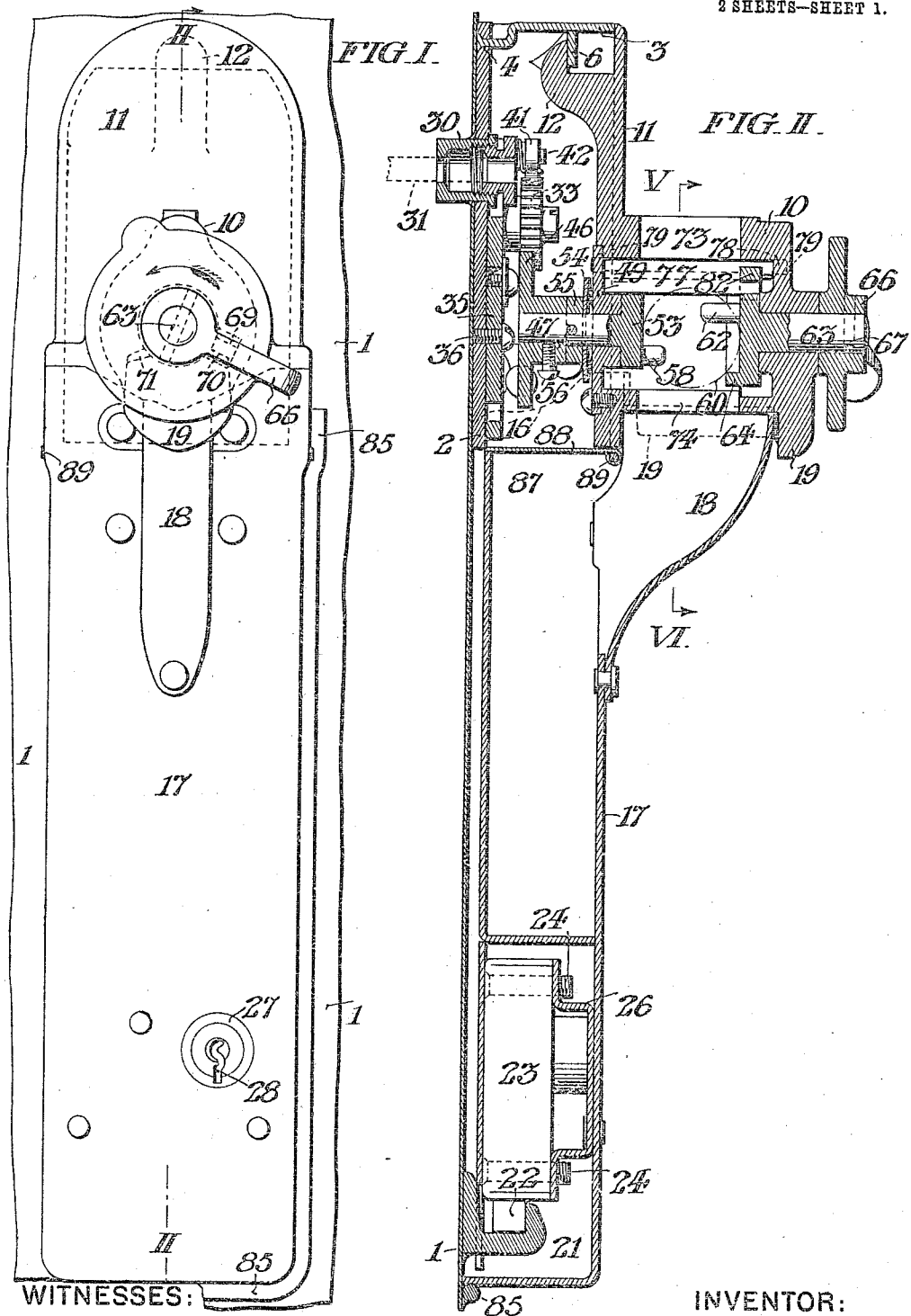


J. B. KAIGHN.
PREPAYMENT MECHANISM.
APPLICATION FILED NOV. 26, 1909.

957,684.

Patented May 10, 1910.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

FIG. III.

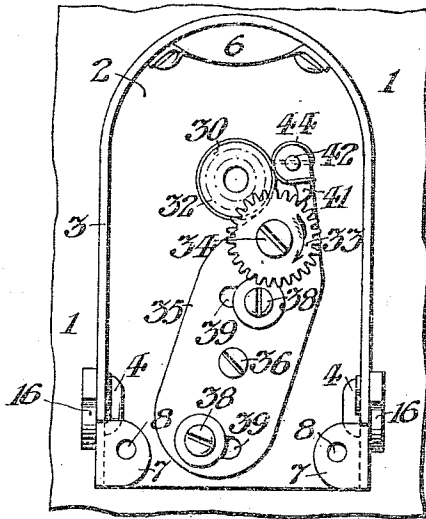


FIG. IV.

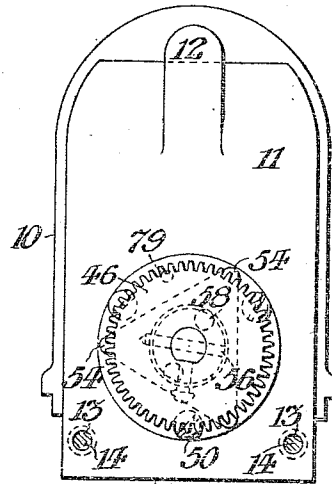


FIG. V.

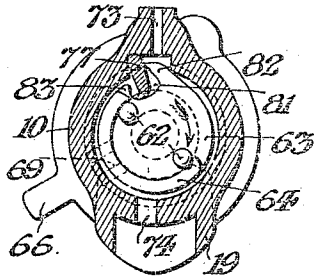


FIG. VI.

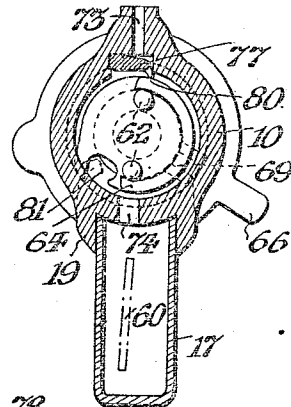


FIG. VII.

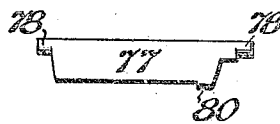
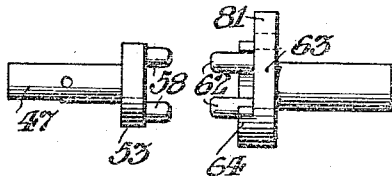


FIG. VIII.



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UNITED STATES PATENT OFFICE.

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PREPAYMENT MECHANISM.

957,684.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed November 26, 1909. Serial No. 529,940.

To all whom it may concern:

Be it known that I, JAMES BARTON KAIGHN, of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful
5 Improvement in Prepayment Mechanism, whereof the following is a specification, reference being had to the accompanying drawings.

My improvement relates to coin controlled vending machines, and is particularly applicable to gasometers wherein a rotary coin carrier may be operatively connected by a coin with meter mechanism, which may then be manually set in position to deliver a pre-
15 determined quantity of gas, by turning an exterior handle attached to said carrier.

My invention provides means to prevent access to, or wrongful displacement of the coin after its insertion in said carrier, including an eccentrically hinged plate adapted to close a passageway for the coin, and the various novel features of construction and arrangement hereinafter specified.

In the drawings:—Figure I is a front elevation of a mechanism conveniently embodying my invention. Fig. II is a vertical sectional view taken on the line II, II in Fig. I. Fig. III is a front elevation of the gear casing which is permanently attached
30 to the meter casing and supports the casing for the rotary coin carrier. Fig. IV is a rear elevation of the casing for the rotary coin carrier which normally covers the casing shown in Fig. III. Figs. V and VI are sectional views taken on the line V, VI, in Fig. II, showing in respectively opened and closed position, an eccentrically hinged plate serving as a gate between the coin inlet and the coin carrier. Fig. VII, is a view of the
40 plate for preventing the wrongful removal or displacement of the coin. Fig. VIII, is a view in detail of the coin engaging mechanism.

In said figures; the prepayment mechanism is rigidly supported by the side wall 1 of a gasometer which it is designed to control. The gear casing 2, which is permanently connected with said wall 1 is conveniently formed of pressed sheet metal; the
50 wall 3 having lugs 4 riveted through the base plate, respectively at the top and opposite lower corners thereof. Said wall 3 of the gear casing is provided at its top with the bracket 6 and, as shown in Fig. III, has at its lower corners the inwardly turned
55 lugs 7 with screw threaded apertures 8.

The coin carrier casing 10 shown in Fig. IV, comprises the plate 11 having the hook lug 12 arranged to detachably engage said bracket 6, as shown in Fig. II, and having holes 13, 60 at its lower corners, for the screws 14 which fit the holes 8 in the lugs 7 of said gear casing, so that said coin carrier casing is rigidly but detachably connected with said gear casing as shown in Fig. II. Said gear
65 casing wall 3 is provided with side plates 16, conveniently riveted thereon, to overhang the upper edge of the coin receptacle 17 which fits exterior to said gear casing and, has its inlet chute 18 fitted within the
70 depending flange 19 on said coin carrier casing as indicated in Figs. II and VI. Said coin receptacle 17 being thus prevented from displacement at its upper end has its lower end supported and secured by the
75 hook bracket 21 which is permanently connected with the meter wall 1 and normally engaged by the slide bolt 22 of the lock 23 which is detachably connected by the screws 24 with the plate 26 riveted in rigid relation
80 with said coin receptacle 17, so that the nose 27 of said lock, having the keyhole 28, is accessible from the exterior of said casing 17. Said gear casing 2 is provided with the stuffing box bearing 30 for the shaft 31
85 which leads to the meter mechanism and has the gear 32 engaging the gear 33 of the prepayment mechanism. Said gear 33 is mounted on the stud 34 on the frame plate 35 which is pivoted at 36 in said casing 2, 90 so that it may be adjusted, though normally rigidly secured by the screws 38 which extend through slots 39 in said plate 35, in engagement with said casing 2. Said gear
95 33 is provided with the pawl 41 pivoted on the stud 42 extending from said plate 35 and is pressed by the spring 44 so as to prevent rotation of said gear 33 except in the direction indicated by the arrow in Fig. III. Said gear 33, shown in Figs. II and
100 III, is in mesh with the gear 46 shown in Fig. IV which is carried by the crank shaft 47 journaled in the bearing plate 49 which is detachably connected with the plate 11 of the coin carrier casing 10, by the three
105 screws 50. Said shaft 47 has its disk head 53 held in frictional engagement with said plate 49 by the triangular plate spring 54 which encircles said shaft and bears against the collar 55 held thereon by the pin 56. It
110 is to be understood that said spring prevents accidental rotary movement of said

shaft 47 in either direction. Said crank shaft 47 has its head 53 provided with two diametrically opposite crank pins 58 adapted to engage a coin, for instance a quarter of a dollar 60, lying between the diametrically opposite crank pins 62 of the rotary coin carrier 63 which has the semi-annular flange 64 supporting said coin 60 during the operation of setting the meter mechanism therewith. Said coin carrier 63 has the exterior operating handle 66 rigidly connected therewith by the pin 67, and may be rocked to the extent indicated by Figs. V and VI; such movement being limited by the lug 69 on said handle 66 which encounters the shoulders 70 and 71 on the coin carrier casing 10 at the respectively opposite sides thereof. Said coin carrier casing 10 has the coin inlet slot 73 at the top thereof, and the coin outlet slot 74 at the bottom thereof; said slots being out of alinement as shown in Figs. V and VI. The coin passageway including said inlet 73, through which the coin 60 is deposited in the coin carrier 63, is provided with means to prevent the wrongful removal or displacement of said coin, including the plate 77, (best shown in Fig. VII), which is eccentrically pivoted upon the alined trunnions 78 journaled in the bearings 79, respectively in said coin carrier casing 10 and in the bearing plate 49, the latter being best shown in Fig. IV. Said plate 77 being a gate thus interposed in the coin passageway between said inlet 73 and the coin carrier, has the projection 80 shown in Figs. V, VI and VII, which fits in the recess 81 of the coin carrier 63 having the opposed projections 82 and 83 arranged to cooperate therewith, so that when said carrier is turned to the position shown in Figs. I, II and V, said gate 77 is opened to admit the coin 60 to the position shown in Figs. II and V. Said carrier must be turned from the position shown in Fig. V to that shown in Fig. VI to set the meter mechanism, and, at the beginning of such movement, the gate 77 being shifted by the projection 83 pushes the coin away from the slot 73, so that the coin disappears and the gate is closed before the coin is engaged by the pins 62. Said gate remains closed until the carrier is returned to its initial position shown in Fig. V, the coin being dropped through the slot 74 into the coin receptacle 17 when disengaged by the pins 62 and unsupported by the flange 64. It may be observed that the operator cannot catch and retain the coin by the flange 64, because the latter is concentric with the axis of the carrier and merely supports the coin loosely in central position until it is engaged by the pins 62.

The operation of the prepayment mechanism above described is as follows:—The mechanism being in the position shown in

Figs. I, II and V, a coin 60 is dropped through the inlet 73 and caught between the crank pins 62 on said carrier, being upheld by the semi-annular flange 64 on said carrier. Said carrier being then turned in the direction of the arrows on Figs. I, V and VI, the coin carrier closes the coin inlet passageway by movement of the gate 77, and, said shaft pins 62 encountering the coin 60 cause the latter to engage the crank pins 58 on the head 53 of the shaft 47 shown in Figs. II and VIII, so as to cause the gear 46 to turn the gears 33 and 32 to set the meter mechanism to the desired extent and instantly causing the coin 60 to fall within the coin receptacle 17. Reverse rotary movement of the carrier 63 by means of the handle 66 does not change the set position of said gears 33 and 32 because of the absence of the coin, and, the parts shown in Fig. VI are thus turned to their initial position shown in Fig. V, to receive another coin. The coins thus deposited in the receptacle 17 may be discharged therefrom by raising the lock bolt 22 by means of a key inserted in the keyhole 28 thus disengaging the receptacle 17 from the lug 21 and permitting the latter to be swung outwardly from within the protective rib 85 on the meter wall 1, so that the upper edge of said receptacle may be withdrawn from within the depending flange 19 of the coin carrier casing and from beneath the guard plates 16 on the wall 3 of the gear casing. It may be observed that said rib 85, flange 19 and plates 16 protect said coin receptacle from molestation by preventing access to the crevices between said receptacle and the other parts with which it is detachably connected. If it were not for said protecting devices it might be possible to insert a chisel or similar lever in an attempt to pry the coin receptacle loose without unlocking it. The coins may be emptied from said receptacle 17 by inverting the latter so as to open the passageway 87 at the upper end thereof which is normally closed by the door plate 88 which is eccentrically hinged on the bar 89. However, said door can not be opened when the coin receptacle 17 is in its normal position shown in Fig. II, in which position it prevents displacement of the coins from said receptacle 17 into the gear casing above it when for purposes of robbing the device, the meter is inverted. Moreover, it may be observed that it is impossible to return coins 60 from the chute 18 into the coin carrier casing 10 when the device is opened as shown in Figs. II and V, because in such position the flange 64 prevents the passage of the coin, and when the carrier is in position to afford an open passageway for the coin at the outlet 74, the inlet 73 is closed by the gate 77. Therefore, the eccentrically hinged plates 77 and 88 above described prevent the

wrongful removal or displacement of the coins which have been deposited in the prepayment mechanism.

It is to be understood that I do not desire to limit myself to the precise details of construction and arrangement above described, as it is obvious that various modifications may be made therein without departing from the essential features of my invention, as defined in the following claims.

I claim:—

1. A prepayment mechanism for a vending machine, including a rotary coin carrier; a casing inclosing said carrier, having a coin inlet; an imperforate plate adapted to close said inlet, having hinge trunnions at opposite ends thereof and a projection at one end thereof adjoining said coin carrier; and, means on said coin carrier arranged to operate said plate, including a projection adapted to cooperate with the projection on said plate.

2. In prepayment mechanism for a vending machine, the combination with a casing having a coin passageway; of a rotary coin carrier journaled in said casing and having a projection; a plate adapted to close said passageway, having alined hinge trunnions at its opposite ends journaled in said casing, means in said casing limiting the movement of said plate to less than a complete revolution and a projection adapted to cooperate with the projection on said coin carrier, to open and close said plate.

3. In prepayment mechanism for a vending machine having a coin passageway; a plate eccentrically hinged at one edge and arranged to close said passageway; and, a rotary member arranged to operate said plate to open said passageway.

4. In prepayment mechanism for a vending machine having a coin passageway; a plate eccentrically hinged at one edge and arranged to normally close said passageway.

5. In prepayment mechanism, a rotary coin carrier having an axial shaft, two diametrically opposite pins extending parallel with said shaft; a disk connecting said shaft and pins; and a semi-annular flange projecting parallel with said pins and arranged to support a coin between them.

6. In prepayment mechanism for a vending machine, a rotary coin carrier having an axial shaft; a disk in concentric relation with said shaft; a pin projecting from said disk parallel with said shaft but eccentric thereto, and a circumferential flange projecting from said disk arranged to support a coin in cooperative relation with said pin.

In testimony whereof I have hereunto signed my name at Philadelphia, Pennsylvania, this twenty-second day of November, 1909.

JAMES BARTON KAIGHN.

Witnesses:

ARTHUR E. PAIGE,

GERTRUDE N. R. MATTSO.