

Aug. 27, 1929.

C. P. THOMAS

1,726,201

COIN CONTROLLED MERCHANDISING MACHINE

Filed Sept. 4, 1928

3 Sheets-Sheet 1

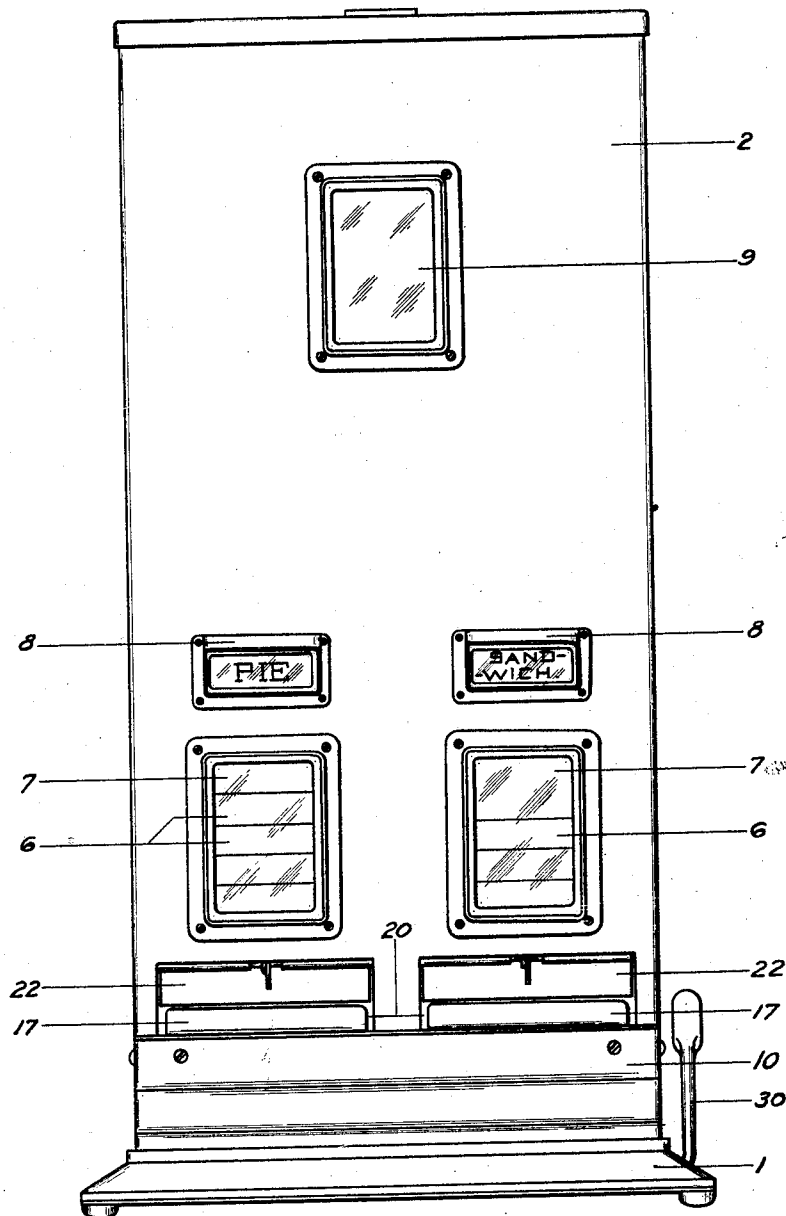


FIG-1

INVENTOR.
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BY *Walter N. Haskell,*
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Aug. 27, 1929.

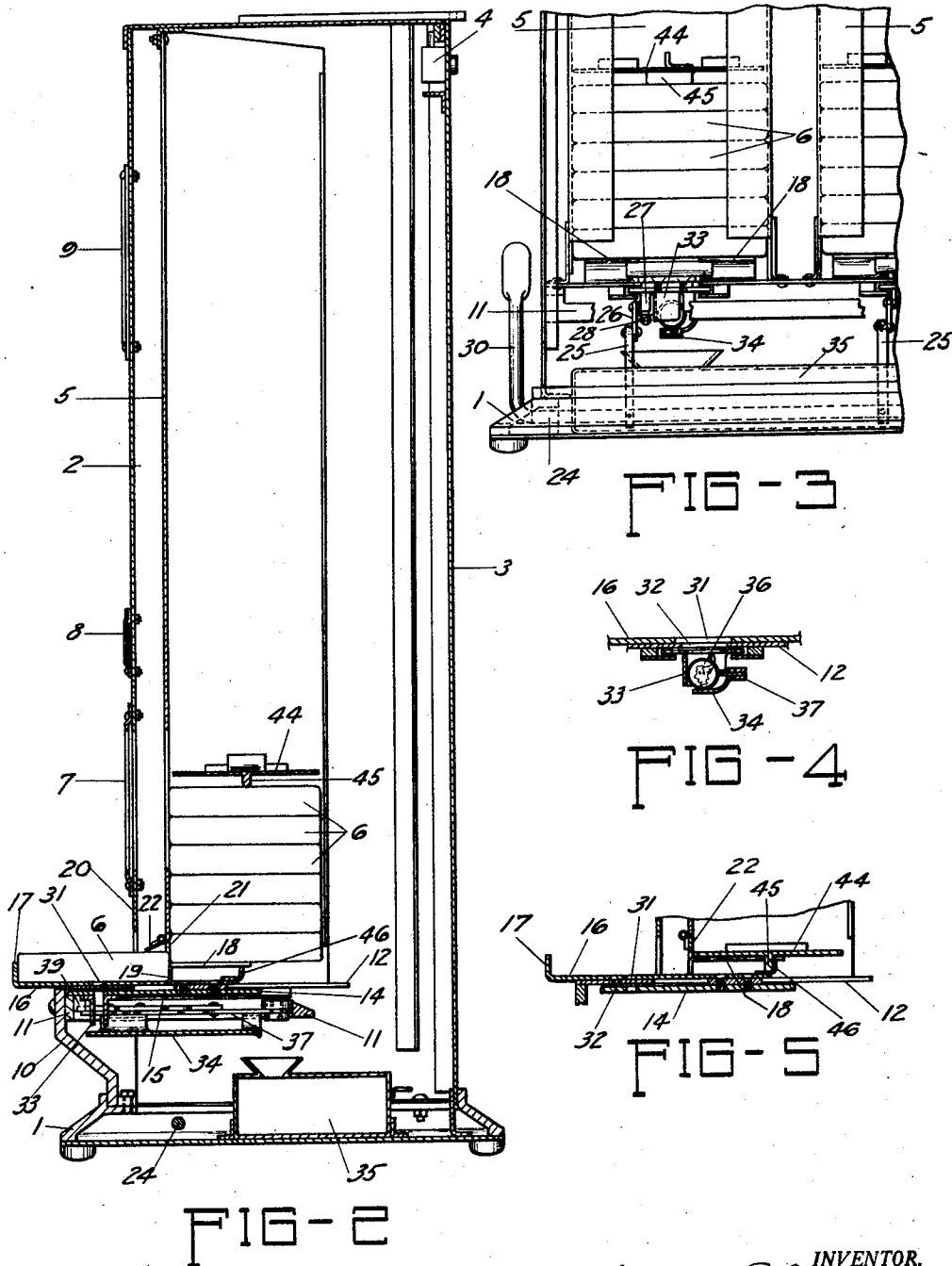
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COIN CONTROLLED MERCHANDISING MACHINE

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3 Sheets-Sheet 2



INVENTOR.
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3 Sheets-Sheet 3

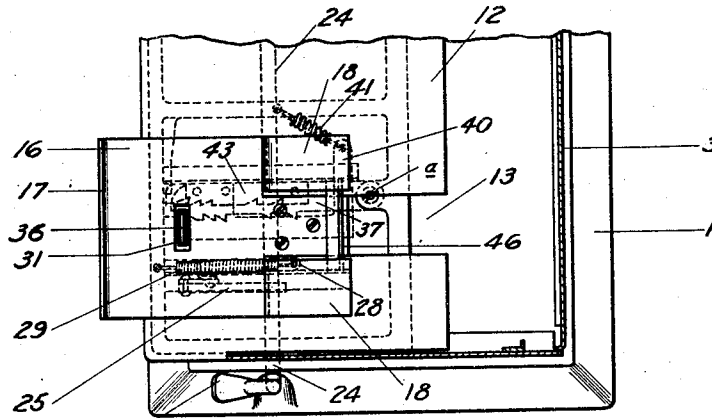


FIG-6

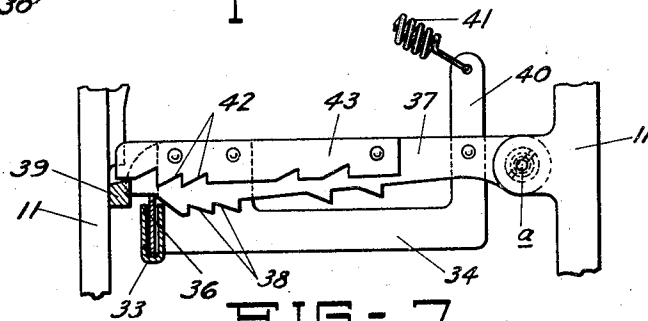


FIG-7

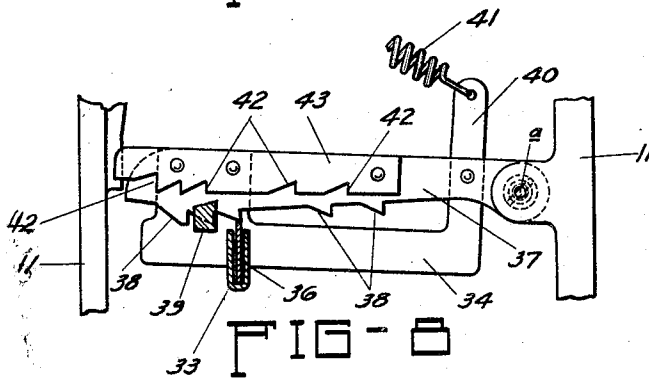


FIG-8

INVENTOR.
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UNITED STATES PATENT OFFICE.

CHARLES P. THOMAS, OF ROCK ISLAND, ILLINOIS.

COIN-CONTROLLED-MERCHANDISING MACHINE.

Application filed September 4, 1928. Serial No. 303,738.

My invention has reference to a coin-controlled merchandising machine, and is specially designed for dispensing parcels or packages of articles, such as confections, gum, eatables, such as sandwiches and pie, and small articles usually sold over the counter, such as handkerchiefs and the like. It is of that type of machines wherein the parcels to be delivered are supported in a vertical column in a chamber or magazine, and are fed downwardly by gravity to a discharge opening at the lower end of the magazine, from which they are removed one at a time by a delivery mechanism. This mechanism is held normally in an inoperative position, and is released by the insertion into the machine of a coin of suitable denomination.

One of the purposes of the invention is to provide mechanism for the delivery of the package, and release mechanism associated therewith, in which the coin will operate as a key to impart the movement of the delivery mechanism to other parts interfering with the movement thereof, to effect a release of such parts and permit the delivery mechanism to move freely.

Another purpose thereof is to provide means for engaging with the coin at intervals in the movement of the delivery mechanism, to prevent a return movement thereof until the coin has been fully discharged therefrom.

Another purpose of the invention is to provide a means for interfering at intervals with the return movement of the delivery mechanism, after the coin has been discharged therefrom.

Another object thereof is to provide a compound form of machine, wherein packages can be delivered from one or more units of the machine independently, and wherein the mechanism can be coupled up so that two or more deliveries can be made at the same time, and by the insertion of a single coin. If desired, one free package can be delivered with one or more paid packages.

Another feature of the invention consists in the provision of means for preventing the insertion of a coin in the machine when the magazine thereof is empty.

The above named, and other features and advantages of the invention will be more fully understood from the following specification, reference being had to the accompanying drawings, in which;

Fig. 1 is a front elevation of a machine having a dual equipment of the invention.

Fig. 2 is a vertical medial section through one of the units of the machine.

Fig. 3 is a fragmentary rear view of the invention with the rear plate removed.

Fig. 4 is a sectional detail of the coin control mechanism.

Fig. 5 is a detail, in section, of the lower part of the magazine, with the packages all removed.

Fig. 6 is a plan view of the package delivery mechanism with the superstructure removed.

Fig. 7 shows the latch mechanism in normal position.

Fig. 8 is a similar view with the latch mechanism out of normal position.

Referring to Figures 1 and 2, the reference number 1 indicates a base of rectangular form, upon which is mounted a casing 2, provided with a detachable back 3, the lower end of which is held within the base, and the upper end of which is provided with a lock 4, the bolt of which is engageable with the top of the casing 2. Within the casing is a magazine 5, adapted to receive a series of parcels, as indicated at 6, for discharge at the lower end of the magazine, as hereinafter set forth. In the front of the casing are transparencies 7, through which the contents of the magazines are disclosed. Frames 8 are also provided, to contain cards setting forth the character of the contents of the machine. A small mirror is also provided at 9, the use of which is obvious.

Mounted on the front of the base is a support 10, fixed to which is a frame 11, on which is secured a plate 12, having an opening in the inner part, as at 13. (Fig. 6.) A plate 14 is slidable in ways 15 beneath the plate 12, and fixed to said plate 14 is a delivery plate 16, provided at its forward edge with an upwardly turned flange 17. The rear end of the plate 16 is projected into a pair of raised sections 18, connected with said plate by shoulders 19, the space between said shoulders and the flange 17 conforming to the size of one of the parcels 6, as shown in Fig. 2. The front of the casing 2 is provided with an opening 20 through which the parcels pass, and in rear of said opening is a similar opening 21 in the front side of the magazine 5, the upper part of which is closed by a spring-pressed shutter 22. The

column of parcels in the magazine is supported normally by the sections 18, and the rearward movement of the plate 16 carries such plate to a point to permit the lowermost parcel to move downwardly onto the plate. The return movement of the plate carries the parcel forwardly, into a position to be removed.

Supported in the base 1 is a rock-shaft 24, fixed to which is an arm 25, connected by a link 26 with a lug 27 projecting downwardly from the plate 14. An arm 28 is also attached to said plate, the end of which is connected by a coiled spring 29 with the frame 11, the tension of said spring tending to hold the plate 14 and delivery plate 16 in forward positions. The shaft 24 may be rocked by means of a lever 30 fixed to one end thereof, at one side of the machine. The shaft 24 may also be extended through two or more units of a machine, and connected up with the mechanism of each in the manner hereinbefore described.

The plate 16 is provided with a coin opening 31, beneath which is a slot 32 in the plate 12, of suitable proportions to permit the passage of a coin of predetermined value, and beneath said slot is an opening in the plate 14 leading to a coin guide 33, fixed to the lower face of said plate. Beneath the coin guide is supported a bar 34, which interferes with the downward movement of a coin contained in the guide 33, and upon which the coin slides in the rearward movement of the plate 16 and plate 14. Upon reaching the inner end of the bar 34 the coin drops into a coin receptacle 35 in the lower part of the machine. Upon the coin reaching the end of said bar the plate 16 is in position to receive a parcel from the magazine 5.

To interfere with any attempt to recover the coin before it is discharged into the receptacle 35 a latch-plate 37 is pivoted to the frame 11, as at *a*, and provided with a series of ratchet teeth 38, positioned for engagement by the edge of the coin in the guide 33, such coin being indicated at 36. The bar 34 is also supported from the latch-plate 37. Said plate is held yieldably in position for contact with the coin by means of an arm 40 attached to said plate and a coiled spring 41 connecting the end of the arm with the frame. (Fig. 6.) In the rearward movement of the plate 16 the coin passes over the teeth 38 in succession, and is engaged thereby, preventing a return movement of the coin and plate. It is thereby rendered impossible to release the locking devices by use of the coin, recover the coin, and secure a package from the machine before the parts are locked again. It will be noted also that there is no delivery of a package from the magazine until the coin has been discharged into the coin box. The

shutter 22 interferes with any one digging into the lowermost package at a point above the supports 18 with an instrument of any kind.

Supported from the plate 14 in proximity to the coin-guide 33 is a detent 39, adapted to engage ratchet-teeth 42 in the edge of a plate 43 fixed to the upper face of the latch-plate 37. When the machine is in an inoperative position, as in Figs. 6 and 7, the detent 39 is spaced a short distance from the first tooth 42, permitting a limited inward movement of the plate 16 before the same is locked from further movement. Upon a coin being inserted in the guide 33 and the plate 16 moved inwardly the coin operates to force the latch-plate 37 away from the coin guide in its passage along each of the teeth 38, serving to carry the detent 39 past each of the teeth 42 without engagement therewith. Upon the discharge of the coin, however, and return of the plate 16 outwardly with its package, the detent engages each of the teeth 42 in succession, preventing a return movement of the plate inwardly. This guards against the removal of one package before the delivery plate is fully returned to its outward position, and the return of such plate to a position beneath the magazine to receive another package, without the use of another coin. The flange 17 also acts as a stop to prevent the removal of a package until it is delivered at the front of the machine. The gate 22 acts in connection therewith, to prevent the package from being raised until the plate 16 is in its forward position.

The magazine 5 is also provided with a follower 44, which can be weighted if desired, and which rests upon the upper one of the tier of packages contained in the magazine. The follower is provided on its lower face with a lug 45 for engagement with a bar 46 uniting the plates 18. (Fig. 5.) When the last package is removed from the magazine the bar is engaged by said lug and the plate 16 held with the opening 31 a little out of register with the slot 32. This interferes with the insertion of a coin in the machine containing the empty magazine until such magazine has been replenished. The weighting of the follower would not ordinarily be required, but in the case of relatively light packages it might be advisable, to assist in the feed of such packages downwardly.

In the case of a dual machine, the latch mechanism can be omitted from one of the units thereof, and two deliveries made by the insertion of a single coin. For example, one of the magazines can contain a ten cent article and the other one a five cent article, and by the insertion of the proper coin to secure the delivery of the ten cent article one of the five cent articles will be delivered

at the same time without extra charge therefor.

It will be noted that the operation of the machine as set forth herein refers to the delivery of a single package at a time, but in some cases it would be possible to subdivide the package, either horizontally or cross-wise, and deliver two or more smaller packages through the prescribed opening, and with the one operation. It is intended that the designation of a single package shall refer to a package of the standard size and dimensions capable of being discharged through the opening provided therefor, or to a space of maximum dimensions for the delivery of a normal package, as shown. It will be evident that it will not be necessary that the package shall fill the space completely, as round or other odd-shaped packages can be handled in the machine as well as those of the established form.

What I claim, and desire to secure by Letters Patent, is:

1. A machine of the class described, comprising a casing, a magazine therein adapted for the support of a series of similar packages in vertical column, a delivery plate provided with a coin opening, and capable of a reciprocating movement inwardly to a point to receive the lowermost package in said column, and return, a plate below said delivery plate and movable therewith, provided with a coin guide in line with said coin opening, a coin-way beneath said last-named plate, a latch-plate movably supported in proximity to the coin-guide plate, a detent carried by said coin-guide plate, engageable with said latch-plate to lock the coin-guide plate from movement, releasable by the engagement of a coin in said guide-way with the latch-plate, and means for imparting a reciprocating movement to said coin-guide plate.

2. A machine of the class described, comprising a casing, a magazine therein for the support of a series of packages in vertical column, a delivery plate provided with a package receiving space and coin opening therein, said plate being held normally in outward position, and movable to a point beneath said column, a plate beneath said delivery plate and connected therewith, pro-

vided with a coin guide in line with said coin opening, locking devices carried by said last-named plate, and cooperating locking devices supported in proximity thereto, releasable by a coin in said guide-way.

3. A machine of the class described, comprising a casing, a magazine therein adapted to contain a plurality of similar packages in vertical column, a delivery plate slidably mounted beneath said magazine, provided with a coin opening, and having a raised portion upon which said column of packages normally rests, a slide member beneath said delivery plate, movable therewith, and provided with a coin guide in line with said coin opening, a latch-plate in proximity to said slide member, provided with a series of ratchet-teeth engageable by a coin in said coin-guide, means for holding said latch-plate yieldably in engagement with a coin in said coin guide, a detent fixed to said slide member, and normally in contact with said latch-plate to lock said slide member from movement, and means for preventing release of the coin from the coin-guide until it reaches the inner end of the latch-plate.

4. A machine of the class described, comprising a casing, a magazine therein adapted to contain a series of packages in vertical column and release the same in succession at the lower end of the magazine, a delivery plate slidable in said machine and provided with means for receiving a single package at a time from said magazine, a slide member beneath said delivery plate and connected therewith, a coin-guide carried by said slide member and opening in said delivery plate in line therewith, a coin-way beneath said coin-guide, a latch-plate movably supported and provided with a series of ratchet-teeth for engagement by a coin in said coin-guide, a detent on said slide member, and a series of ratchet teeth in opposition to said first-named teeth, for engagement with said detent, the engagement of a coin with said first-named ratchet-teeth rendering the last-named ratchet-teeth inoperative.

In testimony whereof I affix my signature.

CHARLES P. THOMAS.