

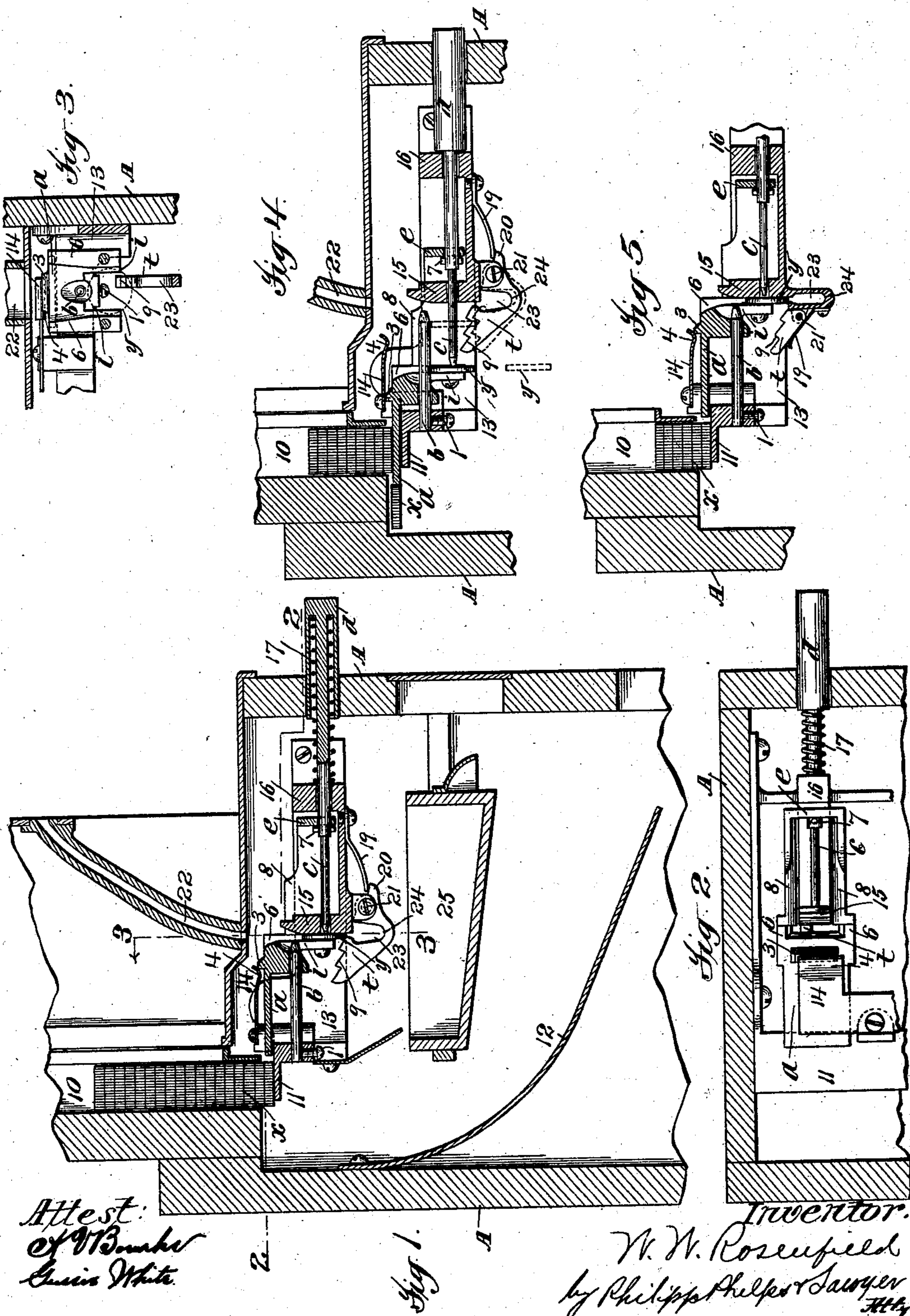
No. 701,940.

Patented June 10, 1902.

W. W. ROSENFELD.
COIN CONTROLLED MACHINE.

(Application filed Aug. 13, 1897.)

(No Model.)



Attest:
C. B. Baker
C. W. White.

Inventor:
W. W. Rosenfield
by Philip Phelps Sawyer
Attys

UNITED STATES PATENT OFFICE.

WILLIAM W. ROSENFELD, OF NEW YORK, N. Y., ASSIGNOR TO THE ROSENFELD MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

COIN-CONTROLLED MACHINE.

SPECIFICATION forming part of Letters Patent No. 701,940, dated June 10, 1902.

Application filed August 13, 1897. Serial No. 648,092. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. ROSENFELD, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Coin-Controlled Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to coin-controlled machines of the different classes used for vending small packages of material—such as gum, candy, stamps, &c.—and for various other purposes, the object of the invention being to provide such a machine which shall be more efficient than those heretofore in use.

As a full understanding of the invention can best be given by a detailed description of a construction embodying the same in its preferred form, such a description will now be given in connection with the accompanying drawings, which show a construction embodying the invention in the best form now known to me as applied to machines for vending small packages of material, and in which—

Figure 1 is a vertical section of the operating portion of such machine. Fig. 2 is a detail horizontal section on the line 2 of Fig. 1. Fig. 3 is a detail cross-section on the line 3 of Fig. 1; and Fig. 4 is a detail section similar to Fig. 1, showing the mechanism in a different position. Fig. 5 is a detail view similar to Fig. 1, showing a modification.

Referring to said drawings, A is the casing or box, which may be of any suitable form, provided with the magazine or magazines 10, one being shown, in which the packages *x* are supported from below by a stationary support 11, the rear wall of the magazine 10 being cut away at such a distance above the support as to permit the bottom package to be pushed off the support and out of the magazine, when it will fall onto the inclined plate 12 and may be removed through an opening in the front of the frame, as usual in such constructions.

In front of the magazine and in such a position as to engage the bottom package is mounted the slide *a*, which I will call the “de-

livery-slide,” the slide moving on a support formed by the rear bar of a stationary frame 13, which carries the support 11, and upon a stationary guide-rod *b*, which is secured in the frame 13 and passes through an opening in the front end of the slide, the guide-rod *b* preferably being adjustably and removably mounted in the frame 13, being shown as held therein by set-screws 1. Above the delivery-slide is a spring-plate 14, arranged to press upon a projection 3 on the delivery-slide at the commencement of the delivery movement, thus forming a friction-spring, which causes sufficient resistance to the movement of the slide, so that it may not be actuated by a paper or light-wood disk inserted instead of a coin, the end of the operating-slide preferably being pointed, so as to perforate such material against the resistance of the spring 14 acting upon the delivery-slide, as described hereinafter. The spring exerts substantially no pressure upon the slide after the delivery movement is commenced, the spring preferably being provided, as shown, with a downwardly-bent portion or projection 4, that engages the projection 3 on the slide.

At its front end the delivery-slide is provided with downwardly-extending arms forming side guides 6, between which the coin is received, and having inwardly-projecting flanges *i*, against which the coin presses to actuate the delivery-slide as the coin is pushed rearward by the operating-slide, the coin being supported in front by a stationary vertical bar 15 and standing edgewise upon a support formed by a table *t*, extending below the delivery-slide and upon which the coin moves as it is pushed rearward for the delivery operation, all as hereinafter explained. The flanges *i* are at such a distance apart as to permit a coin narrower than that by which it is intended that the machine shall be actuated to pass between them, so that the machine cannot be operated by such a narrow coin. This table is preferably arranged, as shown, with its rear end in such position that the coin is pushed off it by the delivery movement, so as to be released from its support and allowed to fall directly downward instead of depending on the coin rolling or tipping

off the support, greater certainty of action being thus secured. The bar 15 is provided with a central opening, through which moves what I call the "operating-slide" *c*, which preferably consists of a rod pointed at the end, as shown, so as to perforate any disk of paper, wood, or other light material, and thus not operate the delivery-slide. This rod is supported and slides in openings in the stationary bar 16 and the front plate of the frame A and normally extends outside the frame, where it is provided with a handle *d* for actuating it by the hand, this handle preferably being hollow, as shown, and inclosing a coiled spring 17, which bears against the handle *d* and the bar 16, so as to press the handle and operating-slide forward and return it to position after the delivery operation. The operating-slide *c* carries a pin 7 inside the front bar of a yoke *e*, extending forward from the delivery-slide *a*, so as to return the delivery-slide *a* to position when the operating-slide *c* is returned by the spring 17. The operating-slide *c* passes freely through an opening in this yoke, so that it will move rearwardly without moving the yoke with it. The side bars 8 of this yoke form side supports, which move rearward with the delivery-slide, so as to hold in position a second coin, if a second coin be dropped in the machine before actuation of the latter by a coin previously dropped, the result in such case being that the first coin will be delivered and the delivery-slide returned to position with the second coin, so that it may be actuated again by the latter. It will thus be seen that the operating-slide *c* when pushed in will pass between the guides 6 and not actuate the delivery-slide *a* unless there be a coin or similar piece between these guides, in which case it will by pressure upon the coin push the delivery-slide rearward. The operating-slide is stopped in its rearward motion by the inner shoulder of the handle *d* striking the bar 16 and stopped in its return by the lower end of the guides 6 striking the inner side of bar 15.

As shown in the drawings, there is a little lost motion between the inner end of the operating-slide *c* and the coin *y*, so that the operating-slide moves rearward a short distance before the delivery-slide is moved with it, and the operating-slide returns forward a short distance on release of the handle *d* after it is pushed in for the delivery operation before the pin 7 engages the yoke *e* for the return of the delivery-slide. The result of this lost motion between the delivery-slide and operating-slide on the return movement is that the coin is released and allowed to drop by the movement of the operating-slide *c* away from the delivery-slide, and the failure to drop the coin after it passes off the table *t* thus prevented.

The table *t* is preferably formed, as shown, with one or more stops 9, two being shown, inclined on the front side, so as to permit the coin to pass them, but square on the rear side,

so as to prevent the return of the coin, and this table is preferably hinged, as shown, so as to permit it to swing downward under the pressure of the coin on the inclined side of the stops 9, the table being normally pressed upward by the spring 19 pressing upon a projection 20 forward of the table-pivot 21, and against which spring the table is pressed downward by the coin. The bar *b* is so arranged relatively to the table *t* that the coin is prevented by the bar from rising sufficiently to ride over the stops 9 without depressing the spring-pressed table *t*, so that the table must be depressed by the passage of the coin over the stops, and this assures the return of the stops by the spring-pressure upon the table after the coin passes each stop or the end of the table. By this hinged-table construction the dropping of the coin after it passes the end of the table is assured by the return of the table to normal position after its depression by the coin, thus avoiding fully the difficulty heretofore existing in such machines that the coin may not be dropped on a quick-delivery movement, but be returned with the delivery-slide, enabling the machine to be operated two or more times by a single coin.

The spring-pressed table *t* may be used with an inclined surface only at the end or the entire surface of the table inclined, the intermediate stops on the table being omitted; but one or more intermediate stops are preferably used, so that the coin is held thereby in case the operating-slide be pushed in only part way, sufficiently to force the coin past the intermediate stops. These intermediate stops prevent a package being forced out by a quick short push of the delivery-slide without the retention of the coin, which would permit the operation of the machine two or more times by a single coin.

In the construction shown in Figs. 1 to 4 the pivot 21 of the table *t* is rearward of the line on which the coin is received, the whole table thus being pivoted to swing downward and normally held in its raised position by the spring 19, against which the table is moved by the pressure of the coin on the inclined sides of the stops 9 and end of the table. In the construction shown in Fig. 5 the pivot 21 is in front of the line on which the coin is received, so that the coin falls upon a fixed part of the table and is carried onto the swinging part as it is moved rearward by the operating-slide *c*, the spring 19 being arranged so as to act as in the construction shown in Figs. 1 to 4.

One feature of the present invention consists in a table provided with a slot of such width as to permit a coin or other piece of less thickness than the coin by which it is desired that the machine should be operated to pass through and out of the line of movement of the operating-slide *c*, while not permitting coins of the required thickness to pass through, but retaining them in the line of

movement of the operating-slide. The coin-table may be constructed in any suitable manner, so as to embody this feature of the invention; but in the construction shown in Figs. 1 to 4 the table *t* is formed with a slot 23, extending entirely across the table, the bottom 24 of this slot being of such width that a coin or disk entering the slot will roll side-wise off the bottom of the slot, so as to fall into the drawer 25, and the table is so hinged and held in its normal position that the space between the upper rear side of said slot and the bar 15 will permit only a thin coin to pass through it into the slot, a piece of the desired thickness being supported so as to actuate the delivery-slide when the operating-slide is pushed in. In the construction shown in Fig. 5 the slot 24 is in the fixed part of the table *t*. Obviously, however, the action of this construction in connection with a thin coin is the same as that of the construction shown in Figs. 1 to 4.

Above the coin-pocket formed by the guides 6, stationary bar 15, and the front end of the delivery-slide *a* is shown the usual chute 22 for the coin, and below the table *t* and in position to receive the coin when it drops from the end of the table is the usual coin-drawer 25. The coin is received from the chute through a slot in the cover of the case containing the operating mechanism and falls directly into the coin-pocket, the sides of the coin-pocket preferably being tapered, as shown, to insure the proper receipt of the coin.

The stationary rod *b*, passing through the opening in the delivery-slide above the coin, is important not only in its connection with table *t*, as previously described, but also as it forms a stop for a piece extending above the normal path of the coin and prevents the actuation of the machine by a piece of more than the proper height, as anything inserted into the coin-pocket to be engaged by the operating-slide *c* for beating the machine will be stopped by the rod *b* if it project into line with the latter.

The operation of the construction will be understood from a brief description in connection with the drawings. In the normal position of the parts, as shown in Figs. 1, 2, and 3, the delivery-slide *a* is in its forward position, so as to engage the bottom package *x* in the magazine 10 when moved rearward, and the operating-slide *c* is in its forward position, with the handle *d* projecting outside the frame and withdrawn a short distance from the delivery-slide and coin. A coin or similar piece being dropped through the chute 22 is guided to fall into the position shown in Fig. 1, lying between the guides 6 and resting upon the forward edge of the table *t*. The handle *d* is now pushed in from the outside, and the operating-slide *c* engages the coin *y* and by moving it rearward over the table *t* presses it against the front bar of the delivery-slide *a*, so as to push the latter with it during the rest of this movement, and thus

eject the bottom package *x* from the magazine 10. The movement of the operating-slide and delivery-slide continues until the bottom package *x* is ejected from the magazine and coin *y* moved past the stops 9 and off the rearward end of the table *t*, when all the parts are in the position shown in Fig. 4. As the coin is pressed against the front inclined surface of the stops 9 and end of the table the table *t* will be swung downward on its pivot 21 against the pressure of spring 19, permitting the coin to pass the stops and off the table readily, and when the coin has thus passed the table is immediately and quickly returned to normal position by the spring 19, so as to effectually prevent the return of the coin. This assumes that the coin is at least of such thickness that it will not pass through the slot 23. If it is too thin, it will pass through the slot 23 into the drawer, so that the operating-slide *c* will not actuate the delivery-slide when pushed in. If the coin is too narrow, it will fall or will be forced backward by the operating-slide between the vertical arms 6 on the delivery-slide, and thus pass into the drawer 25 without actuating the delivery-slide *a*. The handle *d* being now released, the spring 17 returns the operating-slide *c*, and after it has moved a short distance, so as to release the pressure of its point upon the coin *y* and insure the dropping of the latter, if the pressure of the slide has been sufficient to hold it after leaving the table *t*, the pin 7 engages the front bar of the yoke *e*, and thus returns the delivery-slide. If the coin should fail to drop before the return of the delivery-slide and be brought back with the latter, the end of the table *t* will certainly stop the coin and slide and prevent the latter being moved forward sufficiently for the delivery of another package, and the pushing in of the handle again will probably dislodge the coin.

It will be understood that the details of the construction shown may be varied widely and that the invention may be applied in machines of many different forms and used for different purposes and that the term "delivery-slide" is used only for convenience, as the slide may perform any desired function other than the delivery of goods, as in the special type of machine chosen for illustration. It will be understood also that the term "coin" is used to cover a piece of any material or character that may be used to operate machines embodying the invention. While the machine shown employs sliding operating and delivery members and this movement is preferred, certain features of the invention, considered broadly, are applicable also in connection with machines employing other movements and are thus claimed.

What is claimed is—

1. The combination with an operating-slide, of a delivery-slide actuated by the pressure of the operating-slide transmitted through a coin interposed between the two, a yielding support along which the coin is moved by the

slides during the delivery movement of the delivery-slide, said support being provided with a stop permitting the passage of the coin during the delivery movement but preventing retrograde movement thereof, means opposed to the support for engaging the edge of the coin to hold it in engagement with the support and adapted to engage the face of a wider coin to prevent operation of the machine, and connections between the two slides for returning the delivery-slide to normal position after the operating-slide is partially returned, whereby the pressure of the two slides upon the coin is released before the return of the delivery-slide, substantially as described.

2. The combination with an operating-slide, of a delivery-slide actuated by the pressure of the operating-slide transmitted through a coin interposed between the two, a yielding support along which the coin is moved by the slides during the delivery movement of the delivery-slide, said support being provided with a series of stops permitting the passage of the coin during the delivery movement but preventing retrograde movement thereof, means opposed to the support for engaging the edge of the coin to hold it in engagement with the support and adapted to engage the face of a wider coin to prevent operation of the machine, and connections between the two slides for returning the delivery-slide to normal position after the operating-slide is partially returned, whereby the pressure of the two slides upon the coin is released before the return of the delivery-slide, substantially as described.

3. The combination with an operating-slide, of a delivery-slide actuated by the pressure of the operating-slide transmitted through a coin interposed between the two, a pocket in the delivery-slide for receiving the coin, a support along which the coin is moved by the slides during the delivery movement of the delivery-slide, said support being provided with a slit in line with the pocket for the passage of a thin coin and with a stop projecting into the path of movement of the coin and adapted to be depressed thereby during the delivery movement and to then return to normal position to prevent retrograde movement of the coin, and connections between the two slides whereby the delivery-slide is returned to normal position by the operating-slide, substantially as described.

4. The combination with an operating-slide, of a delivery-slide actuated by the pressure of the operating-slide transmitted through a coin interposed between the two, a pocket in the delivery-slide for receiving the coin and open at its rear end for the discharge of a narrow coin, a support along which the coin is moved by the slides during the delivery movement of the delivery-slide, said support being provided with a slit in line with the coin-pocket for the passage of a thin coin and with a stop projecting into the path of movement of the

coin and adapted to be depressed thereby during the delivery movement and to then return to normal position to prevent retrograde movement of the coin, and connections between the two slides whereby the delivery-slide is returned to normal position by the operating-slide, substantially as described.

5. The combination with an operating-slide, of a delivery-slide actuated by the pressure of the operating-slide transmitted through a coin interposed between the two, a pocket in the delivery-slide for receiving the coin, a yielding support along which the coin is moved by the slides during the delivery movement of the delivery-slide, said support being provided with a slit in line with the coin-pocket for the passage of a thin coin and with a stop permitting the passage of the coin during the delivery movement but preventing retrograde movement thereof, means opposed to the support for engaging the edge of the coin to hold it in engagement with the support and adapted to engage the face of a wider coin to prevent operation of the machine, and connections between the two slides whereby the delivery-slide is returned to normal position by the operating-slide, substantially as described.

6. The combination with an operating-slide, of a delivery-slide actuated by the pressure of the operating-slide transmitted through a coin interposed between the two, a pocket in the delivery-slide for receiving the coin and open at its rear end for the discharge of a narrow coin, a yielding support along which the coin is moved by the slides during the delivery movement of the delivery-slide, said support being provided with a slit in line with the coin-pocket for the passage of a thin coin and with a stop permitting the passage of the coin during the delivery movement but preventing retrograde movement thereof, means opposed to the support for engaging the edge of the coin to hold it in engagement with the support and adapted to engage the face of a wider coin to prevent operation of the machine, and connections between the two slides whereby the delivery-slide is returned to normal position by the operating-slide, substantially as described.

7. The combination with delivery-slide *a* and operating-slide *c*, of guide-rod *b* passing through the delivery-slide outside the normal path of the coin, but forming a stop for a piece projecting above said path, and coin-supporting yielding table *t* in line with the path of movement of the delivery-slide, substantially as described.

8. The combination with delivery-slide *a*, operating-slide *c*, and the coin-pocket between said slides, of a stop on the coin-receiving side of the coin-pocket and outside the normal path of a coin moving with the delivery-slide, and coin-supporting yielding table *t* in line with the path of movement of the delivery-slide, substantially as described.

9. The combination of an operating member acting through a coin, of a hinged yielding

table having an inclined stop and also a slot 23 for a thin coin, substantially as described.

10. The combination with stationary bar 15, of hinged table *t* arranged with slot 23 between the rear edge of the table and the bar, substantially as described.

In testimony whereof I have hereunto set

my hand in the presence of two subscribing witnesses.

WILLIAM W. ROSENFELD.

Witnesses:

C. J. SAWYER,

T. F. KEHOE.