

W. WEBBER.

COIN CONTROLLED GAS OR LIQUID VENDING MACHINE.

No. 549,175.

Patented Nov. 5, 1895.

Fig. 1.

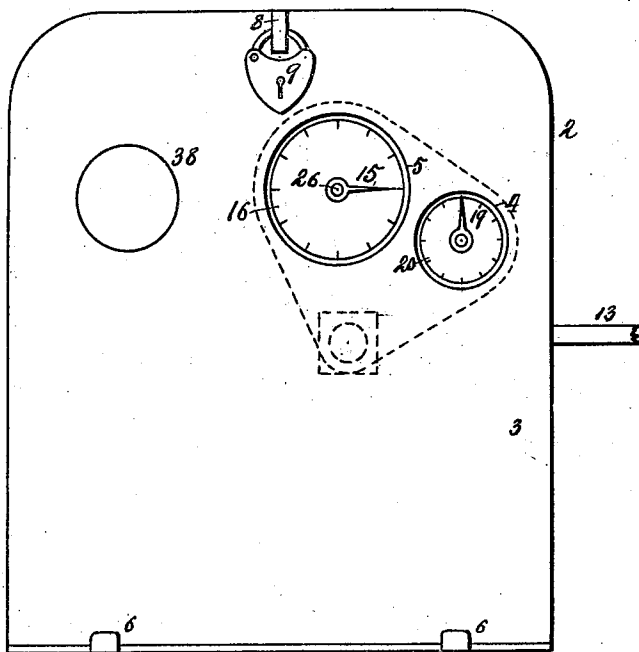
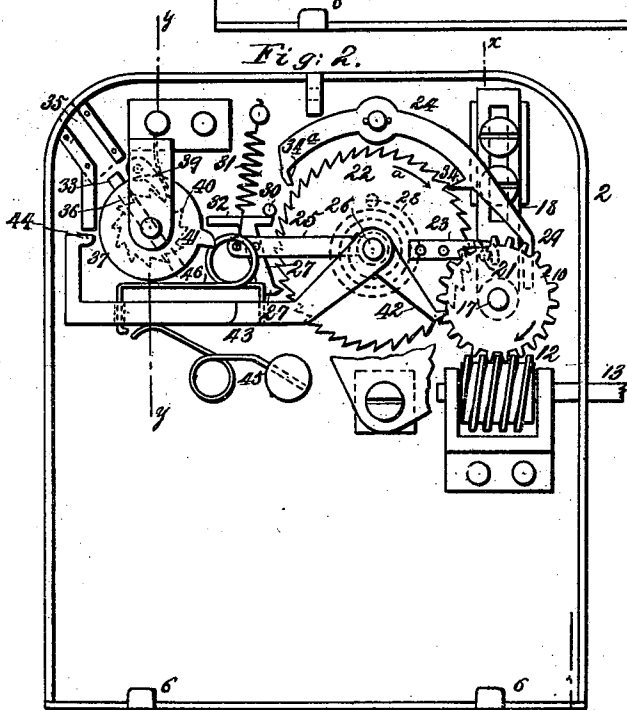


Fig. 2.



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Fig. 3.

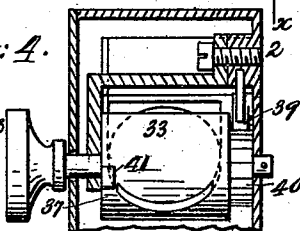
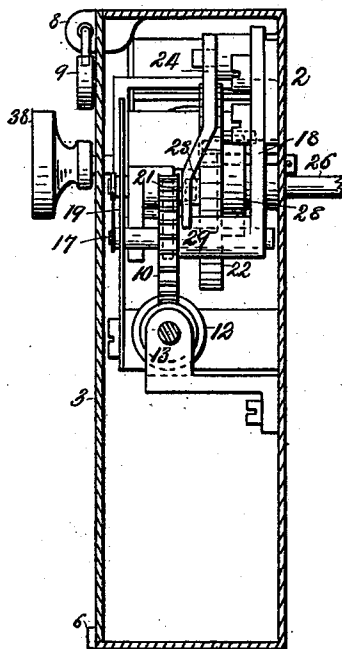


Fig. 3.



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Fig: 5. Patented Nov. 5, 1895.

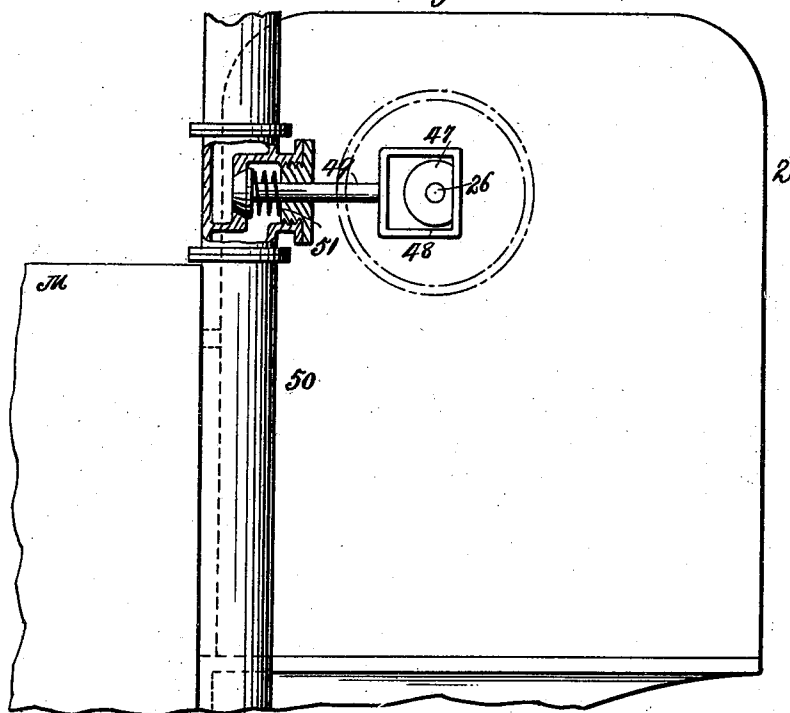
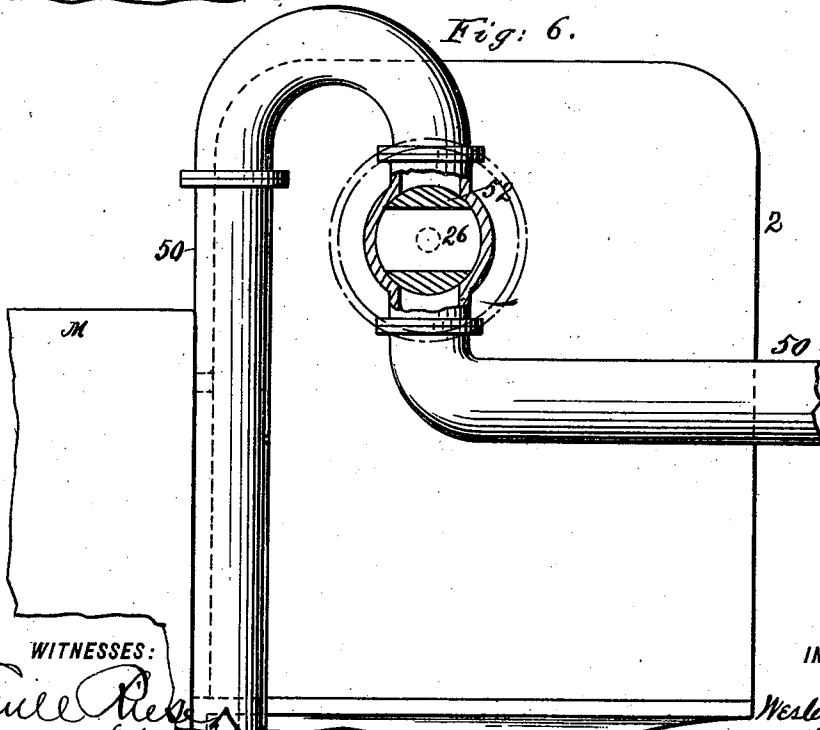


Fig: 6.



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UNITED STATES PATENT OFFICE.

WESLEY WEBBER, OF PITTSBURG, PENNSYLVANIA.

COIN-CONTROLLED GAS OR LIQUID VENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 549,175, dated November 5, 1895.

Application filed August 8, 1895. Serial No. 558,625. (No model.)

To all whom it may concern:

Be it known that I, WESLEY WEBBER, a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Coin-Controlled Gas or Liquid Vending Machines, of which the following is a specification.

The object of my invention is to provide a cheap, practical, and compact coin-controlled gas and liquid vending machine designed to be attached to a gas or liquid meter of the usual or of any approved type and constructed to cut off the flow of gas or liquid either by locking the meter or by operating a cock or valve in the service-pipe.

In the practical construction of my present invention I employ a main wheel, which I shall term a "metric" wheel, rotated constantly in one direction by the power of the meter when the gas or liquid is flowing and of such size and so geared with the meter mechanism that a single revolution thereof will permit the delivery of a coin's equivalent in gas. In connection with the metric wheel I employ a locking device or latch, which serves to lock the metric wheel always at a predetermined point in its revolution. The said locking device or latch is arranged to release the metric wheel by the insertion of a proper coin in the machine, and is removed from its point of engagement with the metric wheel by a given space for each coin inserted at a single purchase, through which space it is tentatively returned to the starting-point or to that position at which it locks the metric wheel when the gas purchased has been consumed. In order to simplify the construction of the machine, the said return of the locking device or latch is effected by escapement mechanism operated at proper intervals by the metric wheel. In case a cock or valve is employed to cut off the flow of gas or liquid in the service-pipe the said locking device or latch, as such, may be dispensed with.

To prevent fraudulent use of the machine, the metric wheel is locked by a supplementary locking device or safety-pawl in the interval between the primary releasing of the metric wheel or the opening of the valve or

cock, as the case may be, and the ultimate discharge of the coin from its position of mechanical function with the other parts of the mechanism into the cash-box.

The employment of the coin in its function of enabling the purchaser to release the meter or open the cock or valve may be effected by rotating it in a suitable casing from which it projects, so that a portion of its margin acts on the principle of the ward of a key to release the meter or open the valve or cock. The coin performs its work during a one-half revolution, or thereabout, of the said casing, and then drops out by its own weight into the cash-box below.

In the accompanying drawings, to which reference is made, Figure 1 is a front elevation of my new and improved coin-controlled gas-vending machine, showing the front plate thereof in place and showing the index-dials. Fig. 2 is a sectional front elevation of the same with the said front plate removed, the mechanism being in locked position to lock the meter. Fig. 3 is a transverse sectional elevation taken on line *xx* of Fig. 2. Fig. 4 is an enlarged sectional elevation taken on line *yy* of Fig. 2. Fig. 5 is a sectional elevation showing the main casing of the coin-controlled apparatus, a portion of the meter-casing, a portion of the service-pipe, and showing in sectional elevation a reciprocating valve fitted in the service-pipe; and Fig. 6 is a similar view showing the service-pipe provided with a rotary cock or valve.

In the said drawings, 2 represents a casing adapted to be closed by a front plate 3, in which are formed dial-openings 4 5, and which is held in place by bottom lugs 6 6, perforated lug 8, and padlock 9.

10 represents a metric wheel rotated exclusively in the direction of the arrow by the power of the meter. As here shown, said metric wheel is connected with the meter mechanism by a worm 12 on shaft 13, which latter reaches into the meter *M* and is geared to the so-called "two-foot" shaft or to the usual index-worm. The said metric wheel is journaled on a shaft or stud 17, which may be stationary or which may be formed as a part of an adjustable plate 18 to permit interchangeable metric wheels of different sizes

to be employed for adapting the machine to any change in the price of gas. The axis of said metric wheel is provided with a pointer 19, which is turned in front of the dial 20 (see Fig. 1) to show the amount of gas purchased and unconsumed, and said wheel is provided with a locking stud or stop 21 for locking the said wheel (and also the meter) when the gas purchased has been consumed, said wheel being always locked or stopped at a fixed predetermined position, as hereinafter described.

The locking and releasing mechanism comprises an escapement wheel or disk 22, a stop arm or latch 23, secured to said disk, an escapement-pallet 24, a lever 25, pivoted on the shaft 26, which carries the escapement-disk 22, a starting-pawl 27, pivoted to said lever 25 in position to engage with the escapement-disk 22, and a spring 28, applied to the escapement-disk 22 or shaft 26, so that it will constantly tend to turn the said disk in the direction of arrow *a*. (See Fig. 2.) The escapement-pallet 24 is extended, so that the end 29 thereof reaches into the path of the stud 21 on the metric wheel, so that said pallet will be operated once for every revolution of the said wheel. The starting-pawl 27 is held in contact with a limit-pin 30 by a spring 31, and said pawl is extended at its upper end, as shown at 32, in position to be operated by a coin 33 or other coin-controlled device which will act, first, to turn the said pawl into engagement with the escapement-wheel 22, and, second, to depress said pawl and the lever 25, causing the pawl to turn the escapement-disk in the direction opposite to the arrow *a* the space of one tooth. The arc traversed by the movement of the said starting-pawl 32 will duly withdraw it from contact with the coin 33, whereupon the spring 31 will elevate it and the lever 25 to their original position. The said movement of the escapement-disk 22, produced by the starting-pawl and coin, as just described, will disengage the stop or latch 23 from the locking-stud 21 on the metric wheel, and thus release it and the meter and permit the gas or liquid to flow. The tooth 34 of the pallet 24 will retain the escapement-disk and stop or latch 23 in the position at which they were set by the starting-pawl—that is to say, so that the said latch 23 will clear the locking-stud 21 of the metric wheel until the pallet is operated by the impingement of the locking-stud 21 against the extension 29 of the pallet, whereupon the spring 28 will return the escapement-disk to its original position and reset the latch 23 in the path of the locking-stud 21 to again lock the metric wheel and meter, when the former shall have made a complete revolution and a coin's value in gas has been consumed.

The above-described operation takes place on the purchase of a single coin's equivalent in gas, and hence for a single-coin machine there need be but two opposite notches or

teeth on the escapement-disk 22. By multiplying the teeth on the said disk the machine will be adapted to receive as many coins at a single purchase as there are teeth formed in the operative portion of the said disk, each coin inserted serving to set the said disk and the latch 23 back or away from the stud 21 the space of one notch, the same to be returned a single notch for each revolution of the metric wheel. The escapement-disk is prevented from racing by the projection 34^a on the pallet 24.

35 represents the external coin chute or slot. From this chute or slot each coin is received within a slot or recess 36, formed in a casing 37, which is adapted to be revolved by a crank or knob 38. The slot or recess 36 is adapted to receive and retain a coin proper to the machine (and no other) in such manner that a portion of its edge will project a short distance from said casing, as shown in Figs. 2 and 4—that is, the edge will project a sufficient distance so that by revolving the said casing the coin will strike upon the starting-pawl 27 and effect the operation above described. After passing the projection 32 of the said starting-pawl the coin will drop out of the slot or recess 36 into the main casing or cash-box below. If a coin smaller than a coin proper to the machine be dropped into the slot 36, it will be wholly inclosed in the casing, and hence will not operate the starting-pawl 27, or the said slot 36 may be open sufficiently at the bottom to permit such a coin to drop immediately through the casing 37 into the main casing or cash-box below. The said rotary casing 37 is formed at one end with a projection 41, which is in advance of the entrance to the slot or recess 36 in said casing, as shown clearly in Fig. 2, which projection serves to operate a safety-pawl 42 for locking the machine from the time the coin depresses the starting-pawl 27 and lifts the latch 23 until the coin is dropped into the cash-box. The said safety-pawl as here shown is arranged to engage with the metric wheel. It is fulcrumed on the shaft 26 and is formed with an extension 43, the extremity of which is upturned and formed with a projection 44, which stands in the path of the projection 41, so that the latter will withdraw the safety-pawl 42 from the metric wheel before the rotary casing 37 completes its revolution. The said pawl is normally held out of engagement with the metric wheel by a spring 45, and on the upper edge of said extension 43 of the safety-pawl is secured a spring or other guard 46 to yield slightly under the pressure of the projection 41.

In case the machine is constructed to operate a reciprocating valve suitable means will be provided for converting the rotary motion of the shaft 26 into reciprocating motion. Various means may be employed for this purpose, one of which is shown in Fig. 5.

In this form of construction the said shaft 26 is provided with an eccentric or cam 47, which rotates within a yoke 48, attached to the valve-rod 49, so that a slight turn of the said shaft and eccentric will serve to open the valve and permit the flow of gas through the service-pipe 50. The valve is closed by a spring 51.

In the form of construction shown in Fig. 6 the service-pipe is provided with a rotary valve or cock 52, which may be connected directly or indirectly to the shaft 26 to be turned thereby for turning on and cutting off the gas, the ports being properly arranged for this purpose relatively to the predetermined point, at which the metric wheel will be locked by the latch 23. The shaft 26 is provided at its front end with a pointer 15 in front of a dial 16, which pointer and dial indicate the number of coins placed in the machine and at all times show the consumer the amount of gas remaining to his credit.

My invention is also applicable to such electric meters as are mechanical and employ gearing and shafts for registering the current used or delivered.

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

1. In a coin-controlled gas or liquid vending machine, a metric wheel rotated exclusively in one direction by the power of the meter, an escapement disk arranged to be rotated in an opposite direction to that of the said metric wheel by the insertion of a coin in the apparatus, complementary locking devices for stopping the rotation of said metric wheel and escapement disk at a fixed or predetermined point in their rotation, and an escapement pallet arranged to engage with the teeth of the said escapement disk and to be reciprocated for releasing the escapement disk, tooth by tooth, one for each revolution of the metric wheel; substantially as and for the purposes described.

2. In a coin controlled gas or liquid vending machine, a metric wheel rotated by the power of the meter and provided with a locking stud or stop, an escapement disk, provided with a stop or latch to engage with the said locking stud or stop for locking said metric wheel, a pallet to engage said escape-

ment disk, and arranged to be operated by the metric wheel and a coin controlled pawl for retracting said escapement disk, substantially as described.

3. In a coin controlled gas or liquid vending machine, a metric wheel provided with a locking stud or stop and revolved by the power of the meter and provided with a locking stud, an escapement disk provided with a latch to engage with the said locking stud or stop for locking said metric wheel, a pallet to engage with said escapement disk and arranged to be operated by the said metric wheel, a coin controlled starting pawl for retracting said escapement disk and latch and a swinging lever to which said starting pawl is pivoted, substantially as described.

4. In a coin controlled gas or liquid vending machine, a metric wheel revolved by the power of the meter, an escapement disk and latch for locking said metric wheel, a pallet to engage with said escapement disk, a coin controlled starting pawl and a coin controlled safety locking pawl, substantially as and for the purposes set forth.

5. In a coin controlled gas or liquid vending machine a metric wheel revolved by the power of the meter, a safety pawl for locking said metric wheel, a spring for disengaging said safety pawl from the metric wheel, and a rotating coin casing formed with a projection for engaging said safety pawl with the metric wheel, substantially as and for the purposes described.

6. The combination with the metric wheel and the safety pawl, 42, formed with an extension, 43, and projection, 44, and provided with a spring, 46, of the coin casing, 37, formed with a projection, 41, substantially as and for the purposes set forth.

7. The casing 37 formed with a slot or recess to inclose a portion of a coin proper to the machine, in combination with the escapement disk, a lever 25 adjacent to said disk, and a pawl 27 pivoted to said lever and arranged to be engaged with the said disk by a coin, substantially as described.

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Witnesses:

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EMILE RIESER.