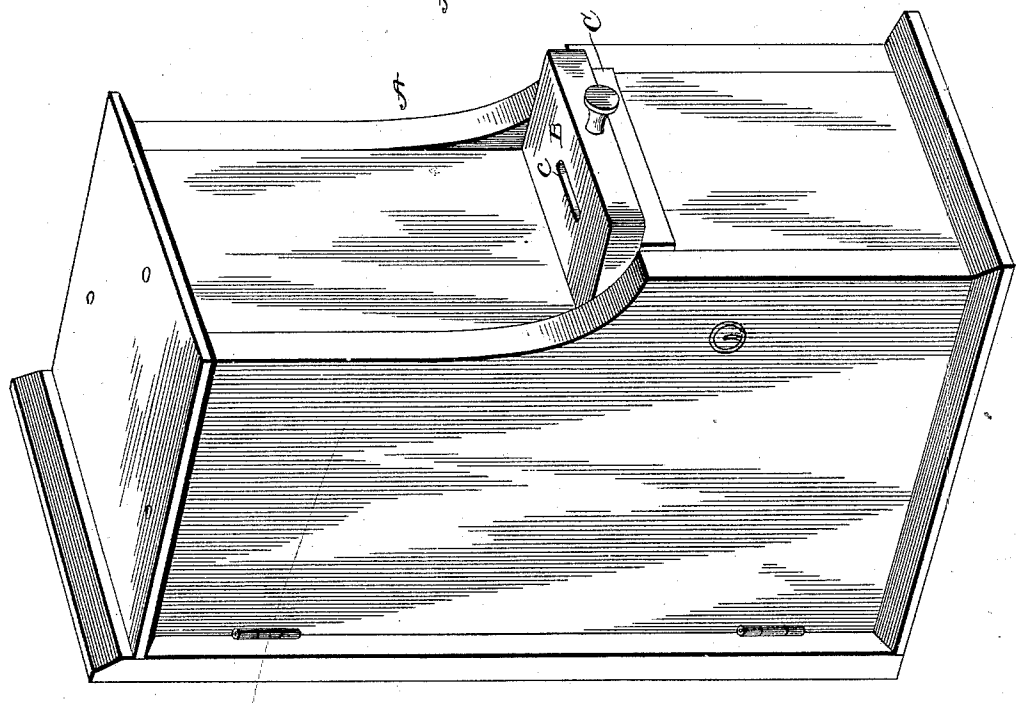


Fig. 1.

Witnesses
John Dennie
Thos. J. Littell,

Inventor
J. G. MacPherson,
By his Attorney,
J. R. Littell

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J. G. MACPHERSON.

COIN CONTROLLED VENDING APPARATUS.

No. 468,724. Patented Feb. 9, 1892.

Fig 3

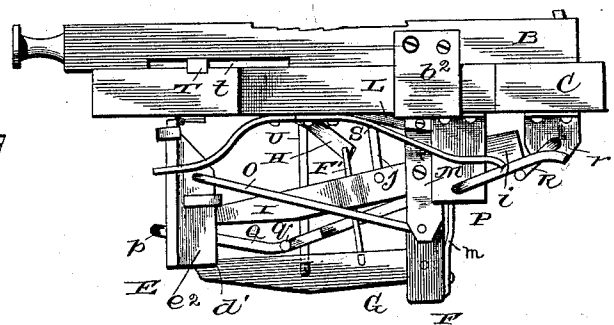


Fig 4

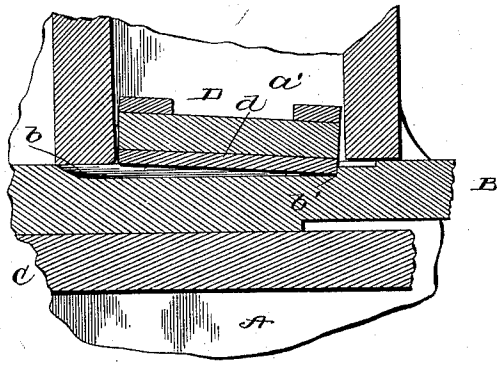


Fig 5

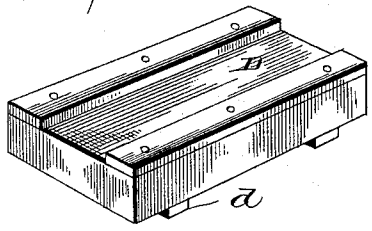
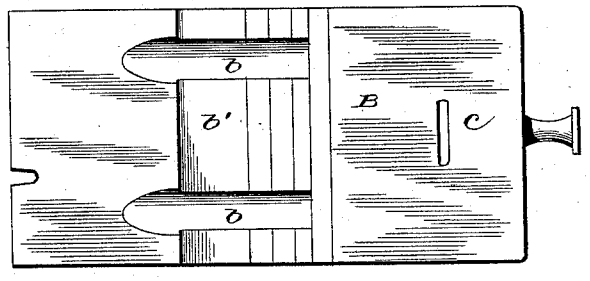


Fig 6



Witnesses

John Squire

Wm. J. Little,

Inventor

J. G. MacPherson,

By his Attorney,

J. R. Little

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J. G. MacPHERSON.

COIN CONTROLLED VENDING APPARATUS.

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Fig 7

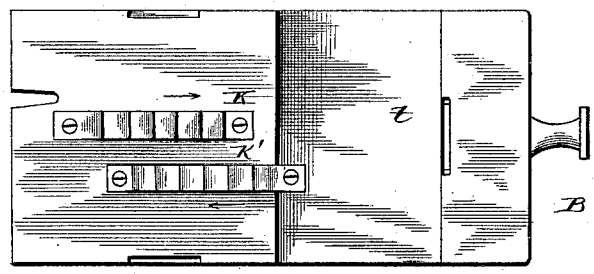


Fig 8

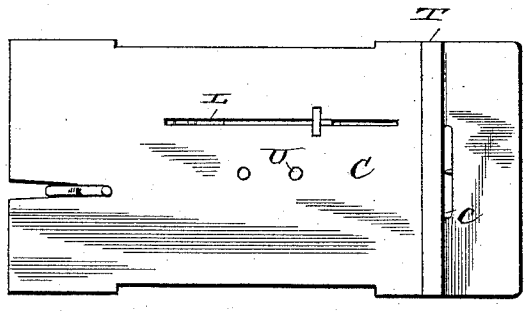
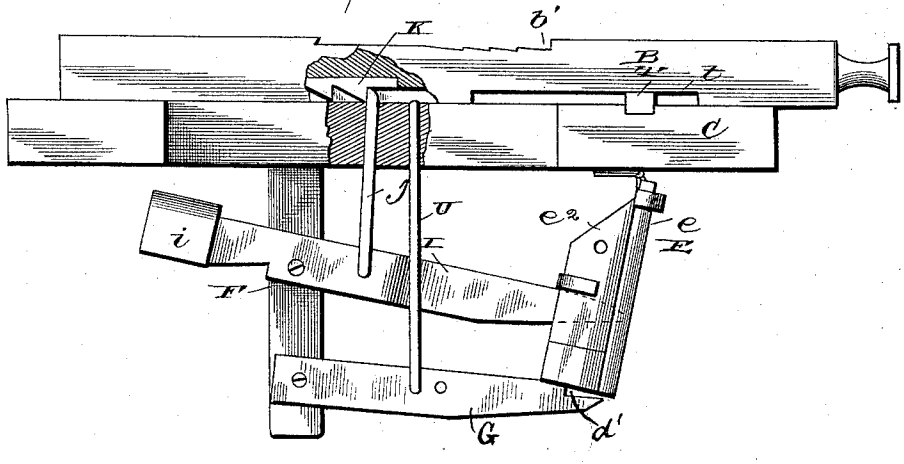


Fig 9



Witnesses

John Dinnie

Thos. J. Little

Inventor

J. G. MacPherson,

By his Attorney,

J. R. Little

(No Model.)

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J. G. MACPHERSON.

COIN CONTROLLED VENDING APPARATUS.

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Fig. 10

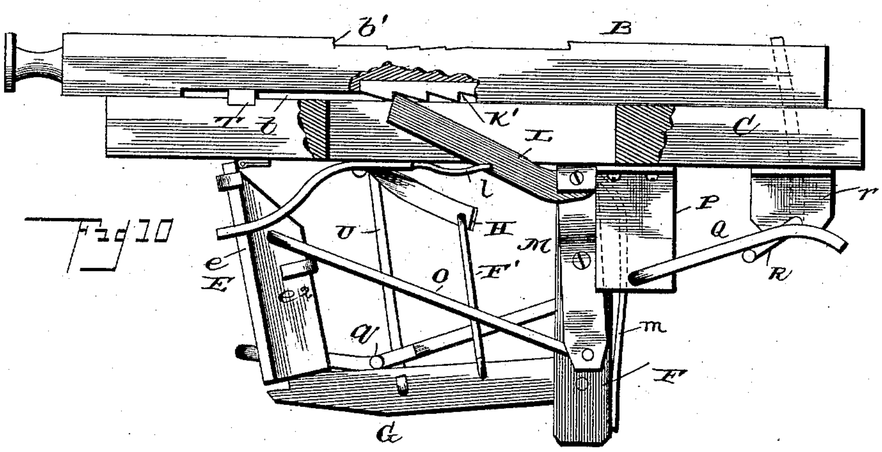


Fig. 11

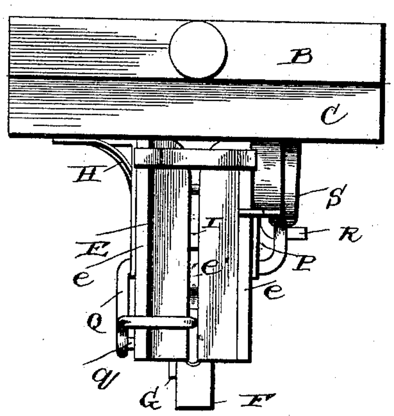
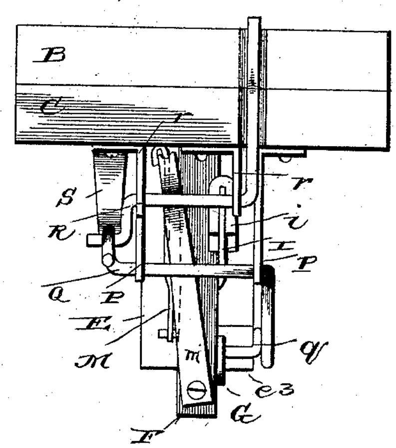


Fig. 12



Witnesses

John Devine

Edw. J. Little,

Inventor

J. G. MacPherson,

By his Attorney,

J. R. Little

(No Model.) 5 Sheets—Sheet 5.

J. G. MacPHERSON.

COIN CONTROLLED VENDING APPARATUS.

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Fig 13

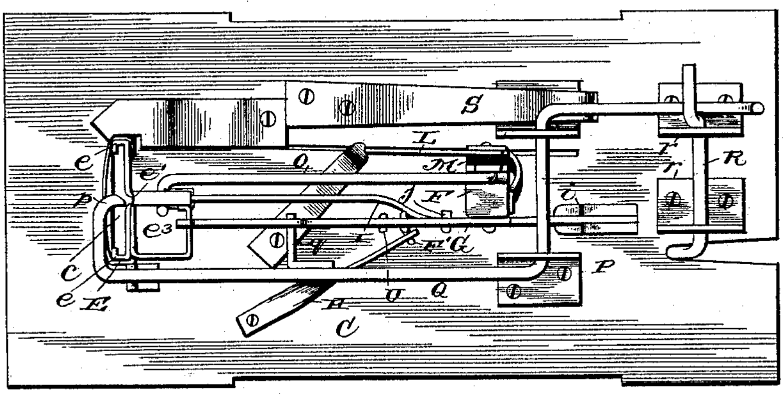


Fig 14

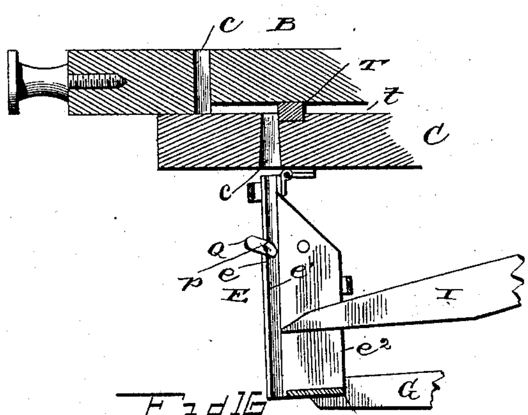


Fig 15

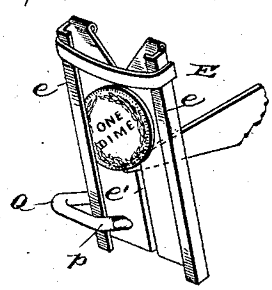


Fig 16

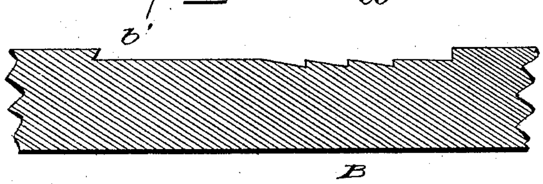
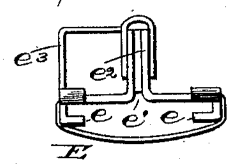


Fig 17



Witnesses
John Imirie
Wm J. Little,

Inventor
J. G. MacPherson,
By his Attorney,
J. R. Little

UNITED STATES PATENT OFFICE.

JOHN G. MACPHERSON, OF McKEESPORT, ASSIGNOR OF ONE-TENTH TO HARRY L. CHRISTY, OF PITTSBURG, PENNSYLVANIA.

COIN-CONTROLLED VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 468,724, dated February 9, 1892.

Application filed April 21, 1891. Serial No. 389,778. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. MACPHERSON, a citizen of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Coin-Controlled Vending Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in coin-controlled apparatus, and is especially intended for the automatic delivery of a photograph, card, or ticket upon a coin of the proper denomination being deposited within the card-delivery casing; and it consists in the novel construction and arrangement of parts hereinafter fully described, and afterward definitely pointed out in the claims, due reference being had to the accompanying drawings, wherein—

Figure 1 is a perspective view of my improved device. Fig. 2 is a side elevation thereof, a portion of the casing being broken away; Fig. 3, a side elevation of the operative parts removed from the casing; Fig. 4, a detail view showing the weighted follower in position to prevent the insertion of a coin and the withdrawal of the delivery-slide when the cards have been exhausted; Fig. 5, a detail perspective view of the weighted follower; Fig. 6, a top plan view of the delivery-slide; Fig. 7, a bottom plan view thereof; Fig. 8, a top plan view of the frame carrying the coin-controlling apparatus; Fig. 9, a side elevation, partly in section, showing the card-delivery slide and the coin-holder; Fig. 10, a similar view looking from the opposite side from that shown in Fig. 9; Fig. 11, a front end view of the operative mechanism; Fig. 12, a rear end view of the same; Fig. 13, a bottom plan view thereof; Fig. 14, a detail view showing the position of the delivery-slide and the coin-holder; Fig. 15, a detail perspective view illustrating the operation of the device when a coin of improper denomination has been deposited therein; Fig. 16, a longitudinal sectional view of the delivery-slide; Fig. 17, a top view of the coin-holder.

Referring to the drawings, wherein similar letters of reference refer to corresponding parts, the letter A indicates a frame or casing provided with a compartment a' for the reception of cards or tickets, and beneath which is a sliding or reciprocating card-delivery slide B. The upper portion of said delivery-slide B is provided with two longitudinal grooves b b and is slightly recessed, as at b', for the reception of a card or ticket, and is also transversely grooved, as more clearly shown in Fig. 16, for the purpose hereinafter fully described. Said delivery-slide B rests upon and is supported by a base C, to the under side of which is secured the coin-controlled apparatus, both the slide B and base C being provided with slots c' c of the proper size and shape for the reception of a coin of a particular denomination, which in the machine herein described is supposed to be a coin popularly called "five cents" or a "nickel."

D indicates a weighted follower adapted to rest upon the cards and provided upon its under side with ribs d, which, when the cards have been exhausted, drop within the grooves b b, as shown in Fig. 4, and prevent the withdrawal of the delivery-slide.

To each edge of the delivery-slide B is secured a guide b^2, which embraces the under side of the base C and maintains said delivery-slide and base in their proper relative positions. Upon the under side of the base C and immediately beneath the coin-opening c is hinged a coin-holder E, having two inwardly-turned flanges e e and of a width just sufficient to receive a nickel or five-cent piece. Said coin-holder is at its center longitudinally slotted from end to end, as shown at e', and upon its rear side provided with two rearwardly-projecting ribs or flanges e^2, (see Fig. 17,) by means of which the two parts of the coin-holder are held in position, and is also provided at its lower end with flanges e^3, for the purpose hereinafter described. Depending from the under side of the base C is a standard F, to the lower end of which is pivoted a lever G, having a shoulder d', which engages the lower end e^3 of the coin-holder E. At or about its center the lever G has con-

nected thereto an arm or rod F′, its other end being secured to a spring H, attached to the under side of the base C, said spring at all times exerting a force to lift the free end of the lever G. At or about the central portion of the standard F is pivoted a weighted lever I, having at one end a weight *i*, adapted to balance the coin intended to be inserted in the machine, the free end of said lever being beveled, as shown in Fig. 14, and projecting through the slot *e′*, as shown in Fig. 9, and adapted to support the coin within the holder E. Secured to said lever I is a rod *j*, the upper end of which is beveled, as shown in Fig. 9, and slightly projects through the base C and engages a rack K, secured upon the under side of the delivery-slide B, and normally prevents the withdrawal of said delivery-slide.

L indicates a pawl, the upper end of which slightly projects above the surface of the base C and engages with the rack *k′*, secured upon the under side of the base C and arranged in a direction opposite to the rack K, the rear end of said pawl being connected to the upper end of an arm M, pivoted at or about its center to the standard F, the lower end of said arm being connected to the pivoted or hinged coin-holder E by means of a rod or wire O. A flat spring *l* bears against the under side of the pawl to hold it in engagement with the rack, and a similar spring *m* engages the upper end of the arm M, whereby the latter exerts a rearward draft upon the coin-holder through the medium of the rod O.

P P indicate two hangers, within which is journaled a lever Q, provided at one extremity with an inwardly-turned finger *p*, which, as shown in Fig. 14, is adapted to rest over the top of the coin held within the coin-holder E and at its other end engaging a rock-shaft R, journaled within suitable bearings *r r*, secured upon the under side of the base C, the upper end of said rock-shaft R projecting above the base C and engaged by the rear end of the delivery-slide B, and S indicates a leaf-spring secured to the under side of the base C, the free end thereof bearing against the upper side of the rear end of the lever Q. Said lever Q has secured thereto at a suitable point an inwardly-projecting arm *q*, which is adapted to bear upon the lever G and release the same from engagement with the coin-holder, as hereinafter described.

In order to prevent the insertion of a knife-blade or similar article between the delivery-slide B and base C, whereby the rod *j* might be depressed and the delivery-slide operated to present a card without the insertion of the proper coin, I secure a rib T to the upper side of the base C and extending from side to side thereof and recess or cut away the under side of the delivery-slide B, as at *t*, to permit the withdrawal thereof over said rib. With a view to providing an additional safeguard against the machine being operated without the insertion of the proper coin I provide a safety-latch U, consisting of a rod or wire pivoted to the lever G, extending upwardly through the base C and having its extremity beveled, as shown, and engaging the rack K when the coin-holder is engaged by the shoulder of lever G, and preventing the withdrawal of the delivery-slide until said latch has been withdrawn or depressed.

The operation of the device is as follows: The compartment *a′* is supplied with cards or tickets and the weighted follower D placed upon top of same. A coin of the proper denomination being inserted within the slot *c* of the delivery-slide B and said delivery-slide pushed inward, the slot *c′* will register with the slot *c* in the base C and permit the coin to drop down into the coin-holder E, the lower edge of the coin striking the end of the weighted lever I and depressing the same, thus withdrawing the rod *j* from engagement with the rack K and permitting the withdrawal of the delivery-slide B and with it a card or ticket, the coin being held within the coin-holder by the projecting beveled end of the weighted lever I. Upon the delivery-slide B being pulled outward, the spring S bears against the rear end of the lever Q in rear of its bearings, thus raising the other end thereof, carrying at its extremity the finger *p*, said finger when thus raised resting over the upper edge of the coin. The backward movement of the delivery-slide B carries the rack K′ to engage the pawl L, which, through the medium of the pivoted arm M and rod O, causes the coin-holder E to swing forward upon its hinge, the beveled end of the weighted lever I being thus disengaged from the coin, allowing the same to drop by gravity into a proper receptacle. As the slide is pushed inward, the rear end of the same engages the rock-shaft R, which in turn elevates the rear end of the lever Q, causing the finger *p* to descend. By the operation of the latter, should the coin from any cause stick within the holder E the finger *p* will engage the upper edge thereof and by the continual backward movement of the delivery-slide will farther descend and strip or push out the coin from the holder. Should a coin of insufficient size be dropped through the slots *c c′*, the beveled end of the lever I will cause the same to be ejected from the coin-holder E without depressing said lever, thus failing to permit of the withdrawal of the delivery-slide. After a coin has been inserted, the delivery-slide pulled out, and the card obtained it may be possible, by quickly pushing in and out the delivery-slide, to abstract another card without the insertion of a coin, for the reason that the rod *j* is caused to engage the rack by means of a weighted lever I, and should said lever I not work quickly enough the delivery-slide could be operated as above described. It is the purpose of the safety-latch U to prevent this being done. When the delivery-slide and the coin-controlled apparatus are in their normal positions with a coin in engagement with the

lever I, said rod *j* does not engage the rack; but as the delivery-slide is pushed backward after the delivery of a card, the free end of the lever G being released, the spring H raises said lever quickly to the position shown in Figs. 2, 3, and 14 and forces the upper end of the rod *j* against the rack K and prevents the withdrawal of the delivery-slide.

When the mechanism is in normal position, the safety-latch U is free from engagement with the rack K, as shown in Fig. 9; but during the return of the slide after its withdrawal the coin-holder is thrown by the means described into a vertical position past the shoulder *d'* of the lever G, the latter being drawn up by its spring H, and throws the latch U in engagement with the rack K.

As the cards or tickets are removed by the operation before described, the weighted follower D bears down upon the remaining cards or tickets and by reason of its weight insures the depression of the lowermost card or ticket properly within the recess *b'*. When the last card or ticket has been disposed of, the ribs *d* of the weighted follower drop into the grooves *b*, and thus lock the apparatus against operation.

Having described my invention, what I claim is—

1. In a vending apparatus, the combination of the casing, a card-compartment, a delivery-slide having a slot for the reception of a coin, a frame having a corresponding coin-slot normally out of alignment with the slot in the delivery-slide, a coin-holder for receiving the coin, and a weighted lever provided with means for locking the delivery-slide to prevent its withdrawal and operated by the insertion of the coin to release the same, substantially as specified.

2. In a vending apparatus, the combination, with a case adapted to contain cards, of a delivery-slide slotted for the reception of a coin, a rack secured to the under side of said delivery-slide, a rod engaging said rack, and a balanced lever connected to said rod and operated by the insertion of a coin to release said delivery-slide, substantially as described.

3. The combination, with the case adapted to contain cards, of a delivery-slide slotted for the reception of a coin and provided upon its under side with two reversely-arranged racks, a base supporting said delivery-slide and carrying a hinged coin-holder, a balanced lever engaging at its free end the coin-holder to support the coin therein and having connected thereto a rod engaging one of said racks to prevent the withdrawal of the delivery-slide, and a pawl engaging the other rack and connected to and operating the coin-holder to cause the same to release the coin, substantially as described.

4. In a vending apparatus, the combination, with the case, of the slotted delivery-slide provided upon its under side with two reversely-arranged racks, the slotted base having depending therefrom a hinged coin-holder provided with inwardly-turned flanges and centrally slotted, as shown, a balanced lever having a beveled end projecting through said slot in the coin-holder and supporting the coin and connected to a rod engaging one of the said racks, and a pawl engaging the other rack and connected to the hinged coin-holder and operating to cause the release of the coin, substantially as shown and described.

5. The combination, with the casing, of the slotted delivery-slide provided with the reversely-arranged racks, the slotted base having hinged to its under side the slotted and flanged coin-holder, the balanced lever having its free end beveled and adapted to project through said slot and support the coin and having connected thereto a rod engaging one of said racks, a pawl engaging the other rack and connected by a rod and pivoted lever to the hinged coin-holder, and a pivoted lever carrying at its forward end a stripping-finger for ejecting the coin and engaged at its rear end by a rock-shaft operated by the delivery-slide, constructed and arranged substantially as shown and described.

6. The combination, with the casing A, provided with a card-compartment *a'*, of the slotted delivery-slide B, having upon its under side two reversely-arranged racks *k k'*, the slotted base C, carrying the hinged coin-holder E, slotted and flanged as shown, the balanced lever I, having a beveled end projecting through the slot in the coin-holder and connected to a rod *j*, engaging one of the said racks, a pawl L, engaging the rack K' and connected to the coin-holder by a lever M and rod O, a spring normally pressing said pawl upward, a pivoted arm G, engaging the lower end of the coin-holder and connected by means of a rod F to a spring H, a pivoted lever Q, carrying at its forward end a finger *p*, and a rock-shaft R, engaged by the rear end of the delivery-slide and operating to depress the lever Q, and an arm *q*, carried by the lever Q and engaging the arm G, and a spring S, bearing against the end of the lever Q, all constructed and arranged substantially in the manner shown and described, and for the purpose specified.

7. In a vending apparatus, a delivery-slide provided with a recess for the reception of a card, and transverse rearwardly-projecting ribs adapted to engage the under side of the lowermost card when the slide is thrown inwardly, substantially as described.

8. In a vending apparatus, a delivery-slide provided with a recess for the reception of a card, and transverse rearwardly-projecting ribs adapted to engage the under side of the lowermost card in the manner and for the purpose described, a longitudinal groove or grooves, and a weighted follower provided upon its under side with a rib or ribs adapted to seat within the longitudinal groove or grooves when the cards have been exhausted and prevent the withdrawal of the delivery-slide, substantially as shown and described.

9. In a vending apparatus, the combination of a case adapted to contain cards, a delivery-slide slotted for the reception of a coin, a rack secured to the under side of said delivery-slide, a rod engaging said delivery-slide, a balanced lever connected to said rod and operated by the insertion of a coin to release said delivery-slide, and a spring-actuated safety-catch engaging the said rack in the delivery-slide when the latter is pushed inward, substantially as described.

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

JOHN G. MACPHERSON.

Witnesses:
HARRY MYERS,
GEO. M. MCCLEARY.