

No. 704,950.

Patented July 15, 1902.

W. J. STRONG.

VALVE MECHANISM FOR COIN CONTROLLED GAS VENDING MACHINES.

(Application filed Nov. 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.

FIG 1

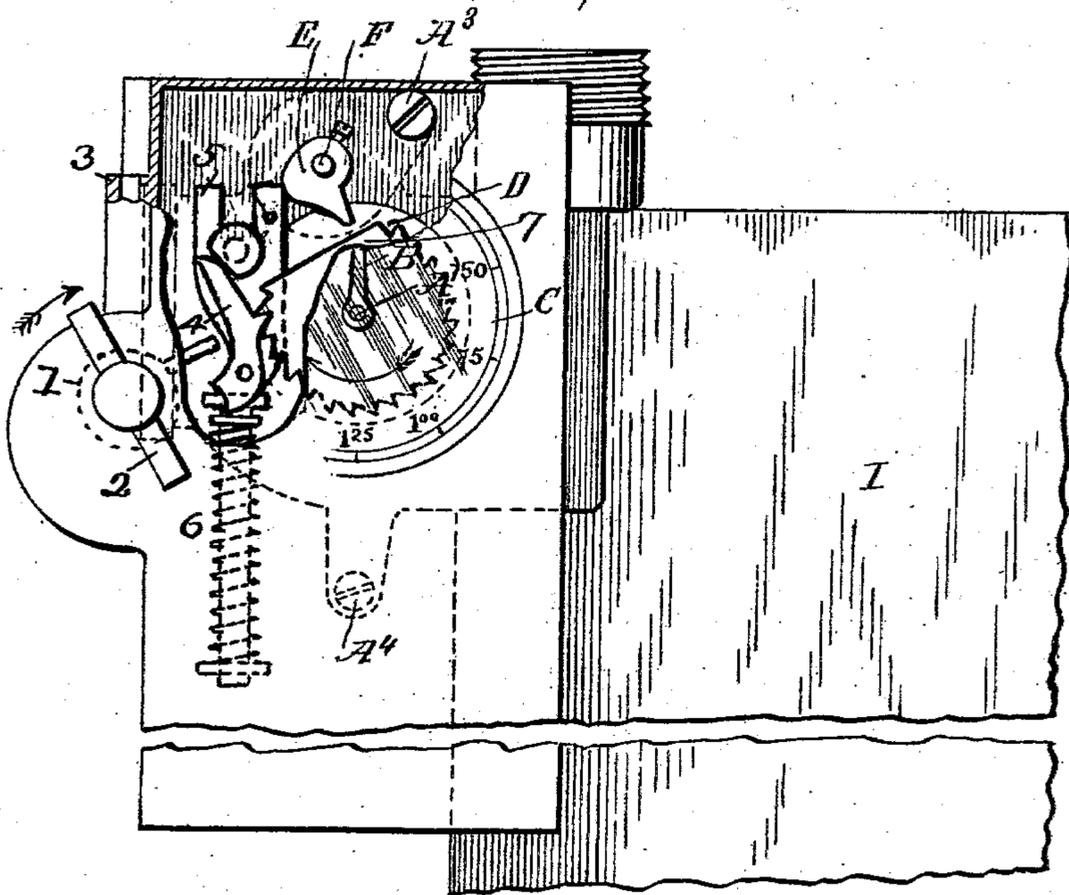
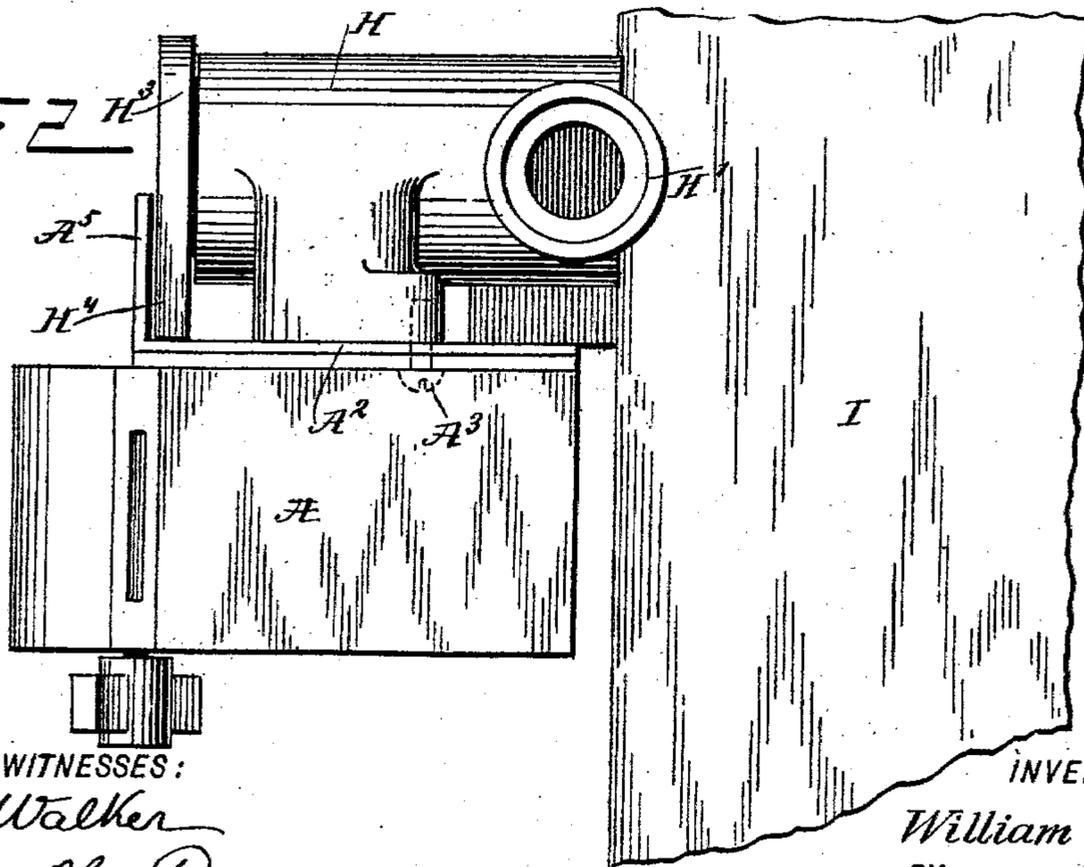


FIG 2



WITNESSES:

H. Walker
Neely. Foster

INVENTOR

William J. Strong

BY *Munn*
ATTORNEYS

No. 704,950.

Patented July 15, 1902.

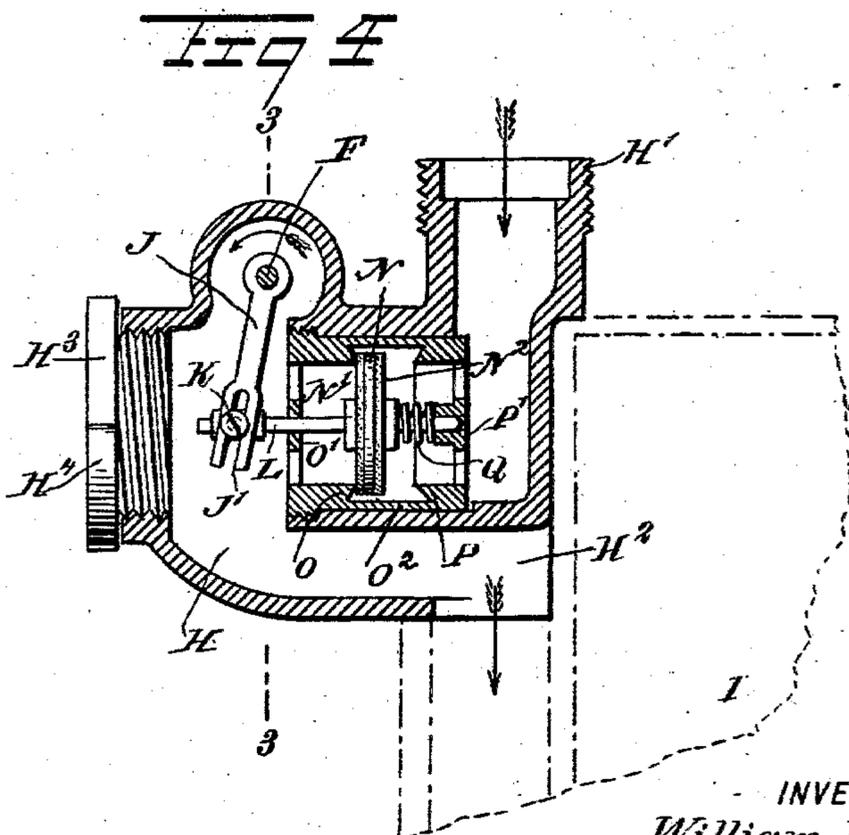
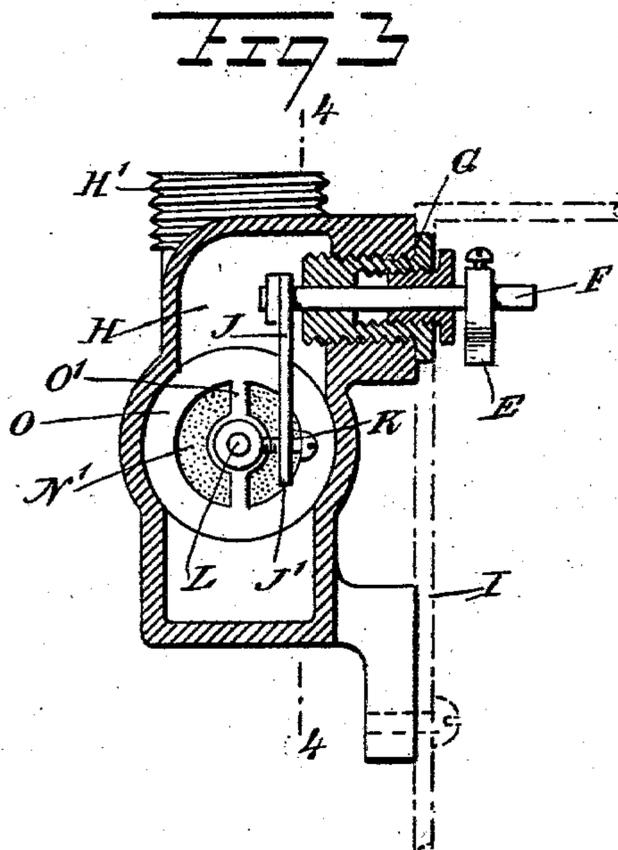
W. J. STRONG.

VALVE MECHANISM FOR COIN CONTROLLED GAS VENDING MACHINES.

(Application filed Nov. 2, 1901.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

H. Walker
Rev. J. Foster

INVENTOR

William J. Strong

BY *James*
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM J. STRONG, OF BROOKLYN, NEW YORK.

VALVE MECHANISM FOR COIN-CONTROLLED GAS-VENDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 704,950, dated July 15, 1902.

Application filed November 2, 1901. Serial No. 80,882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. STRONG, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Valve Mechanism for Coin-Controlled Gas-Vending Machines, of which the following is a full, clear, and exact description.

10 The invention relates to coin-controlled gas-vending machines; and its object is to provide a new and improved valve mechanism which is simple and durable in construction, automatic in operation, and arranged to prevent tampering therewith and consequent unlawful use of gas unless the proper coin is introduced into the coin mechanism.

15 The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

20 A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

25 Figure 1 is a front elevation of the improvement as applied, part being broken out. Fig. 2 is a plan view of the same. Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 4. Fig. 4 is a sectional side elevation of the same on the line 4 4 of Fig. 3.

30 The main shaft A' of a coin-controlled mechanism A of any approved construction is provided with a pointer B, indicating in the usual manner on a dial C, and on the said main shaft A is secured a cam D for actuating an arm E on a rock-shaft F, journaled in a suitable stuffing-box G and extending into the gas-passage formed in a valve-body H, having one end H' threaded for connection with a gas-supply pipe, the other end H² opening into a meter I. On the inner end of the rock-shaft F, within the gas-passage, is arranged an arm J, having a fork J' engaging a pin or screw K, secured to a stem L, carrying a valve N, formed with two faces N' and N², of which the face N' is normally seated on a valve-seat O, and the other face N² is adapted to be seated on a valve-seat P. The valve-seats O and P are formed with

bearings O' and P' for the stem L to slide in, and on the said stem is coiled a spring Q, resting with one end on the bearing P' and pressing with the other end on the valve N, so as to hold the latter normally to its seat O. The valve-seats O and P and the bearings O' and P' are secured on a cylindrical seat-body O², fitting into the gas-passage, the outer end of the said body O² having an external screw-thread screwing into the valve-body H, as plainly shown in Fig. 4. The bore of the body O² is enlarged at its middle portion to allow the passage of the gas through the body at the time the valve N is in an open position. The double valve N, its stem N', and the seats O and P are all arranged in the single seat-body O² to permit convenient removal of the parts for repairs whenever such are deemed necessary. The valve-stem L is preferably arranged in a horizontal position, and the valve-seats O and P, together with the valve N, are arranged in a horizontal portion of the gas-passage, as plainly illustrated in Fig. 4, the valve N being held to its seat O by the spring Q as long as the pointer B is in the zero position—that is, as long as no coin has been introduced into the coin-controlled mechanism A. Access is had to the gas-passage and the valve-seat body O², carrying the valve N, by means of a cap H³, screwing into the valve-body H directly opposite the valve-seat O, and this cap H³ is provided with an offset H⁴, abutting against the back plate A² of the coin-controlled mechanism A, so that the said cap H³ cannot be unscrewed and removed by unauthorized persons intending to tamper with the valve mechanism. The coin-controlled mechanism A has its casing secured to the valve-body H by screws A³ A⁴, screwing inside the casing through the back thereof into a portion of the valve-body H, so that when the apparatus is in use access cannot be had to the screws A³ A⁴ unless the coin-controlled apparatus A is opened. If this is done by unauthorized persons, the owner of the vending apparatus at once detects that the apparatus has been tampered with. The back plate A² is preferably provided with an angular flange A⁵, projecting in front of the cap H³ to prevent unscrewing of the cap H³ in case the offset H⁴ is filed off

by unauthorized persons. Access cannot be had to the valve mechanism in the valve-body H, and in case pressure is exerted against the face N' of the valve N the valve N will
 5 move from left to right and with the face N² in contact with the seat P, so as to again close the gas-passage to prevent gas from flowing from the supply-pipe to the meter. It is expressly understood that when the
 10 valve N is moved in the regular way off its seat O by the action of the arm J on the pin K of the valve-stem L then gas flows from the supply-pipe through the gas-passage and the open valve to the meter and in an amount
 15 corresponding to that paid for by the coin introduced into the mechanism A.

The coin-controlled mechanism shown is of a well-known form, having a coin-barrel 1, (shown in dotted lines and adapted to be
 20 turned by a handle 2,) the coin-barrel having a slot adapted to register with the coin-chute 3 in the casing. The inserted coin when the barrel is turned engages a pawl 4, pivoted on a spring-pressed bar 5, and also engages a
 25 shoulder 6 on the bar, depressing the latter and holding the point of the pawl away from the toothed wheel 7, mounted on the shaft A'. When the coin passes from the pawl and the shoulder of the bar, the pawl is rocked into
 30 position to engage the teeth of the wheel 7 and the bar is moved upward by its spring, causing the pawl to turn the wheel 7. A stud 8 engages the pawl just before the bar reaches the limit of its upward movement
 35 and withdraws the point of the pawl from the toothed wheel 7, and the toothed wheel is then gradually turned back by gearing operated by the meter to bring the pointer to the zero position. If two or more coins' worth of
 40 gas is to be purchased at a single time, the coins may be inserted one after another. When a quarter-dollar is dropped into the coin-chute and the handle is turned, then the pointer indicates at "25c." on the dial, for
 45 two quarters at "50c.," &c.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A valve mechanism for coin-controlled
 50 gas-vending machines, comprising a valve-body having a gas-passage and adapted for connection at one end with a gas-supply pipe and at the other end with a meter, the said valve-body being provided with two valve-
 55 seats, a stem carrying a valve formed with two faces, the valve being located between the valve-seats, and the valve and valve-seats being in the gas-passage, the said valve-seats being formed with bearings for the stem to
 60 slide in, a spring coiled on the stem at one side of the valve and resting with one end on one of said bearings, the other end pressing on the valve to hold the same normally to its seat, a pin or screw secured to the other end
 65 of the valve-stem, a rock-shaft extending into the gas-passage, an arm arranged on the inner

end of the rock-shaft within the gas-passage and having a fork at its free end engaging the said pin, and a coin-controlled mechanism for actuating the said arm to move the
 70 valve to open position against the tension of the spring, as set forth.

2. A valve mechanism for coin-controlled gas-vending machines, having a valve-body connected at one end with a gas-supply pipe
 75 and at the other end with a meter, a valve in the said valve-body, a coin-controlled mechanism for opening the said valve, and a cap on the said valve-body opposite the valve-seat and having an offset on its periphery
 80 abutting against the casing of the said coin-controlled mechanism, as set forth.

3. A valve mechanism for coin-controlled gas-vending machines, having a valve-body connected at one end with a gas-supply pipe
 85 and at the other end with a meter, a valve in the said valve-body, a coin-controlled mechanism for opening the said valve, a cap screwing into the said valve-body and having an offset on its periphery abutting against the
 90 casing of the said coin-controlled mechanism, and means for securing the said casing to the said valve-body from the inside of the casing, as set forth.

4. A valve mechanism for coin-controlled
 95 gas-vending machines, having a valve-body connected at one end with a gas-supply pipe and at the other end with a meter, a valve in the said valve-body, a coin-controlled mechanism for opening the said valve, a cap on
 100 the said valve-body and having an offset abutting against the casing of the said coin-controlled mechanism, and an angular flange on the said casing and projecting in front of the cap, as set forth.
 105

5. A valve mechanism for coin-controlled gas-vending machines, having a valve-body connected at one end with a gas-supply pipe and at the other end with a meter, a valve in
 110 the said body, a coin-controlled mechanism for opening the said valve, a cap on the said valve-body and having an offset abutting against the back plate of the casing of said coin-controlled mechanism, the said back plate being provided with an angular flange
 115 projecting in front of the cap, and means for securing the said casing to the said valve-body from the inside of the casing, as set forth.

6. A valve mechanism for coin-controlled
 120 gas-vending machines, comprising a valve-body having a gas-passage formed therein, a cylindrical seat-body fitting in the gas-passage, and having its bore enlarged at its middle portion, the said cylindrical seat-body be-
 125 ing provided with two valve-seats at the enlarged portion, and a bearing at each end, a valve-stem having its ends arranged to slide in the said bearings, a valve formed with two
 130 faces and carried by said stem, the valve being arranged in the enlarged portion of the bore of the cylindrical seat-body between the

valve-seats, coin-controlled means for moving the valve into an open position, and a spring for holding the valve normally to its seat, the said spring pressing at one end on
5 one face of the valve and engaging with its other end one of said bearings, as set forth.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

WILLIAM J. STRONG.

Witnesses:

THEO. G. HOSTER,

EVERARD B. MARSHALL.