(No Model.)

R. W. UHLIG.

AUTOMATIC VENDING MACHINE.

No. 477,029. Patented June 14, 1892.

Fig. 1.

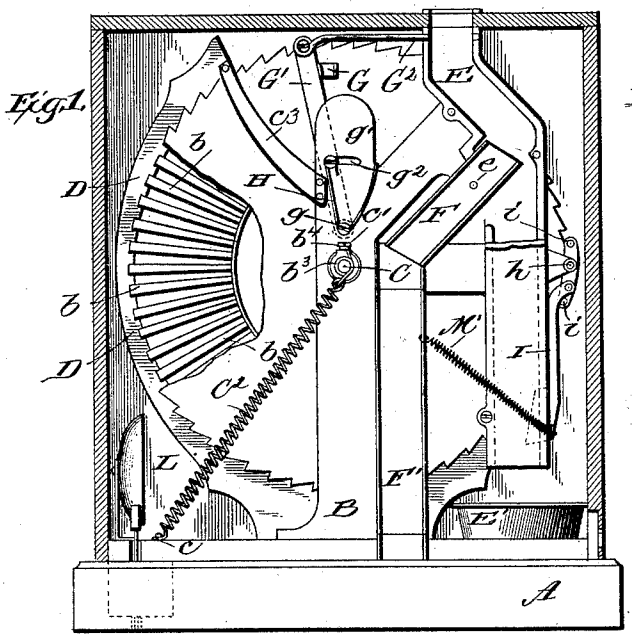


Fig. 2.

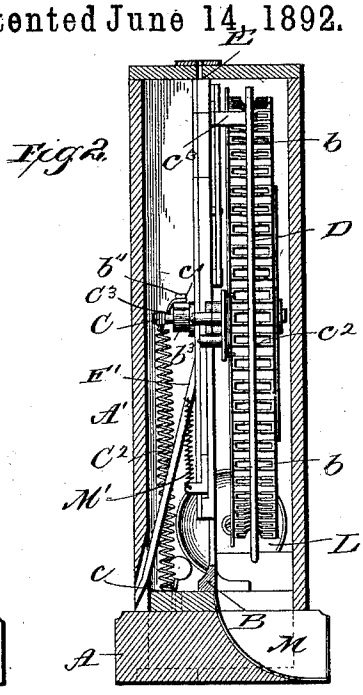


Fig. 3.

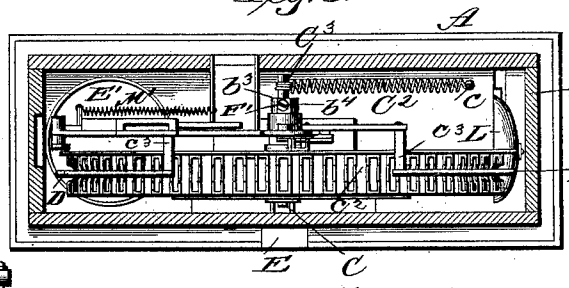


Fig. 6.

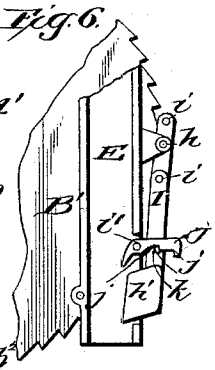


Fig. 5.

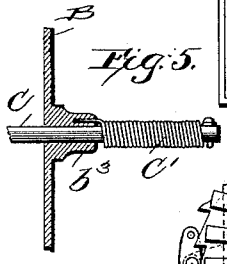
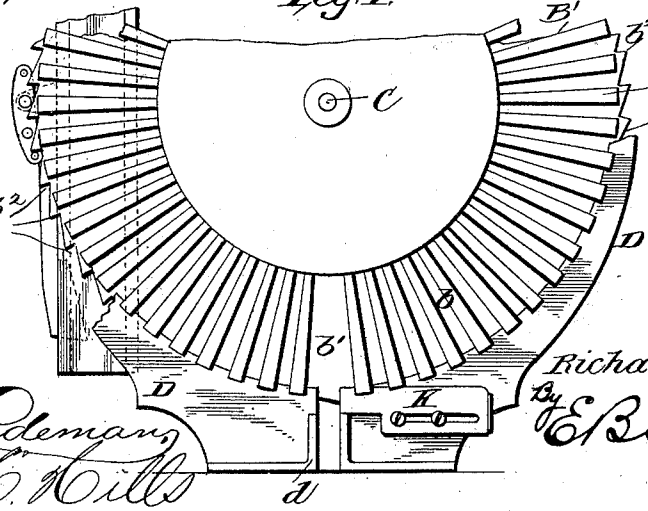


Fig. 4.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 477,029, dated June 14, 1892.

Application filed June 26, 1891. Serial No. 397,633. (No model.)

To all whom it may concern:

Be it known that I, RICHARD W. UHLIG, a citizen of the United States, and a resident of College Point, in the county of Queens and State of New York, have invented certain new and useful Improvements in Automatic Vending-Machines, of which the following is a specification.

This invention relates to certain new and useful improvements in that class of devices known as "slot-machines," that operate to deliver certain articles through the deposit of coins; and the present invention pertains more particularly to that class of these machines in which is employed a rotary pocketed wheel into which the articles are placed and from which they are automatically delivered, mechanism being provided for preventing delivery of the articles and rotation of the wheel until the same is released by the action of the inserted coin.

The invention has for its object, among others, to obviate the necessity of pulling open a drawer or slide to obtain the article after the coin has been inserted in the slot.

The device is designed more particularly for the delivery of postage-stamps; but of course it may be employed for the delivery of various other articles.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of my improved device, with the inclosing case shown in section. Fig. 2 is a transverse vertical section with the operating parts shown in edge view. Fig. 3 is a horizontal section through the inclosing case, with the mechanism shown in top plan. Fig. 4 is a side elevation of the pocketed wheel with a portion broken away, and showing also the means for preventing delivery of articles when desired. Fig. 5 is a detail, partly in section and partly in side elevation, showing one form of connecting-spring for actuating the wheel. Fig. 6 is a detail in side elevation showing the coin-controlled wheel holding and releasing mechanism.

Like letters of reference refer to like parts in all the figures of the drawings.

Referring now to the details of the drawings by letter, A designates a suitable base, upon which may be supported and secured in any suitable manner an inclosing case A′, which may be of any suitable material and as fanciful in design as may be desired.

B is a standard or upright secured to this base in any suitable manner and is designed to support the operating parts, which consist of a wheel B′, which is provided with a plurality of outwardly-opening pockets or compartments *b*, radially arranged alternately with an equal number of spaces around the entire circumference or periphery of the wheel, excepting at *b*′, where one pocket or compartment is omitted for a purpose hereinafter explained. The periphery of this wheel on one side or edge is serrated, notched, or toothed, as shown at b^2, corresponding with the number of pockets or compartments of the wheel, including the omission. This wheel is carried by a shaft C, which is supported in suitable bearings in the standard B, as shown in the various views, and this shaft is designed to be spring-actuated, which may be accomplished in any suitable manner. I have shown two forms.

In Fig. 5, C′ is a spiral spring arranged around the extended end of the shaft with one end secured to the shaft and the other end to a boss b^3 on the standard, so that as the shaft is revolved in one direction its spring will be wound up to give it momentum in the other direction. In Figs. 1, 2, and 3 is shown another means for accomplishing this purpose. In these views C^2 is a spring attached at one end to the base, as at *c*, and its other end connected with a strap or cord, which is designed to be wound upon the shaft, as seen in said Figs. 1, 2, and 3, the other end of the strap being attached to the boss b^3, as seen at *c*′. The outer edges of the pockets are notched, as shown at c^2, and D are substantially semicircular guides secured to the base beneath the wheel and surrounding the lower half or

more thereof and extending slightly within the pockets through their notched edges, as seen in Figs. 2 and 3, the said guides being provided at their junction with the base with projections *d*, that serve as guides at the delivery-chute. The guides at their upper ends may be strengthened and braced by arms c^3, attached thereto and connected with the standard B, as seen in Figs. 1, 2, and 3.

The tension of the spring upon the shaft may be adjusted by means of a set-screw b^4, as seen in Figs. 1, 2, and 3.

E is the coin-chute, entrance to which is provided through the inclosing case, the said chute being arranged to deliver the coins passed therethrough into a box or other receptacle E′, which is arranged within the case at the bottom thereof, as shown.

F is the spurious-coin arrester and rejecter. It is pivoted, as at *e*, to the standard or upright B and is arranged with its upper edge in the path of a coin through the coin-chute. Its normal position is in an inclined position, as seen in Fig. 1, and its lower end communicates with the chute F′, which extends in an inclined direction, as seen in Fig. 1, and is arranged to deliver the spurious or improper coin to the front of the machine, as seen in Figs. 2 and 3.

G is a stop on the face of the wheel, as seen best in Fig. 1, and G′ is an arm or lever pivoted at *g* to the standard or upright B and at its upper end has connected thereto a horizontal bar, arm, or rod G^2, which is adapted to slide through an opening in the coin-chute, as seen in Fig. 1. This bar or arm carries a lug or pin *g′*, which is designed to work in a curved slot g^2 of the standard or upright, as seen in Fig. 1, a spring H being arranged with one end secured to the standard, the other end secured to the said lug or pin, and the spring being coiled around or connected with the pivot of the arm or lever, all as shown in Fig. 1.

I is the coin-actuated lever. It is pivoted at *h* to a lug or stud on the standard or coin-chute and at its lower end carries an enlargement *h′*, which extends within the coin-chute, as seen best in Fig. 6, the said lever being provided with a pin *i* upon each side of its pivot to engage the teeth or notches on the edge of the wheel, as seen best in Fig. 1.

J is a horizontal arm pivoted at *i′* to the coin-chute and extending through a hole in the same, with its inner end, which is curved, as shown in Fig. 6, arranged within the chute and its portion outside its pivot formed with the two notches *j* to engage a projecting pin *k* on the lever I.

K is a slide movably held to one of the curved guides D, as seen in Fig. 4, and arranged to be moved beneath the wheel to open or close the delivery-chute, as may be desired.

As a safeguard against the machine being stolen, an alarm device may be attached, as shown at L, which will be sounded immediately upon lifting the machine by the release of a spring-trip projecting through the base and held at rest by the weight of the machine.

The operation is as follows: The casing being removed, the pockets of the wheel may be supplied with the requisite number of stamps or other articles by first placing in each of the pockets in the upper half of the wheel as many as it is desired to deliver simultaneously, and then by turning the wheel, so that the remainder of the pockets are accessible, the process of filling the pockets may be completed, the blank space on the wheel where the pocket is omitted left directly above the delivery-chute M, which should have been previously closed to prevent the premature discharge of the articles in passing that point, the guides D retaining the same elsewhere upon the lower semicircle. In turning the wheel just before it reaches the position described the arm closing the upper end of the coin-chute is also opened outward automatically by the contact of the stop on the wheel with the lever G′. The casing being replaced and secured in position, the device is in readiness for the vending of the articles. When a coin of the predetermined value is inserted in the slot located at the top of the case at the entrance of the coin-chute, it is deflected in its downward course by the angular sides of the same, so as to lodge in the mouth of the channeled trip, when, if it be of the proper denomination and have the exact size and weight required, it will be released by the tilting of the said trip and continue its descent through said chute to the coin-receiver beneath the wheel actuating the pendulum-escapement I J during its passage by contact with the trip-lever J and causing the wheel to rotate slightly by allowing the disengagement of one of the pins with its engaging-notch and to advance one of the pockets over the delivery-chute, when the contents of said pocket will be discharged through the opening for that purpose in the base of the machine. If the coin inserted is spurious or otherwise deficient by failing to tilt the channeled trip it will be discharged through the other chute F′, and thereby returned to the depositor without operating the machine or effecting the delivery of the article in the pocket. When the wheel has completed an entire revolution simultaneously with the discharge of the article from the last pocket of the wheel just preceding the blank space, the upper rod or slide G^2 will be automatically operated to close the entrance to the coin-chute by the stop G on the wheel coming in contact with the lever G′, and thus preventing the insertion of coins, and the rotation of the wheel being likewise checked thereby all further operation of the device is suspended until the case is again removed and the mechanism adjusted and the pockets refilled.

Various modifications in detail may be resorted to without departing from the spirit of

the invention or sacrificing any of its advantages.

A spring M′ may be arranged to normally hold the escapement in engagement so as to prevent rotation of the wheel.

What I claim as new is—

1. The combination, with a rotary pocketed wheel and a delivery-chute beneath the same, of curved guides upon their adjacent lower edges with integral vertical projections *d*, serving as guides at the delivery-chute, and a horizontally-movable slide upon one of said guides, and formed with a longitudinal slot and a shoulder at its inner end and adapted to move across the delivery-chute and to be guided and limited in its movement by one of said projections, and the means working in said slot, as set forth.

2. The combination, with the rotary pocketed wheel having notched periphery, of the coin-chute, the coin-chute lever pivoted thereon and at its lower end provided with an enlargement working through an opening in the chute and at its upper end carrying a pin to engage the notches of the wheel, and a pivoted horizontal arm for engagement with a projection of the said lever, as set forth.

3. The combination, with the rotary pocketed wheel having notched periphery, of the coin-chute, the coin-chute lever thereon, and at its lower end provided with an enlargement working through an opening in the chute and at its upper end carrying a pin to engage the notches of the wheel, and a pivoted horizontal arm for engagement with a projection of the said lever, said horizontal arm being pivoted to the chute working through a hollow therein with its inner end curved and its upper portion formed upon its under side with separated notches, as set forth.

4. The combination, with a rotary pocketed wheel having a stop on one face thereof and the standard having a curved slot, of a pivoted arm arranged to be moved by said stop and a rod connected with said arm and working through an opening in the coin-chute, as set forth.

5. In a vending-machine, the combination, with a rotary pocketed wheel with stop and coin-chute, of the movable arm working through an opening in the chute, a pivoted radially-arranged lever connected with said arm, a spring acting upon the lever, and a curved guide for the arm, substantially as shown and described.

6. In a vending-machine, the combination, with the rotary pocketed wheel provided with a stop and the coin-chute, of the standard, the arm pivoted thereto and carrying a pin working in a curved slot in the standard, a horizontal arm carried by the pivoted arm and arranged to close the entrance to the coin-chute when engaged by the stop upon the pocketed wheel, and a spring arranged to act upon the said pin and the pivot of the arm, as set forth.

Signed at the city of New York, in the county of New York and State of New York, this 3d day of June, A. D. 1891.

RICHARD W. UHLIG.

Witnesses:
LEW. F. BLANCHARD,
CHARLIE BOOTH.