J. A. EVANS.

COIN CONTROLLED MECHANISM.

APPLICATION FILED SEPT. 29, 1909.

961,219. Patented June 14, 1910.

3 SHEETS—SHEET 1.

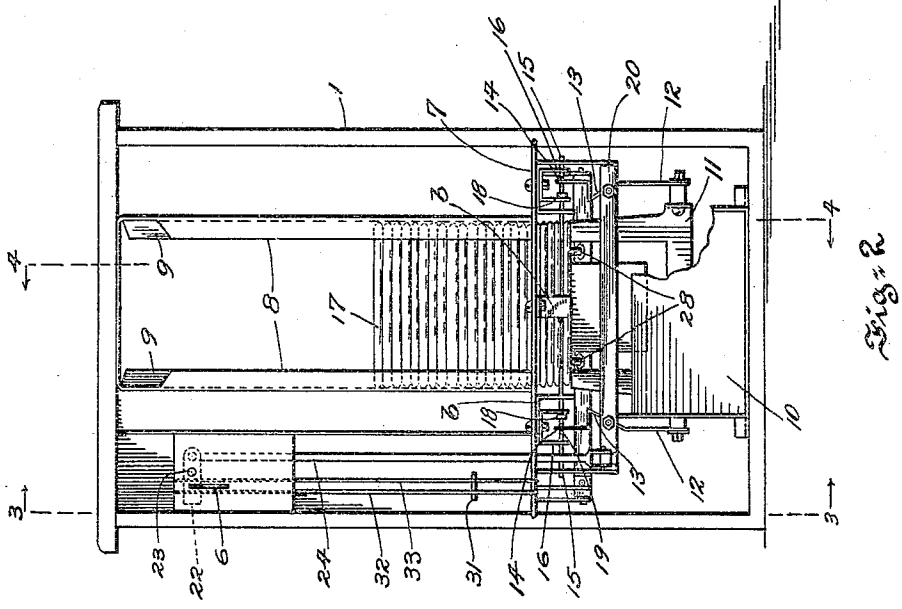

Fig. 2.

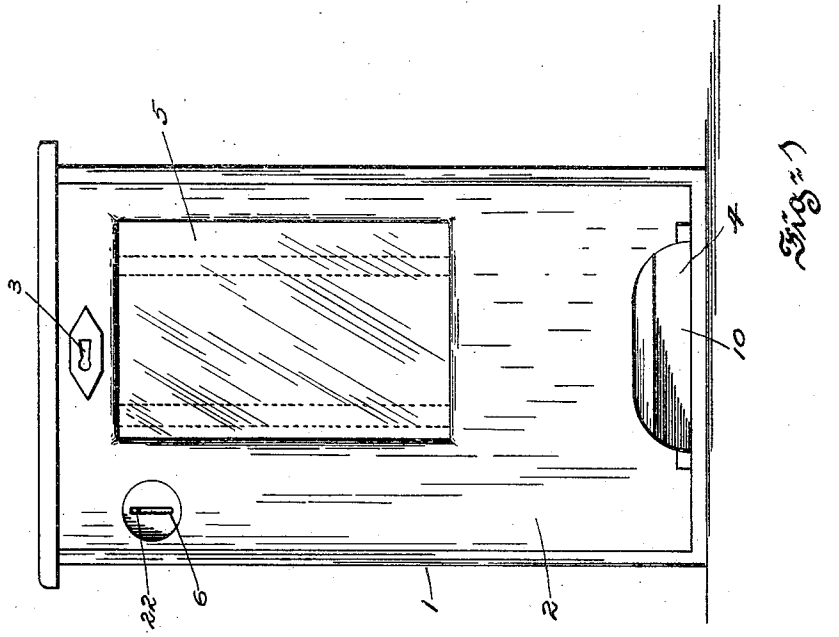

Fig. 1.

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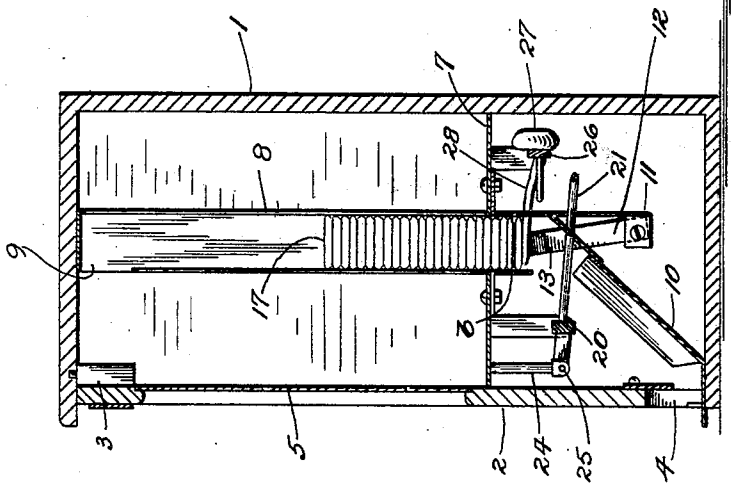

Fig. 4.

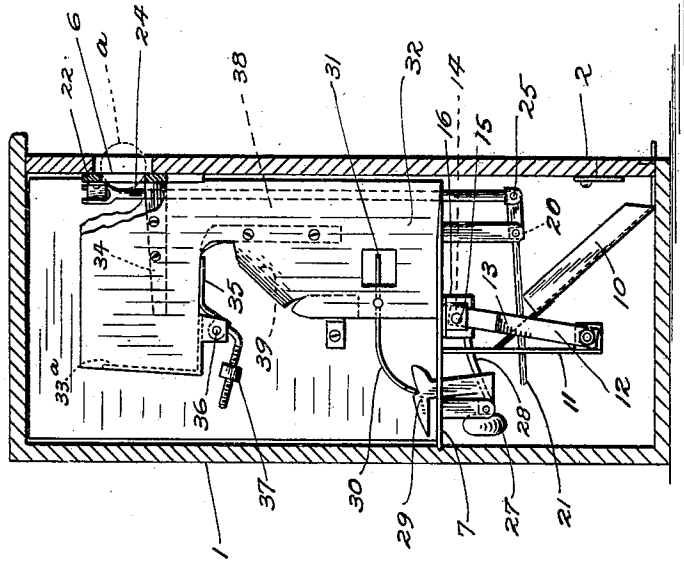

Fig. 3.

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3 SHEETS—SHEET 3.

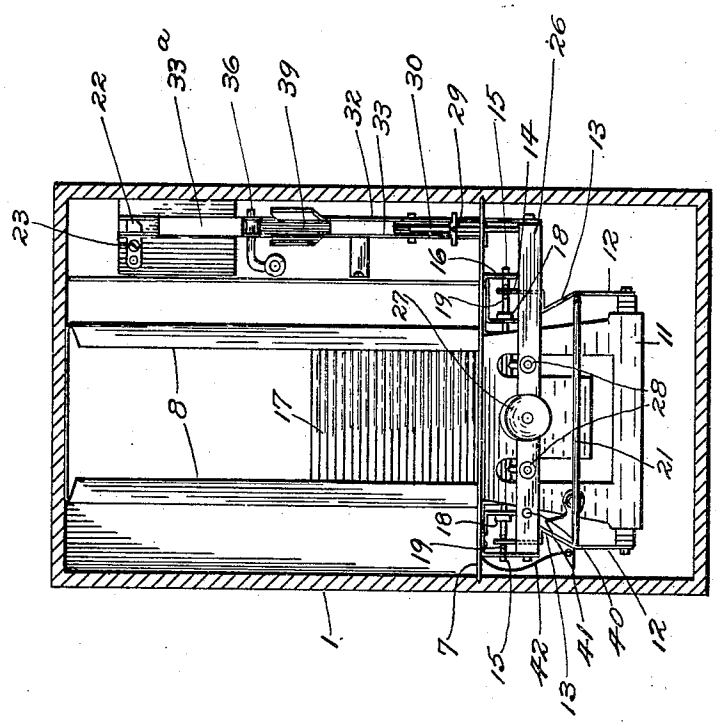

Fig. 5.

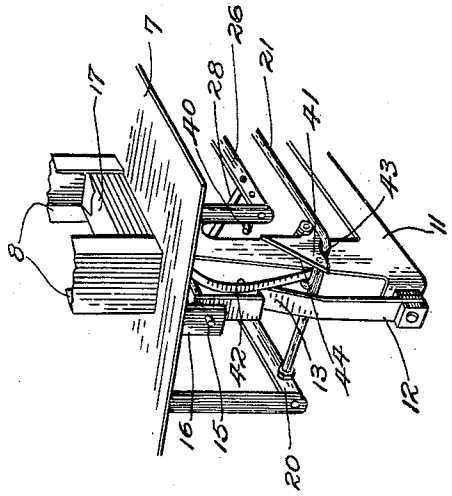

Fig. 6.

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UNITED STATES PATENT OFFICE.

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COIN-CONTROLLED MECHANISM.

961,219. Specification of Letters Patent. Patented June 14, 1910.

Application filed September 29, 1909. Serial No. 520,090.

To all whom it may concern:

Be it known that I, JAMES ALEXANDRA EVANS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Coin-Controlled Mechanism, of which the following is a specification.

This invention relates to coin-controlled mechanism for automatic vending machines and has particular relation to that class of apparatus designed for dispensing chewing gum, confections and the like, the same being a division of my application for Letters Patent for improvements in automatic vending machines, filed July 2, 1909 and serially numbered 505,673.

This invention has for its principal objects the improvements in the construction of this class of coin-controlled machines and the novelty thereof resides in the new combinations, arrangements and constructions of parts which will be hereinafter set forth and specifically pointed out in the claims.

The nature, characteristic features and scope of the invention will be more fully understood from the following description, taken in connection with the accompanying drawings forming part hereof and in which:—

Figure 1, is a view in front elevation showing the exterior of a vending machine embodying the invention, Fig. 2, is a similar view with certain parts shown in Fig. 1, removed to illustrate interior construction, Fig. 3, is a view in section taken upon the line 3—3 of Fig. 2, looking in the direction of the arrow, Fig. 4, is a view taken upon the line 4—4 of Fig. 2, looking in the direction of the arrow, Fig. 5, is a view in rear elevation of the vending machine, with certain parts removed to illustrate interior construction, and Fig. 6, is a perspective view of a portion of the machine, illustrated in the foregoing figures.

Referring to the drawings, there is shown a cabinet or casing 1, within which the various parts of a machine for automatically vending chewing gum are housed. The front of the cabinet may be provided with a removable cover 2, provided with means to lock the same as at 3, a delivery opening 4, a glass front 5, and a coin receiving slot 6. Within the cabinet 1, is located a device for receiving and maintaining in position a stack of packages of chewing gum and automatic mechanism for releasing and delivering one at a time these packages of gum. This mechanism, as shown in the drawings, is so arranged and constructed that it may be readily removed from the cabinet 1, in its assembled position (see Fig. 6), if desired, and the description following will refer thereto, although it will be readily understood that the various parts may be assembled in other ways to accomplish the purpose of the invention. Suitably supported by the side walls of the cabinet 1, is a supporting plate 7, apertured for the passage therethrough of a package of chewing gum. Rising from this plate is a chewing gum receiving receptacle 8, shown in the drawings as consisting of an inverted general U-shaped member, the uprights of which are channeled in order that a stack of packages of gum may be kept in alinement. A portion of the uprights is cut away as at 9, for the insertion of the gum when replenishing the cabinet. Adjacent the apertured portion of the plate 7, guides *b*, are provided, which, in effect, form a continuation of the receptacle 8.

As clearly illustrated in the drawings, the packages of gum to be delivered are generally rectangular in shape, compartively long and quite thin. Located beneath the supporting plate 7, adjacent the apertured portion thereof, and leading therefrom in an inclined position is a chute 10, that registers with the opening 4, in the cover of the cabinet. In the present invention, use is made of devices for automatically advancing from a stack of packages of gum, one at a time, a package for delivery to other devices for finally releasing the same when subsequently operated automatically, the entire operation of the parts, in delivering a package of gum, being practically simultaneous, automatic and controlled and operated solely by depositing a coin within the slot 6.

A description will first be given of the mechanism for selecting and advancing to releasing mechanism, one at a time, packages of gum to be delivered. Depending from and fixed to the plate 7, is a supporting frame 11, secured to which at each end thereof are upwardly extending resilient pieces 12, shown as being leaf springs, provided with inwardly extending projections 13, and terminating in forked-end por-

tions 14, that straddle reciprocating fingers 15. These fingers 15, are slidably supported in brackets 16, fixed to the underside of the plate 7. Normally, they have their inner or pointed ends projected beneath the stack or pile of packages of gum 17, being held in this position by the springs 12, causing the stops 18, to abut against the brackets 16, (see Fig. 2) the forked-ends 14, of the springs 12, being interposed between the pins 19, on the fingers 15. These fingers 15, by means of coin-controlled mechanism, operate automatically to select and advance one at a time packages of gum to other mechanism. A description will now be given of the mechanism for operating these fingers. Suspended beneath the supporting plate 7, is a pivotally arranged cross-bar 20, having fixed relation with which and extending rearwardly therefrom is a member 21, shown as comprising a wire, bent in substantial U-shaped fashion that serves as a tappet arm, adapted to impinge against the projections 13, of the springs 12, when the bar 20, is moved about its pivotal point for moving the fingers 15, from beneath a pile of packages of gum 17. The bar 12, is moved about its pivotal point when a coin is deposited within the slot 6. There extends across the said slot, a guard piece 22, fulcrumed as at 23, and having pivotal relation with which is a rod 24, that is also pivotally connected as at 25, with the bar 20. In this connection, it may be remarked, that when a coin is deposited within the slot 6, the guard piece 22, is moved about its fulcrumed point by the coin, thereby depressing the rod 24, and elevating the tappet arm 21, sufficiently to move backward the finger pieces and permit one package of gum to drop upon the package delivering mechanism, about to be described, it being understood that by virtue of the springs 12, the fingers 15, immediately return to normal position and prevent the remainder of the stack of packages from gravitating.

In the rear of the machine (see Figs. 4, 5 and 6,) there is suspended beneath the supporting plate 7, a pivotally arranged bar 26, provided with a counterweight 27, and a pin 40, hereinafter referred to. Extending forwardly from this bar 26, and extending beneath the stack of packages of gum 17, and also beneath the fingers 15, is a pair of fingers 28, which, when the bar 26, is moved about its pivotal point, lower a package of gum that has been selected by the reciprocating fingers 15, to the chute 10, for delivery at the opening of the cabinet 1. The bar 26, is moved about its pivotal point through the instrumentality of coin operated mechanism, a description of which will now be given. Arranged at the left-hand side of the cabinet (see Figs. 2 and 3) and fixed to the bar 26, is an escapement 29, capable of being released by a pivotally arranged detent 30, provided with a coin receiving plate 31. As clearly illustrated in Figs. 2 and 3, the detent is pivoted between a pair of plates 32 and 33, that serve to guide coins to the bottom of the cabinet in a manner hereinafter described. It may be here remarked that the weight 27, on the bar 26, serves to return the fingers 28, to a substantially horizontal position after they have deposited a package of gum within the chute 10.

To operate the vending apparatus of the invention, a coin, as indicated in dotted lines by the letter *a*, is inserted within the coin slot 6, thereby forcing upward one end of the member 22, and pressing downward the rod 24, thus causing the reciprocating fingers 15, to move away from beneath the packages of gum and permitting one of said packages to drop to and rest upon the fingers, 28, of the bar 26. As the coin, after moving the bar 22, passes into the cabinet 1, it rolls along between the partitions 32 and 33, upon the member 34, impinges against the plate 33, between said partitions, thus retarding the motion of the coin and it then rolls upon the coin lever 35, (see Fig. 3), which is pivoted as at 36, to the partition 32, the said lever being provided with a screw-threaded portion for the reception of a nut 37, which is adapted to be adjusted to only permit coins of the proper weight to depress the lever 35. If the coin be a bad one, it will not depress the lever 35, but will roll into the cabinet by way of the slot 38. However, if the coin be a good one, it will depress the lever 35, enter the slot 39, and drop upon the coin plate 31, of the detent 30, thereby releasing the said detent from engagement with the escapement 29. The release of the escapement will cause the fingers 28, of the bar 26, to gravitate and deposit the lowermost package of chewing gum within the chute 30, it being understood that the remaining packages of gum in the pile are held in position by virtue of the fingers 15, that have returned to place after the coin *a*, passed beyond the bar 22. In order to prevent the misuse of the vending machine, a locking device is provided, a description of which will now be given. As clearly illustrated in Fig. 6, the frame 11, is provided with a pivotally arranged lock member 41, adapted to be normally retained in the position shown in Fig. 6, by means of a spring 42. As clearly shown in said figure, the lock member 41, is recessed as at 43, said recessed portion resting upon the general U-shaped tappet arm 21. When a coin is placed within the vending machine and the tappet arm elevated as above described, the part 44, of the lock member 41, is caused to ride beneath the pin 40, of the bar 26, thereby locking the fingers 28, against

downward movement. When the parts of the vending machine are in this position, it will be readily understood that no packages of gum can leave the machine under any circumstances. As the tappet arm returns to normal position, the lock member 41, also returns to normal position and simultaneously therewith the bar 26, moves about its pivotal point and lowers the fingers 28. This movement brings the pin 40, in the path of the lock member 41, so that the tappet arm 21, cannot move upward until the bar 26, returns to normal position. It will thus be seen that the bar 20, and its complemental parts and the bar 26, and its complemental parts are so arranged, connected and constructed that the one serves to lock the other against joint movement. In other words, when the bar 20, is being operated, the bar 26, will not operate, and when the bar 26, is operating, the bar 20, cannot operate. From the above description, it will be readily understood that the entire operation is automatic and that a package of gum will be delivered through the opening 4, of the cabinet 1, when a proper coin is inserted through the slot 6, without resorting to the pushing and pulling of knobs or other manual operations, as is usual upon machines of this character. It will further be understood that the mechanism for selecting a package of gum to be delivered is entirely separate from and independent of the mechanism for delivering the packages of gum, thus reducing to a minimum the possibility of tampering with the operation of the machine to perpetrate fraud.

What I claim is:—

1. In coin-controlled mechanism the combination of a vertically disposed coin chute having two compartments, a horizontally arranged pivotal coin plate located adjacent the top of said chute constructed to deflect bad coins to one compartment and good coins to the other compartment, a second coin plate pivoted within said chute adapted to be operated by good coins, an escapement operated by the last-mentioned plate, a pivotal ejecting medium operatively connected with said escapement and mechanism normally preventing said medium from ejecting a portion of said mechanism being arranged in the path of a coin to be deposited whereby the said medium will be automatically released.

2. In coin-controlled mechanism the combination of a vertically disposed coin chute, having two compartments, a horizontally arranged fixed coin plate adjacent the top thereof, a similarly arranged coin plate pivotally carried within said chute and beneath the fixed plate constructed to deflect bad coins to one of said compartments and good coins to the other of said compartments, a second pivotal coin plate adjacent the bottom of said chute adapted to be operated by good coins, an escapement operated by said plate, counterbalanced pivotal ejecting fingers operatively connected with said escapement and mechanism normally preventing said fingers from ejecting a portion of said mechanism being arranged in the path of a coin to be deposited whereby the ejecting fingers will be automatically released.

3. In coin-controlled mechanism the combination of pivotally arranged coin operated fingers, releasing mechanism for coöperating with said fingers, arranged in the path of a coin to be deposited, a supplemental locking device adapted to be moved in one direction by said releasing mechanism for locking said fingers against movement and means for returning said locking device and releasing mechanism to inactive position the said parts being arranged, connected and constructed to operate automatically upon depositing a coin in said mechanism.

4. In coin controlled mechanism the combination of a releasing device, coin operated means for operating the releasing device, a locking device arranged in the path of the operating means, pivotal finger pieces movable independently of the releasing mechanism, a coin-controlled device for operating the finger pieces, which, when operated, coact with the said locking device for locking the releasing mechanism the said parts being arranged constructed and connected to operate automatically when a coin is deposited within said mechanism.

In testimony whereof I have hereunto signed my name.

JAMES A. EVANS.

Witnesses:
WILLIAM J. JACKSON,
M. R. KINNING.