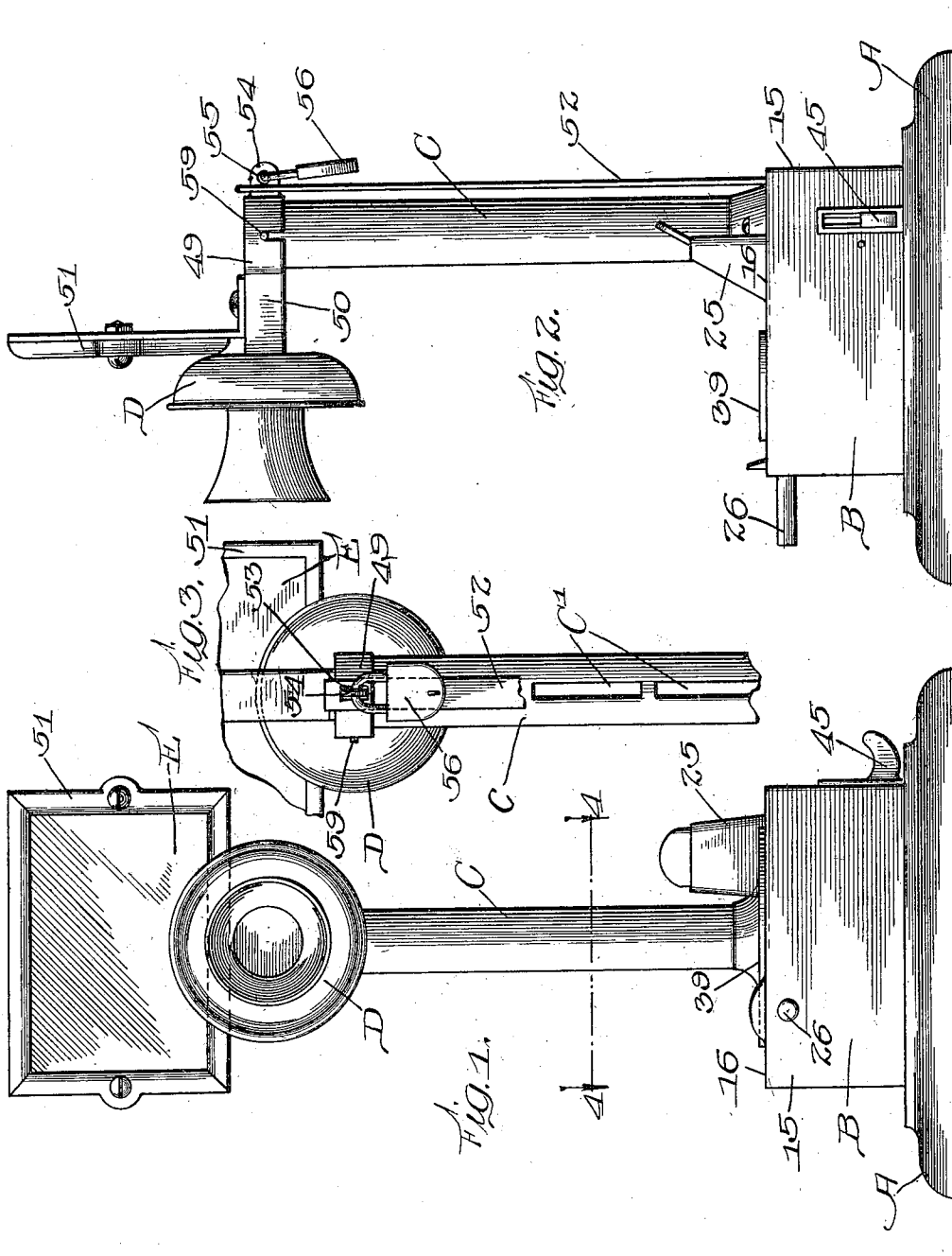


G. H. VAN COURT & E. I. MARKS.
MACHINE FOR VENDING SLUGS.
APPLICATION FILED AUG. 17, 1907.

961,916.

Patented June 21, 1910.

4 SHEETS—SHEET 1.



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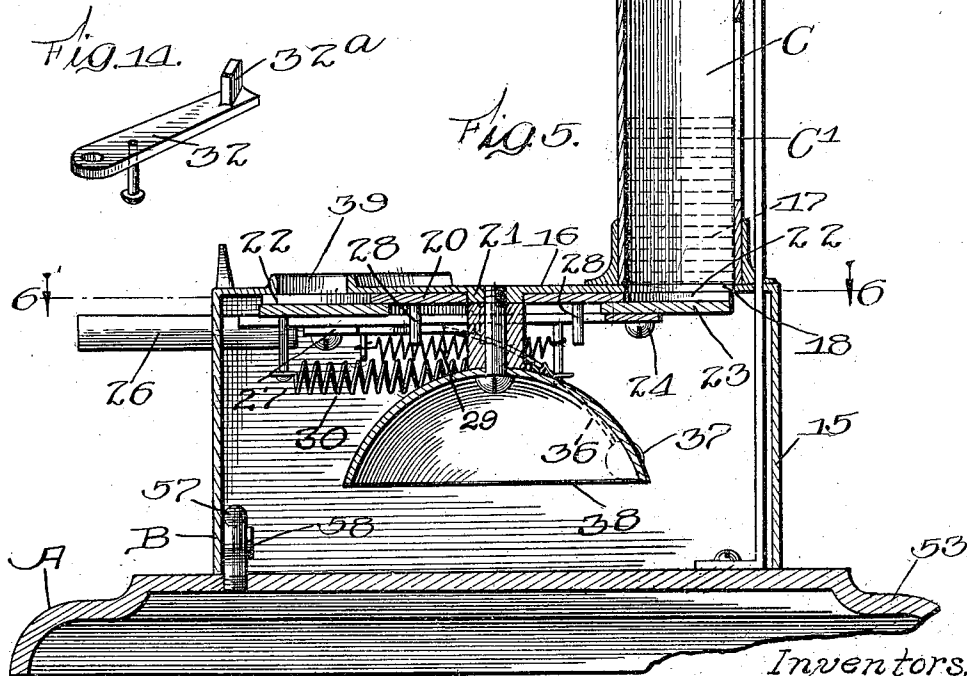
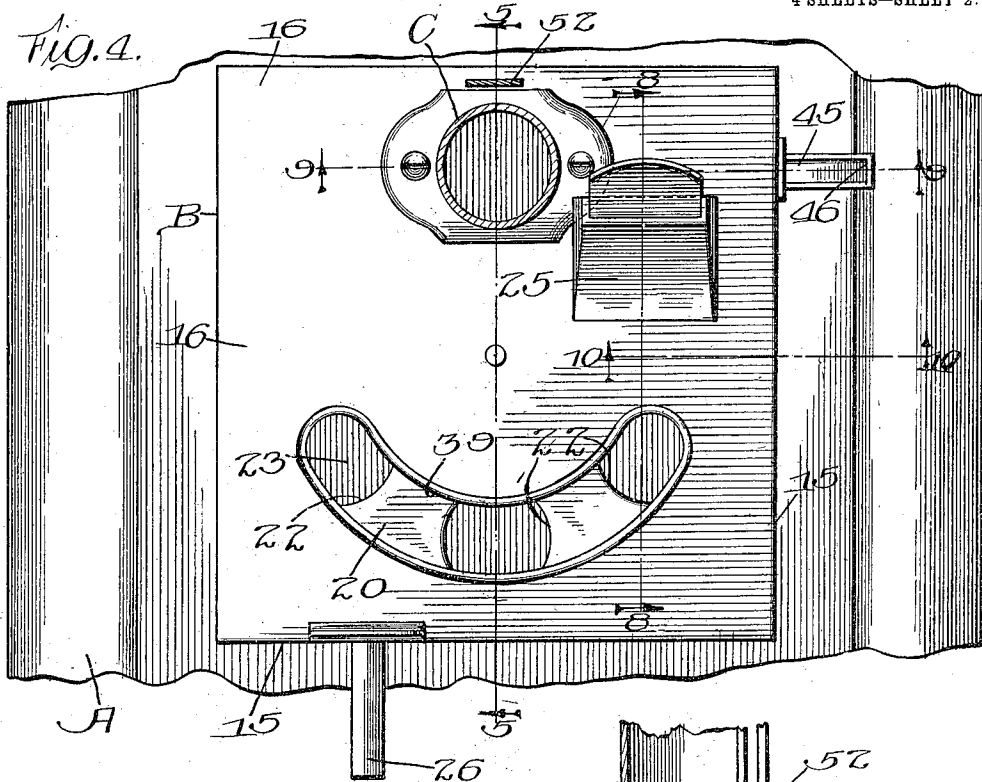
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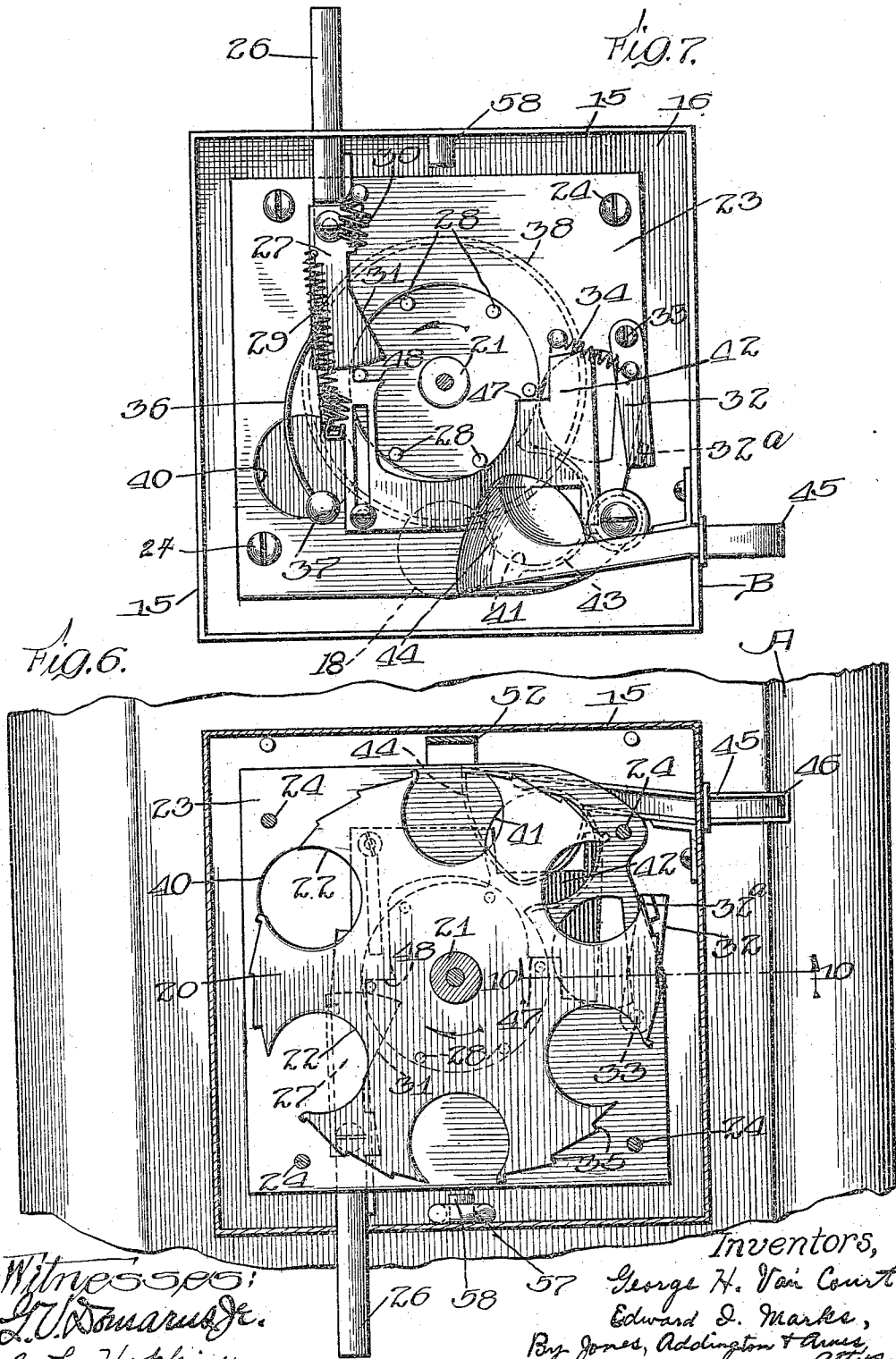
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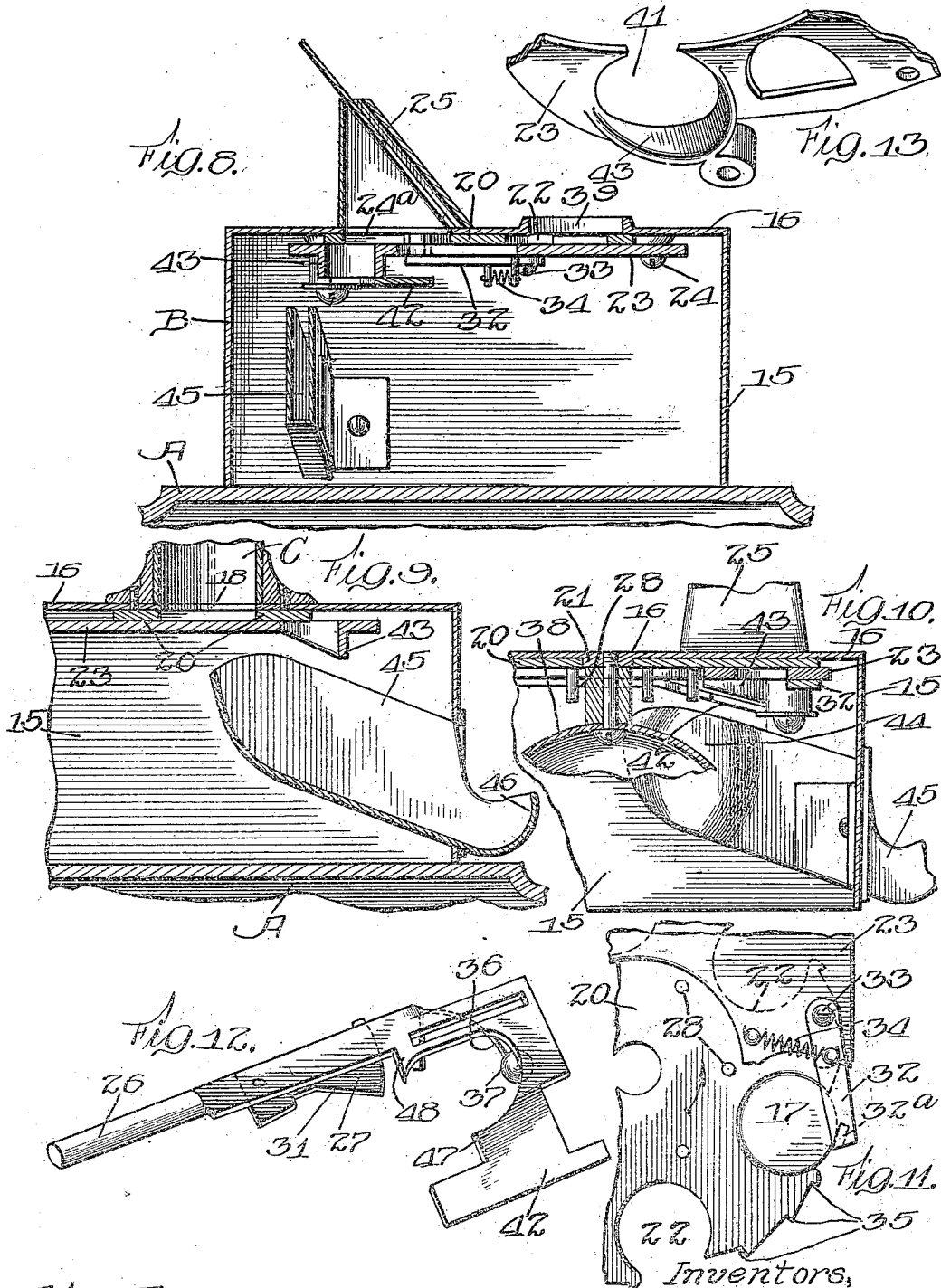
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4 SHEETS—SHEET 4.

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UNITED STATES PATENT OFFICE.

GEORGE H. VAN COURT AND EDWARD I. MARKS, OF CHICAGO, ILLINOIS; SAID MARKS
ASSIGNOR TO SAID VAN COURT.

MACHINE FOR VENDING SLUGS.

961,916.

Specification of Letters Patent. Patented June 21, 1910.

Application filed August 17, 1907. Serial No. 338,969.

To all whom it may concern:

Be it known that we, GEORGE H. VAN COURT and EDWARD I. MARKS, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Machines for Vending Slugs, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to improvements in vending machines, and has special reference to a machine for vending slugs such as are sometimes used in lieu of coins at local pay telephone stations.

The use of coins at telephone stations which are open to the public is being superseded by the use of specially formed slugs which must first be bought by the person who desires to use the telephone. One of the reasons for the use of slugs instead of coins is that whereas coin-operated devices may be operated by metallic disks having approximately the size and weight of the coins which the device is designed to receive, a machine requiring a specially formed slug can only be operated with the proper slug and such slugs are not readily duplicated.

The object of our invention is to provide a machine for automatically vending slugs by exchanging a slug for a coin of a certain denomination. While slugs may be sold by such machines for use in various kinds of slug-operated machines and devices, it is thought that the principal commercial use of such a machine will be for vending slugs for use in telephone pay stations.

We have shown and described herein a machine having features which particularly adapt it for selling telephone slugs and have claimed such features, but we claim also other features which are novel in a machine designed for selling slugs for any purpose.

In the accompanying drawings Figure 1 is a front elevational view of a device embodying our invention; Fig. 2 is a side elevational view of the same; Fig. 3 is a rear elevational view of a portion of the device; Fig. 4 is a horizontal cross-sectional view taken on the line 4—4 of Fig. 1, looking downward; Fig. 5 is a vertical cross-sectional view taken on

the line 5—5 of Fig. 4; Fig. 6 is a horizontal cross-sectional view taken on the line 6—6 of Fig. 5, looking downward and showing the operative parts of the device, the top plate of the outer casing being removed; Fig. 7 is an inverted plan view of the device with the base removed; Fig. 8 is a vertical cross-sectional view taken on the line 8—8 of Fig. 4, looking in the direction indicated by the arrows; Fig. 9 is a similar view taken on the line 9—9 of Fig. 4, looking in the direction indicated by the arrows; Fig. 10 is a vertical sectional view taken on the line 10—10 of Figs. 4 and 6; Fig. 11 is an inverted plan view of a portion of the coin-carrying disk and a locking pawl which normally prevents rotation of this disk; Fig. 12 is a perspective view of a push rod and parts which are secured to and movable with said rod; Fig. 13 is a perspective view of a portion of a retaining plate, and Fig. 14 is a perspective view of the locking-pawl.

In the several figures of the drawings, in which like reference characters indicate the same parts throughout, A is a base, to which is secured a box-like casing B from which extends upwardly a standard C bearing upon its upper end a part D made to represent in appearance a telephone transmitter.

The general appearance of the vending machine as a whole is similar to that of a desk telephone set, so that the attention of a person desiring to use the telephone will be attracted to the machine. The casing B contains the mechanism for vending the slugs. Associated with the dummy transmitter is a placard E upon which are printed instructions by which the person using the device is directed to first purchase a slug from the machine and then to insert the slug into the slot of the telephone pay station. The casing B comprises the side walls 15 and a top plate 16. The upright standard C forms a magazine in which may be stored a pile of slugs 17. The plate 16, which forms the top of the casing B, is formed with an aperture 18 registering with the lower end of the magazine C. Within the casing B, and lying against the under side of the top 16 of this casing, is a disk 20 arranged to rotate on a central bearing 21 and provided with a series of openings forming

pockets 22, each of which is adapted to receive a coin or slug. The disk 20 is so disposed relatively to the aperture 18 that the openings 22 will successively register with this aperture 18 as this disk 20 is revolved upon its bearing. Below the disk 20 is arranged a plate 23 which is removably secured in place by a screw 24 near each of its four corners. This plate is properly spaced away from the top 16 so as to permit the disk 20 to revolve freely between it and said top, and is formed with a central opening 23^a to permit the actuation of the disk 20 by mechanism below the plate 23. The weight of the pile of slugs 17 causes these slugs to successively fall into the openings 22 in the disk as these openings are brought into register with the opening 18, and when such rotation is imparted to the disk a slug is wiped off the bottom of the pile each time that one of these openings 22 passes under the pile. The top plate 16 is also provided with an opening 24^a for the reception of coins, a coin-chute 25 being provided over this opening into the upper end of which the coins are inserted. Through this chute a coin is guided into whichever one of the openings 22 in the disk 20 happens to be in position under the opening 24^a to receive such coin. We have shown the disk 20 as being provided with six of these openings or pockets 22, and suitable means are provided whereby, after a coin has been inserted into the coin chute 25 and has fallen into place in the opening 22 which happens to be under the opening 24^a, the disk 20 may then be moved forward one-sixth of a revolution, or a distance which will bring the next pocket in the series in position under the opening 24^a. The means for thus moving the disk forward a predetermined distance comprises a push-rod 26 to which is pivotally secured a pawl 27 adapted to engage successively a series of six pins 28 which project downward from the under side of the disk 20 through the opening 23^a of the plate 23. This pawl 27 is thrown toward the center of the disk and into engagement with the pins by a spring 29. When the push-rod 26 is released, a spring 30 moves said push-rod outward and the inclined portion 31 of the pawl 27 passes the pin 28 with which it was in engagement and is then in position for engagement with the next pin in the series. To prevent back-lash of the disk, and to prevent rotation of the disk until a coin has been placed in one of the pockets 22, another spring pawl 32 is provided, this pawl being pivoted on a screw 33 in the plate 23, as best shown in Fig. 11. The spring 34 tends to move the pawl 32 into engagement with the disk 20, the pawl normally preventing rotation of said disk in either direction by means of an upwardly projecting tongue

32^a carried thereby which normally falls into one of the openings 22 and thus locks the disk against rotation in one direction, rotation in the opposite direction being prevented by engagement of this tongue with one of a series of ratchet teeth 35 with which the disk 20 is provided. The openings 22 are so disposed as to intersect the edge of the disk 20, whereby when one of these openings is occupied by a coin, the edge of this coin will project slightly beyond the edge of the disk 20. When a coin is inserted into the chute 25 it falls into place in the opening 22 which happens to be under the chute, and when the push-rod 26 is moved inward the pawl 27 engages one of the pins 28 and moves the disk ahead in the direction indicated by the arrows in Figs. 6 and 11. The coin is thus carried around under the pawl 32, the portion of the edge of this coin which projects beyond the edge of the disk acting as a cam and, by engaging the tongue 32^a on the pawl 32, holding the pawl out of engagement with the ratchet teeth 35 and permitting the disk 20 to move forward through one-sixth of a revolution, which brings the next opening 22 in position to receive a coin from the chute 25. When the push-rod 26 is released and moved outward by the spring 30, the disk 20 is prevented from rotating backward by the engagement of the tongue 32^a with one of the ratchet teeth 35. Secured to the pawl 27 is a curved rod 36 carrying upon its end a hammer 37 which, when this pawl slips over the pin 28 and is thrown inward by its spring 29, strikes a bell 38.

The top 16 of the casing is formed with a curved sight opening 39 through which may be seen three of the openings 22 in the disk 20, whereby it is possible to observe what coins have been inserted upon the last three operations of the machine. This feature of the machine provides protection against the use of bogus coins, as it affords means for detecting such coins. The plate 23 is provided with an opening 40 which normally registers with the fourth opening in the series of openings 22. When a coin has been carried around to the proper position this coin will drop through the opening 40 and will fall into the chamber within the casing of the device. The plate 23 is also provided with an opening 41 near the lower end of the magazine C, and between the magazine and the point at which the coin, when inserted into the chute, is received by one of the pockets 22. Normally one of the pockets 22 will register with the lower end of the magazine and another of these pockets will be in position to receive a coin. When the disk 20 is rotated as above explained by thrusting the push-rod 26 inwardly after a coin has been inserted

to release this disk, the rotation of the disk will cut out a slug from under the pile in the magazine and will carry this slug to the opening 41. The slug then falls through the opening 41 upon an inclined plate 42 which is secured to and moves with the push-rod 26. This slug is prevented from sliding off the inclined plate 42 by a downwardly projecting rim 43 which partly surrounds the opening 41. When the pushrod 26 is released and moves outward under the influence of the spring 30 the inclined plate 42 moves forward and this rim 43 wipes the slug off the plate 42 and drops it into the open mouth 44 of the slug chute 45. The slug then moves down this chute and passes outward through a suitable opening in the side of the casing and rests in the upturned outer end 46 of this chute. To additionally hold the disk 20 against rotation in either direction the plate 42 is provided with a shoulder 47 adapted to engage one of the pins 28 and with a shoulder 48 adapted to engage another of these pins when the push-rod 26 and plate 42 are held outward by the spring 30. The rear side of the magazine cylinder C is provided with elongated openings C' through which the slugs may be seen, whereby it is possible to ascertain when the supply of slugs is nearly exhausted. Upon the upper end of this reservoir cylinder is carried a head piece 49 which is provided with a forwardly projecting portion 50 carrying the dummy telephone transmitter D. This head 49 carries also a frame 51 which contains the card E upon which is printed information and directions for the user of the device.

Secured to the base B is a flat rod 52 which passes upwardly through a suitable opening in the top of the casing and extends upward parallel with the back of the magazine cylinder C. The upper end of this rod 52 is provided with a slot 53 through which projects a lug 54 with which the rear side of the head 49 is provided. This lug 54 is formed with an opening 55 for the reception of a padlock 56 whereby the parts may be securely locked together. Secured to base B is a screw-eye 57 through which projects a pin 58 which is secured to the interior of the front side of the casing of the device. When it is desired to open the device for the purpose of taking out the coins that have been deposited within the casing, or to replenish the supply of slugs within the magazine, the padlock 56 will be removed, when the rod 52 may be bent outwardly to release the head 49, whereupon the head may be removed from the top of the magazine C. By tipping the casing of the device forward away from the base A, the rod 52 is bent forward, and the casing being then moved forward, the pin 58 will

be withdrawn from the screw-eye 57 and the body of the device will be detached from the base. To prevent swinging of the head 49 about the magazine tube this head is provided with a notch which receives a short pin 59 which is secured to the magazine tube as clearly shown in Fig. 2.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is—

1. In a vending machine, means for receiving and guiding a coin edgewise, a plate provided with a series of pockets and rotatable in a plane inclined to the direction of movement of the coin in said coin guiding means to bring said pockets successively into position to receive a coin from said coin-guiding means, means for manually rotating said plate, means for normally locking said plate against rotation, said locking means being releasable by a coin and adapted to permit said plate to be rotated only a sufficient distance to carry the next pocket in the series into position to receive a coin, and vending means operated by said plate when the latter is rotated.

2. In a vending machine, means for receiving and guiding a coin, a horizontally disposed plate provided with a series of pockets and made rotatable to cause said pockets to register successively with said coin-guiding means, locking means normally preventing rotation of said plate and adapted to be released by engagement with the edge of a coin, means for effecting the rotation of said plate, vending means operated by said plate when the latter is rotated, and means for preventing further rotation of said plate until another coin has been inserted.

3. In a vending machine, a rotatably mounted plate having a series of pockets, means for receiving and guiding coins, said means registering successively with said pockets as said plate is revolved, a magazine adapted to contain a supply of slugs and to feed said slugs successively to said pockets, means for discharging said coins and said slugs from said pockets, means normally locking said plate against rotation and adapted to be engaged by a coin and thereby caused to release said plate, and means for limiting the movement of said plate.

4. In a vending machine, a revoluble plate having a series of openings therethrough, a stationary plate having openings therethrough, means for guiding coins successively into the openings of the revoluble plate, means for guiding slugs successively into the openings of said revoluble plate, means for manually revolving said plate to cause these openings to register with the openings of said stationary plate and thereby to discharge the coins and slugs through said last-

named openings, and means normally locking said plate against rotation and adapted to permit said plate to be moved a limited distance upon the insertion of a coin into said coin-guiding means.

5 5. In a vending machine, a pair of stationary plates arranged one above the other, a plate revolubly arranged between said stationary plates and provided with a series
10 of openings, the lower of said stationary plates being provided with a coin opening registering successively with the openings in the revoluble plate, the upper of said plates being also provided with an opening
15 adapted to register successively with the openings in said revoluble plate, means for revolving said disk with a step by step movement, means for normally locking said revoluble plate in such position that one of
20 its openings registers with the opening in the lower plate and another of its openings registers with the opening in the upper plate, means adapted to receive a coin and to guide the same through the open-
25 ing in the upper plate into the registering opening in the revoluble plate, a pile of slugs feeding successively into the openings in the revoluble plate, and a slug-chute arranged below said plates, the lower station-
30 ary plate having another opening to permit the slugs to fall successively therethrough in said chute upon each forward movement of the revoluble plate.

35 6. In a vending machine, a magazine containing a column of slugs, a stationary plate disposed below said magazine and normally supporting said column, said stationary plate having a central opening, a rotatable plate arranged above said stationary plate
40 and provided with openings for the reception of the lowermost slug of said column, said stationary plate having a second opening at the same distance from the center of the rotatable plate as the column of slugs
45 but out of register therewith, said rotatable plate being provided with projections extending through the central opening of said stationary plate, means for guiding a coin into an opening of said rotatable plate, man-
50 ually operable means for engaging a projection of said movable plate and moving the latter to carry its opening out of register with the column of slugs and thereby to cut one of said slugs out of said column and
55 convey the same to the opening in said stationary plate and permit it to fall therethrough, and means for normally locking said manually operable means and arranged to be actuated to unlock the same by the en-
60 gagement of the coin therewith.

7. In a vending machine, coin receiving and guiding means, merchandise storing and delivering means, a movable member having pockets therein registering successively with

said coin guiding means and said merchan- 65
disse delivering means and successively re-
ceiving coins and merchandise therefrom, coin controlled means for effecting the
movement of the movable member, and
means for effecting the discharge of the 70
coins and merchandise from the pockets of the movable member.

8. In a vending machine, a stationary horizontal plate having an opening for the passage of a coin therethrough, a movable 75
plate horizontally and rotatably arranged above said stationary plate and provided with a series of coin-receiving pockets, means for receiving a coin and guiding the same into one of said pockets, and means 80
for intermittently revolving said movable plate to cause its pockets to successively register with the opening in said stationary plate and thus permit the coins carried thereby to successively drop flatwise through 85
the opening in the stationary plate.

9. In a vending machine, a horizontal stationary plate having an opening formed therein, a movable disk arranged above said plate, said disk having a series of pockets 90
formed therein and having a series of ratchet teeth formed in its outer periphery, means adapted to receive a coin and guide the same into one of said pockets, a pawl adapted to engage the ratchet teeth of said 95
disk, a pawl adapted to engage in one of said pockets when no coin is present therein and adapted to be engaged by the edge of a coin when a coin is present in one of said pockets and thereby to be moved out of 100
engagement with said disk, an actuating rod, a series of pins projecting from said disk through the opening of said stationary plate, a spring pawl carried by said rod and adapted to successively engage said 105
pins as the rod is actuated and thereby to move said disk forward such a distance upon each movement of said rod as will move one of said pockets out of register with said coin-guiding means and another of said 110
pockets into register with the same.

10. In a machine for exchanging slugs for coins, in combination, a horizontal station-
ary plate having a central opening formed therein, a movable disk arranged above said 115
stationary plate, said disk having a series of coin-receiving pockets arranged there-around in a circle and equidistant from each other, means for receiving and guiding coins successively into said pockets, said 120
disk being provided with pins projecting through the opening of said stationary plate, said pins corresponding in number to the number of pockets, a push-rod having means adapted when moved longitudinally in one 125
direction to engage one of said pins and thereby move said disk through a portion of a revolution, means for preventing back-

ward rotation of said disk, and slug-vending means controlled by said disk.

11. In a vending machine, coin receiving
and guiding means, merchandise storing
5 and delivering means, a rotatable disk hav-
ing a plurality of pockets therein succes-
sively registering with the coin guiding
means and the merchandise delivering means
and successively receiving coins and mer-
10 chandise therefrom, coin controlled means
for effecting the rotation of the rotatable

member, and discharge means for the coins
and the merchandise.

In witness whereof, we have hereunto sub-
scribed our names in the presence of two 15
witnesses.

GEORGE H. VAN COURT.
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Witnesses:

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C. L. HOPKINS.