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COIN CONTROLLED MECHANISM.
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2 SHEETS—SHEET 1.

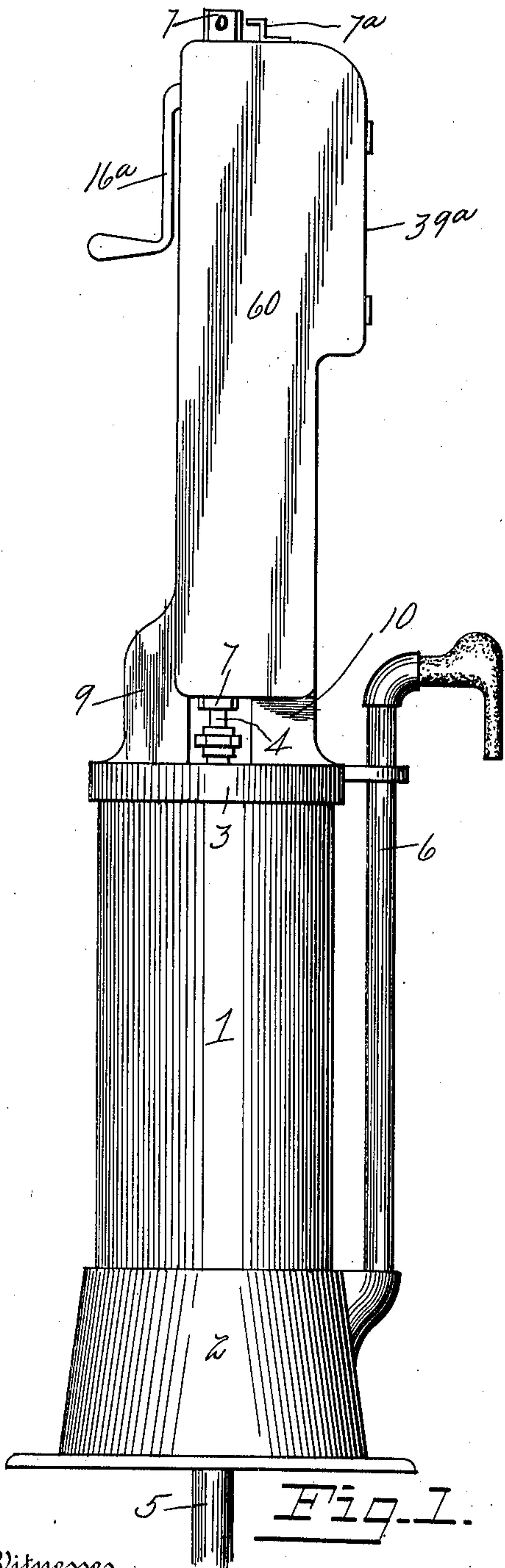


Fig. 1.

Witnesses
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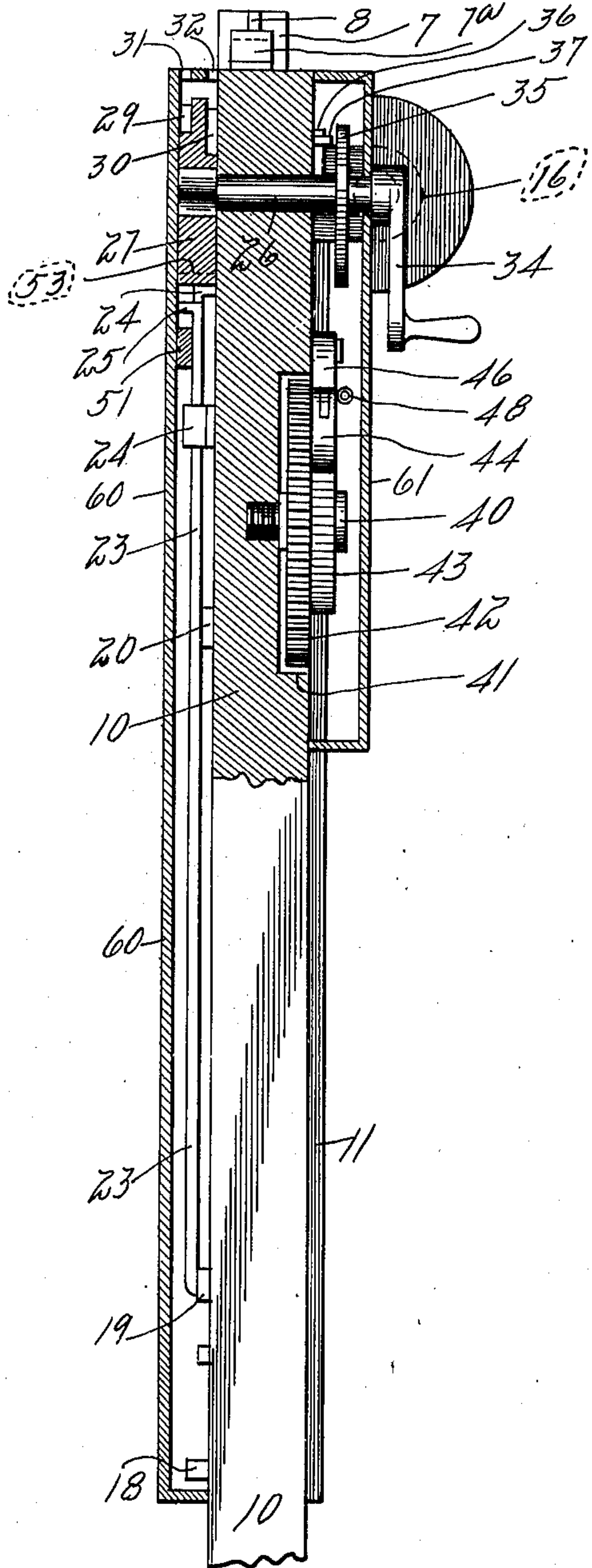


Fig. 5.

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COIN-CONTROLLED MECHANISM.

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To all whom it may concern:

Be it known that I, ROLLYN H. BAKER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Coin-Controlled Mechanism; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in coin-controlled mechanism, and it is especially adapted for use in connection with liquid-dispensing pumps such as gasoline oil pumps.

The object of the invention is to provide a mechanism of the above type in which coins of different denominations may be placed to set the mechanism in a condition to be actuated to discharge the oil.

The machine is simple in its operation and durable in construction, and the essential features thereof will be hereinafter more fully described in the specification to follow and pointed out in the claims.

In the accompanying drawings Figure 1 is a side elevation of a pump provided with my improved coin-controlled mechanism. Fig. 2 is a side elevation of the mechanism proper with the casing removed. Fig. 3 is a side elevation of the upper end of the mechanism opposite that shown in Fig. 2. Fig. 4 is a sectional view on the line *a—**a* of Fig. 2. Fig. 5 is a cross sectional view of the rack on the line *b—b* of Fig. 2. Fig. 6 is a sectional view on the line *c—c* of Fig. 2.

Throughout the specification and drawings similar reference characters indicate corresponding parts.

In the drawings 1 designates a cylinder provided with a base 2 and a cap 3. Reciprocating within said cylinder is a piston rod 4 which is provided with the usual piston (not shown). As illustrated in the drawings, the pump is shown as a single discharge and it is provided with an inlet pipe 5, a discharge pipe 6 and inlet and outlet valves. These features are well known to those familiar with pumps and they form no part of the present invention; hence it

has not been deemed necessary to illustrate or describe them herein. The piston rod 4 is connected at its upper end to a rack 7 provided with ridges 8 which slide in left and right frames 9 and 10 attached to the cap 3. The frames 9 and 10 are held in alinement by means of a plate 11 and a cleat 12. The rack 7 is provided with teeth 13 which mesh with a pinion 14 mounted on a shaft 15 journaled in bearings 16. The shaft 15 is provided with a crank 16^a and when said crank is rotated and the rack 7 is elevated, the liquid will be drawn into the cylinder through the inlet pipe 5. During the downward movement of the rack the liquid is discharged through the pipe 6. It will be understood that the pump proper may be of the double discharge type.

The present machine is constructed to dispense two different quantities of liquid, one representing the value of 5¢ and the other the value of 25¢. The smaller quantity of liquid is dispensed by a short stroke of the piston and the larger quantity by a full stroke. These variable movements of the piston are secured by the following means: Mounted on the lower end of the rack 7 is a pin 18 which is adapted to engage a movable stop 19 to secure a short stroke of the piston, and to engage a stationary stop 20 to secure a full stroke of the piston. It will be seen, that, upon the position of the movable stop 19, depends whether the piston shall be capable of giving a short or a full stroke. The position of the stop 19 is controlled as follows: The said stop is pivoted at 21 and on each side of said pivot there is upwardly extending from said stop two rods 22 and 23 which are supported in guides 24 at their upper ends. The extreme upper ends of the rods 22 and 23 are bent at opposite right angles 24 and 25, which are adapted to be engaged by the coins to set the movable stop 19 as follows: Journaled in the frame 10 above the ends of the rods 22 and 23 is a shaft 26 on one end of which is mounted a disk 27. As shown in Fig. 6 the disk 27 lies between the frame 10 and the casing 28, and is provided with a left notch 29 adapted to receive a 5¢ coin, and with a right notch 30 adapted to receive a 25¢ coin. When the disk 27 is in its normal position, the notches 29 and 30 lie under orifices 31 and 32 which are the same sizes as their respective coins. The notches 29 and 30 are of sufficient depth to allow the top of the coins, when in their

respective recesses, to be flush with the circular casing 33. The other end of the shaft 26 is provided with a crank 34 on the outside of the casing, and said shaft is controlled by a spiral spring 35 and stop pins 36 and 37. The spring 35 and the pins 36 and 37 normally hold the disk 27 in a position so that the notches 29 and 30 are ready to receive either coin through the orifices 31 or 32.

In the actual operation of the machine a coin, one at a time, is inserted in either of the notches 29 and 30 and the disk 27 is given an approximately half revolution by means of the crank 34. As the said disk turns, it carries the coin with it, said coin being held in its position in its notch by the circular casing 33 until said coin acting as a cam, strikes one of the right angle extensions 24 or 25 and moves the stop 19 to either of its positions. If the coin is of small denomination, the stop 19 will be placed in the position shown in full lines in the drawings, and the stroke of the piston will be a short one corresponding to the value of the coin; but if the coin be of large denomination, the stop 19 will be thrown to the position shown in dotted lines, and the stop pin 18 will pass the movable stop 19 and will strike against the stationary stop 20, thereby securing a long stroke of the piston corresponding to the value of the large coin. After the coin passes the right angled extensions 24 and 25, it drops into a receptacle 39 provided with a door 39 through which the coin may be removed.

The machine is prevented from being operated until the insertion of a coin by the following mechanism. Pivotaly mounted at 40, in a recess 41 in the frame 10, is a gear 42 which meshes with the side of the teeth 13 of the rack 7. The gear 42 carries a ratchet 43 which is engaged by a pawl 44 pivoted at 45 to an arm 46 attached to a shaft 47 journaled in the frame 10. The arm 46 is controlled by a spring 48 which normally holds the pawl 44 in engagement with the ratchet 43. It will therefore be seen that when the pawl 44 is in engagement with the ratchet 43, it forms a lock and the rack will be prevented from being elevated and the result is, no liquid can be dispensed. The rack is unlocked by the coin as follows. The other end of the shaft 47 opposite the arm 46 is provided with a flexible arm 49 which is engaged by a cam 50 mounted on an arm 51 pivoted at 52. The arm 51 is provided with an extension 53, which is adapted to be engaged by either of the coins before they strike the right angled extensions 24 and 25. When one of the coins strikes the extension 53 the shaft 47 is rocked and the pawl 44 is elevated, thereby releasing the rack 7. The pawl 44 is held in its elevated position by a pin 54 on the flexible

arm 49 snapping over an incline 55 on the rack 7. When the rack is then elevated the pin 54 rides in a slot 56 in the rack 7, and when said rack reaches the end of its upward stroke and begins its downward stroke, the pin 54, under the influence of the spring 48, will pass into a slot 57 through one of the inclined slots 58 (see Fig. 2). When the pin 54 passes into the slot 57 the pawl 44 engages the ratchet 43 and will ride over the said ratchet owing to said pawl being pivoted at 45, but will prevent the rack moving upwardly.

To prevent the machine being fraudulently operated by the operator making a series of short strokes when the rack is in a position intermediate of its upper and lower position, there is provided in the rack 7, between the slots 56 and 57, a plurality of inclined slots 58. These slots are in close proximity; and it will be seen that the operator is compelled to give the rack a continuous and complete upward stroke, for a downward stroke once begun must be finished as the pin 54 will pass through one of the inclined slots 58 which allows the pawl 44 to engage the ratchet 43.

All of the mechanism is inclosed in a front casing 60 and a rear casing 61, which prevents unscrupulous persons from tampering with it.

The operation is as follows: When a person desires to operate the pump he is instructed, by means of signs or otherwise, that the zero mark on the rack 7 should be in a position opposite that of the indicator 7^a, and that the crank 34 should be in its normal position. The operator then places a coin in either of the orifices 31 or 32 and gives the crank 34 an approximately half turn. The coin acting as a cam, first unlocks the machine by engaging the projection 53 which elevates the ratchet 44. Simultaneous with this movement, the stop 19 is set. If the coin be of small denomination, the stop 19 is placed in the position shown in full lines in Fig. 1, which allows a small quantity of liquid to be dispensed. If the coin be of large denomination, the stop 19 is placed in the position shown in dotted lines, which permits a large quantity of liquid to be dispensed. A continued movement of the crank 34 allows the coin to drop into the receptacle 39. The operator then releases the crank 34 which is returned to its normal position by the spring 35. The operator then rotates the crank 16^a, until the pin 18 strikes either of the stops 19 or 20, whereupon the liquid is drawn into the cylinder 1. The crank 16^a is then rotated in the opposite direction, which movement of the crank discharges the oil through the pipe 6. At the beginning of the downward movement, the pin 54 rides through one of the inclined slots 58 into the slot 57, which al-

lows the pawl 44 to engage the ratchet 43, thus preventing the rack from again moving upwardly; consequently the downward stroke must be continuous and the operator is so instructed.

Having described my invention, I claim:

1. In a coin controlled mechanism for use in connection with gasoline pumps, the combination with a reciprocable member, and means for actuating the same, of a movable stop adapted to be engaged by said reciprocable member but normally out of engagement with said member, whereby said reciprocable member may be given a short stroke and a long stroke by the actuating means therefor, and means actuated by a coin and which controls said movable stop, substantially as specified.

2. In a coin-controlled mechanism, the combination with a reciprocable member, and means for actuating the same, of a movable stop controlling the movement of said reciprocable member, a lock controlling said reciprocable member, and means actuated by a coin controlling said movable stop and said lock.

3. In a coin-controlled mechanism, the combination with a reciprocable member and means for actuating the same, of a movable stop controlling the movement of said reciprocable member, a lock also controlling said reciprocable member, means actuated by a coin for controlling said stop and adapted to unlock said lock to release said reciprocable member, said reciprocable member being also adapted to actuate the lock to lock said reciprocable member.

4. In a coin-controlled mechanism, the combination with a reciprocating rack provided with vertical slots of lengths equal to the throw of the rack, and a series of inclined slots communicating with said vertical slots, means for reciprocating said rack, a pivotal stop adapted to control the

throw of the rack, connections extending from said pivotal stop, a notched disk adapted to receive a coin, said coin when received by said disk adapted to be moved to a position to engage the connections extending from the pivotal stop, and to thereby control the movement of the rack through said pivotal stop.

5. In a coin-controlled mechanism, the combination with a rack having a stop pin therein, means for reciprocating said rack, a pivotal stop controlling the movement of said rack, connections extending from said pivotal stop, a notched disk adapted to receive a coin, said coin being adapted to engage the extensions from said pivotal stop to set said stop to a position to engage the stop pin on the rack or to not engage said stop pin.

6. In a coin-controlled mechanism, the combination with a rack having vertical slots of lengths corresponding to the throw of the rack, and a series of inclined slots between said vertical slots and leading into said vertical slots, means for operating said rack, gear and ratchet wheels actuated by the rack-operating means, a pawl engaging the ratchet wheel, an arm controlling said pawl, said arm carrying a pin adapted to ride in the slots in the rack, whereby, when the rack is elevated the pin will ride in one of the vertical slots, and when the rack is lowered the said pin will ride through one of the inclined slots into the other vertical slot and thereby rock said pin-carrying arm to permit the pawl to engage said ratchet wheel which prevents the rack from being elevated.

In testimony whereof I affix my signature, in presence of two witnesses.

ROLLYN H. BAKER.

Witnesses:

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HOWARD S. SMITH.