

F. W. WATERMAN.
 COIN CONTROLLED OPERATING MECHANISM FOR VENDING MACHINES.
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989,459.

Patented Apr. 11, 1911.

Fig. 1.

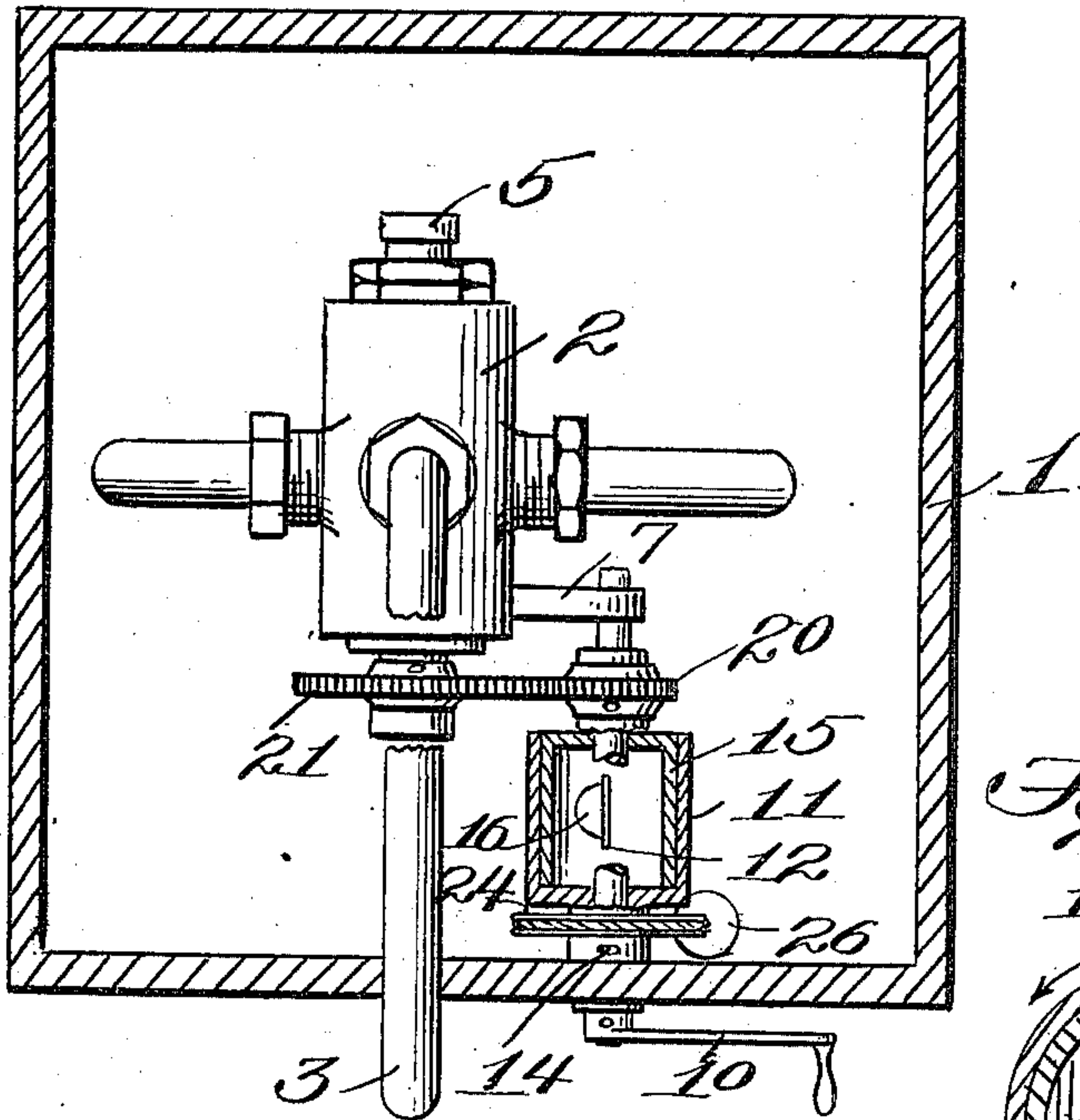


Fig. 4.

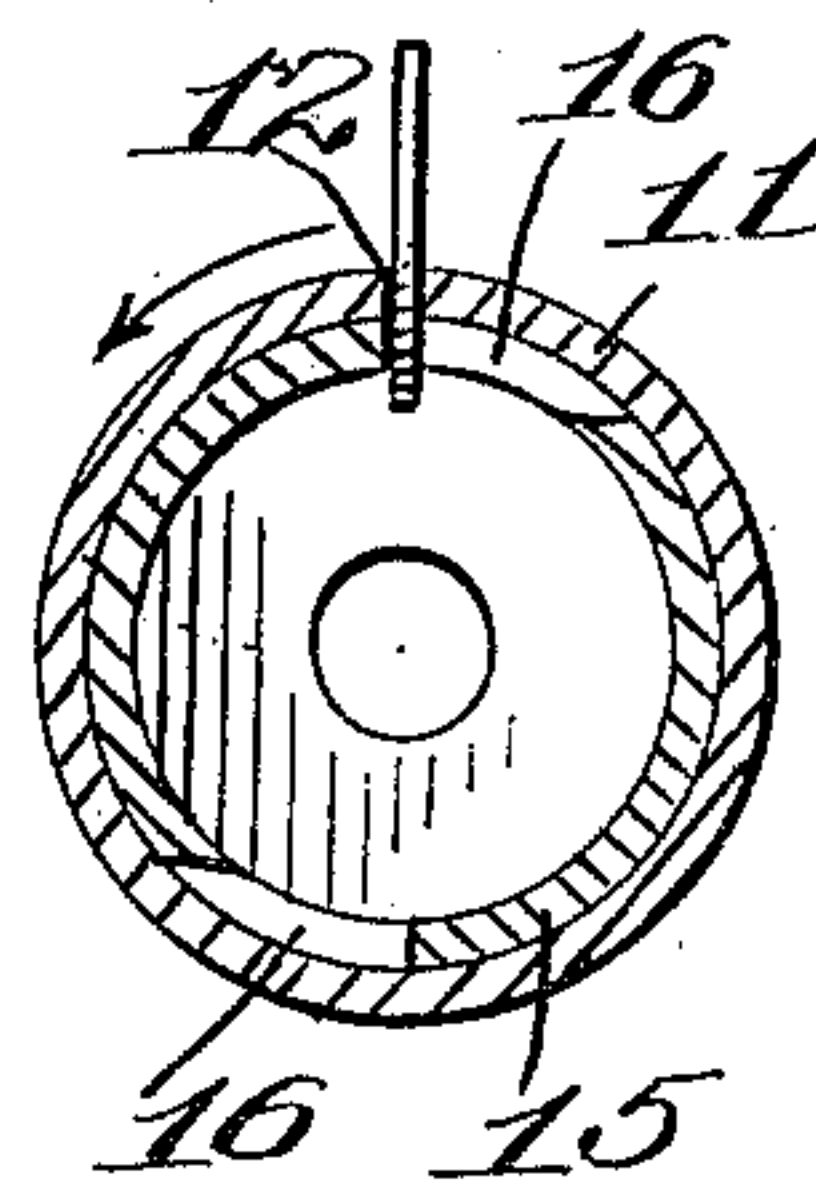


Fig. 2.

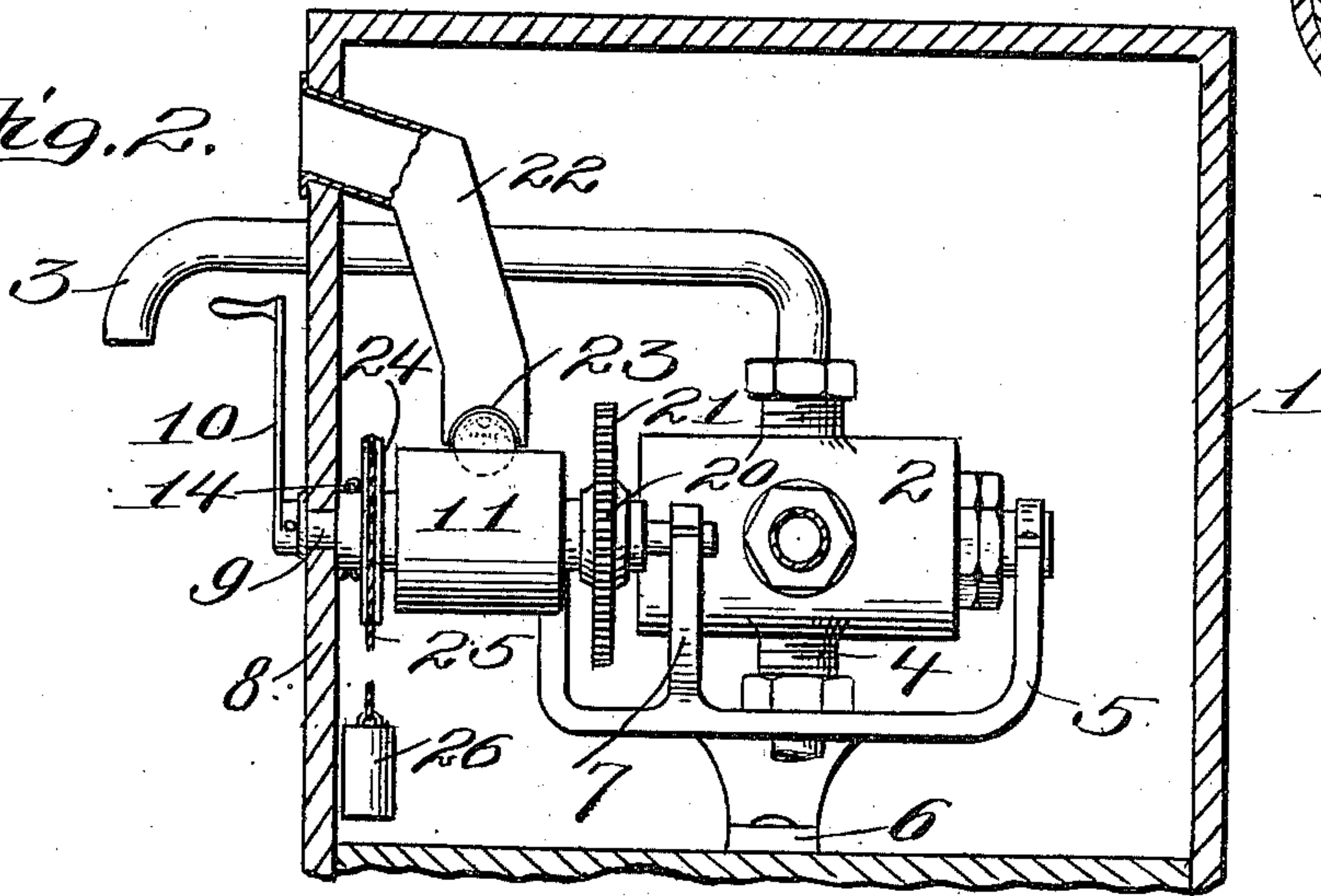
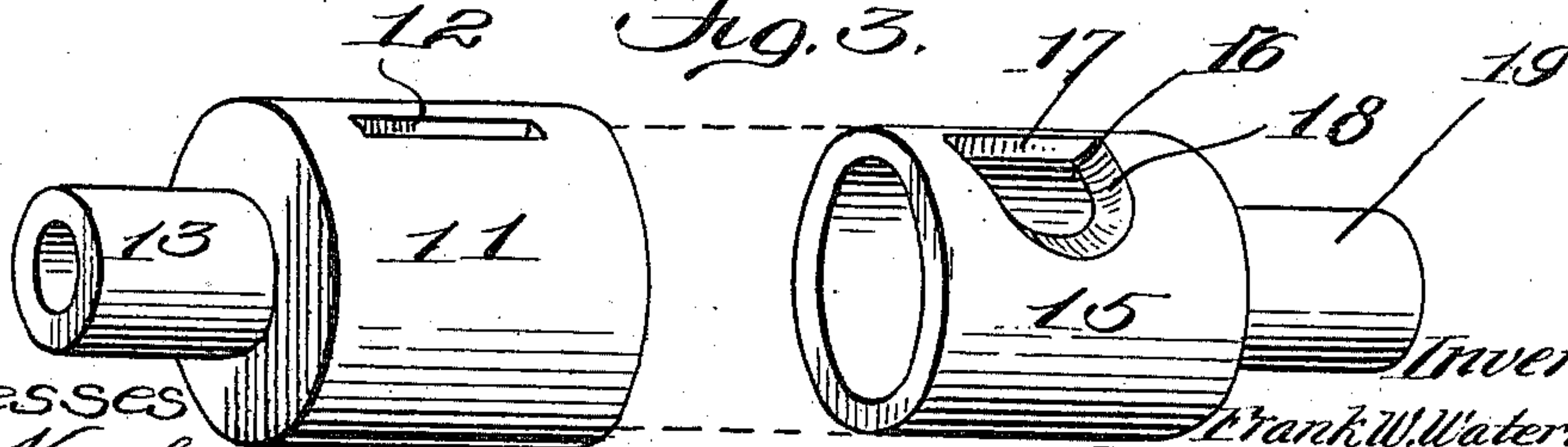


Fig. 3.



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COIN-CONTROLLED OPERATING MECHANISM FOR VENDING-MACHINES.

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To all whom it may concern:

Be it known that I, FRANK W. WATERMAN, a citizen of the United States, residing at Baltimore city, State of Maryland, have invented new and useful Improvements in Coin-Controlled Operating Mechanism for Vending-Machines, of which the following is a specification.

This invention relates to coin controlled operating mechanism for vending machines, and the object thereof is to provide a mechanism of such class particularly adapted for actuating a vending means for discharging a predetermined amount of fluid or an article of commerce. The mechanism, however, is primarily designed for use in connection with a vending mechanism for discharging a predetermined quantity of liquid.

Further objects of the invention are to provide a coin-controlled operating mechanism for vending machines which shall be simple in its construction, strong, durable, efficient in its use, readily set up with respect to the vending elements of a vending machine and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings:—Figure 1 is a sectional plan, showing the adaptation of a coin-controlled operating mechanism for vending machines in accordance with this invention. Fig. 2 is a sectional side elevation. Fig. 3 is a perspective view disassembled of the coin-locking members, and Fig. 4 is a transverse section of the coin locking members when assembled, also showing the position of the coin when said members are locked thereby.

Referring to the drawings by reference characters, 1 denotes a casing in which is arranged a vending means referred to generally by the reference character 2 and which by way of example is shown for vending liquid, the outlet of said vending means being indicated by the reference character 3. The vending means is of valvular form

and the valve is adapted to be opened a predetermined period so as to enable the discharge of a predetermined quantity of fluid. The actuation of the valve is had through the medium of the coin-controlled mechanism. The inlet of the vending means is indicated by the reference character 4 and the said vending means 2 is supported by a U-shaped bracket 5, the arms of which constitute a bearing for the stem of the valve of the vending means. The bracket 5 is fixed to the bottom of the casing as at 6 and is provided intermediate its ends with a vertically extending arm 7 offset with respect to the other arms of the bracket.

Journalled at one end of the arm 7 and also in the wall 8 of the casing 1 is a shaft 9 carrying a handle 10 arranged exteriorly of the casing 1.

The reference character 11 denotes a hollow cylinder having a coin-receiving slot 12 and furthermore provided with an annular extension 13 of less diameter than the cylinder 11 and which constitutes a bearing for the said cylinder. The extension 13 is fixed to the shaft 9 through the medium of the hold-fast device 14 and by such construction the cylinder 11 turns with the shaft 9 when the latter is rotated through the medium of a handle 10. Extending within the cylinder 11 is a cylinder 15 having a pair of diametrically opposed openings 16, constituting a coin receiving pocket. One wall of each of the openings 16 extends longitudinally with respect to the cylinder 15 as at 17 and the other wall is semi-oval in contour and beveled as at 18. The semi-oval shaped wall of one opening 16 extends in an opposite direction with respect to the semi-oval shaped wall of the other opening 16. The semi-oval shaped beveled wall of the opening 16 constitutes a stripping means for the coin and which will be hereinafter more specifically referred to. As before stated, the cylinder 15 extends in the cylinder 11 and the said cylinder 15 is so disposed that an opening 16 will be in alignment with respect to the coin slot 12. The cylinder 15 is provided with an annular extension 19 of less diameter than the cylinder and which constitutes a bearing for the said cylinder 15. The extension 19 is loosely mounted upon the shaft 9 and has fixed thereto a gear wheel 20 which meshes with the gear wheel 21 carried by the valve stem of the vending means 2. The ratio of

the gear 20 with respect to the gear 21 is that one-half revolution of the gear 20 will impart a quarter revolution to the gear 21.

Associating with the coin slot 12 is a coin chute 22 which has its lower end cut away as at 23 to provide a clearance. The lower end of the coin chute 22 is arranged directly over the coin slot 12 when the cylinder 11 is in normal position so as to receive the coin which is inserted in the chute 22. The latter at its upper end projects through the wall 8 and has a coin entrance opening. The length of the slot 12 as well as the width of the slot 16 is such that the coin when inserted through the chute 22 and enters the slot 12 will not pass entirely through the slot 12 and opening 16 whereby the coin is prevented from dropping into the inner cylinder 15; consequently the coin will be supported in a vertical position which necessitates the providing of the clearance 23 so that when the shaft 9 is rotated and the cylinder 11 moves therewith, the coin will clear the lower end of the chute 22. The cylinders 11 and 15 are termed coin locking cylinders, for the reason that when the coin enters the slot 12 it will depend the necessary distance in the cylinder 15, whereby when the cylinder 11 is rotated, the coin abutting against the wall 17 will cause the two cylinders to move together, consequently locking them.

Fixed upon the extension 13 is a grooved disk 24 upon which is arranged a flexible member 25 carrying a counter-weight 26, the function of which is to automatically return the cylinder 11 to normal position.

The cylinder 11 makes but a half turn. The cylinder 15 makes a complete revolution, but intermittently. Every time that the cylinder 11 is given a half turn, a like movement will be imparted to the cylinder 15, but as no means is provided to return the cylinder 15 simultaneously with the cylinder 11, it is evident that the cylinder 15 remains stationary when the coin is dislodged from the slot 12. To dispense with the returning of the cylinder 15 simultaneously with the cylinder 11, the two openings 16 are provided so that when the cylinder returns to normal, an opening 16 will aline with the coin slot 12.

It will be assumed that a coin has passed through the chute 22 and engages in the slot 12 and opening 16, as clearly shown in Figs. 2 and 3. The handle 10 is then given a half turn which rocks the shaft 9, the latter carrying the cylinder 11 therewith. As the coin abuts against the wall 17 of the opening 16, the cylinder 15 will be carried with the cylinder 11. When the cylinder 15 travels with the cylinder 11, the gear wheel 20 will be rotated a half turn which by reason of its meshing with the gear 21 will impart a quarter turn thereto, actuate the

valve stem of the vending means and allow of a predetermined quantity of fluid to be vended. When the cylinder 11 has been given a half turn, the coin will drop from the slot 12. In case the coin does not drop from the slot 12, the beveled wall 18 of the cylinder 15 will engage the coin as the cylinder 11 is returned in an opposite direction to normal position and consequently the said beveled wall will act as a means to strip or dislodge the coin from the slot 12. The return of the cylinder 11 to normal position is had automatically through the medium of the counter-weight 26, that is to say as soon as the operator releases the handle 10, the weight 26 will come into play and shift the cylinder in a direction opposite to that in which it has been shifted by the operator, whereby the slot 12 will be positioned at the outlet end of the chute 22. As before stated, the slot 12 will then be in alinement with an opening 18, for the reason that when the cylinder 15 is given a half turn, that opening which has not received the coin will be shifted in a position to receive the coin, as will be evident.

What I claim is:—

1. A coin controlled operating mechanism for vending machines comprising a pair of shiftable locking members, one extending into the other and constructed to be locked for rotation by a coin, the outer member having a coin slot and the inner member having a coin receiving pocket arranged to register with the slot and formed with a straight longitudinal wall and an angular beveled coin-dislodgment wall extending rearwardly from said straight wall and in line with the coin slot, as and for the purpose set forth.

2. A coin controlled operating mechanism for vending machines comprising a pair of coin locking members, one extending within the other, the outer member being shiftable in two directions and the inner member being shiftable in one direction, the outer member being provided with a coin slot, and the inner member being provided with a plurality of coin receiving openings arranged to successively coöperate with the coin slot when the members are shifted simultaneously, said inner member having a portion of the wall of each of its openings formed to dislodge a coin when the inner member remains stationary and the outer member is shifted in the direction opposite to that in which the inner member has been shifted.

3. A coin controlled operating mechanism for vending machines comprising a pair of coin locking members, one extending within the other, the outer member being shiftable in two directions and the inner member being shiftable in one direction, the outer member being provided with a coin slot,

the inner member being provided with a plurality of coin receiving openings arranged to successively coöperate with the coin slot when the members are shifted simultaneously, the inner member having a portion of the wall of each of its openings formed to dislodge a coin when the inner member remains stationary and the outer member is shifted in the direction opposite to that in which the inner member has been shifted, and means carried by the inner member for actuating a vending means.

4. A coin controlled operating mechanism for vending machines comprising a pair of coin locking members, one extending within the other, the outer member being shiftable in two directions and the inner member being shiftable in one direction, the outer member being provided with a coin slot, the inner member being provided with a plurality of coin receiving openings arranged to successively coöperate with the coin slot when the members are shifted simultaneously, the inner member having a portion of the wall of each of its openings formed to dislodge a coin when the inner member remains stationary and the outer member is shifted in the direction opposite to that in which the inner member has been shifted, means carried by the inner member for actuating a vending means, means for operating the outer member in one direction to cause the shifting of the inner member in the same direction when a coin extends in the slot of the outer member and in one of the openings of the inner member, and means for automatically returning the outer member to normal position whereby the coin is dislodged from the slot by the said wall portion of one of the openings in the inner member and while said inner member remains stationary.

5. A coin controlled operating mechanism for vending machines comprising a pair of coin locking members, one extending within the other, the outer member being shiftable in two directions and the inner member capable of being shiftable in one direction, the outer member being provided with a coin slot, the inner member being provided with a plurality of coin receiving openings arranged to successively coöperate with the coin slot when the members are shifted simultaneously, the inner member having a portion of the wall of each of its openings formed to dislodge a coin when the inner member remains stationary and the outer member is shifted in the direction opposite

to that in which the inner member has been shifted, means carried by the inner member for actuating a vending means, means for operating the outer member in one direction to cause the shifting of the inner member in the same direction when a coin extends in the slot of the outer member and in one of the openings of the inner member, means for automatically returning the outer member to normal position whereby the coin is dislodged from the slot by the said wall portion of one of the openings in the inner member and while said inner member remains stationary, and a coin chute associating with the slot in said outer member, and having its lower end cut away to provide a clearance for the coin when said members are shifted simultaneously.

6. A coin controlled operating mechanism for vending machines comprising a shiftable member having a coin receiving slot, a second shiftable member having a coin receiving pocket arranged to register with said slot and having a straight wall and an angular beveled coin dislodgment wall in line with said slot and extending rearwardly from said straight wall, vending means operated by said last named member and means for returning said first named member to normal position after each operation thereof.

7. In vending machines, check connected operating mechanism comprising a shiftable member having a coin slot, a second shiftable member having a coin receiving pocket arranged to register with said slot, said pocket having a straight wall and an angular beveled coin-dislodgment wall in line with said slot and extending rearwardly from said straight wall.

8. In vending machines, check connected operating mechanism, comprising a rotatable cylindrical member having a longitudinal coin slot and a second cylindrical member fitting rotatably in said first member and having a coin receiving pocket arranged to register with said slot and formed with a straight wall and an angular beveled coin-dislodgment wall extending rearwardly from the straight wall and in line with the slot.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANK WINDER WATERMAN.

Witnesses:

HOWARD D. ADAMS,
H. E. GIBSON.