

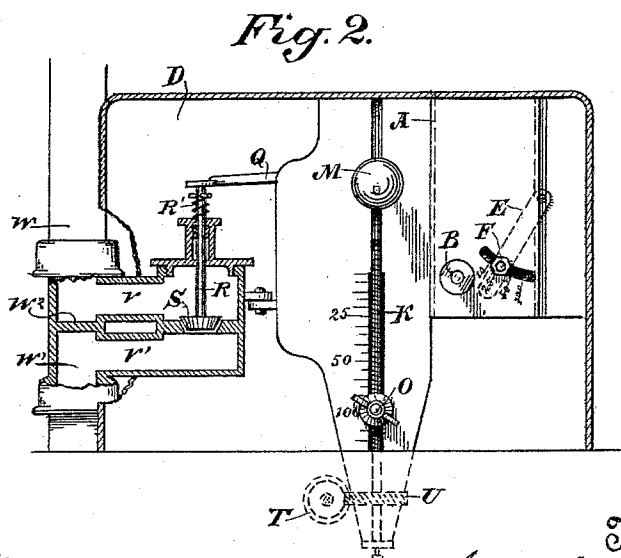
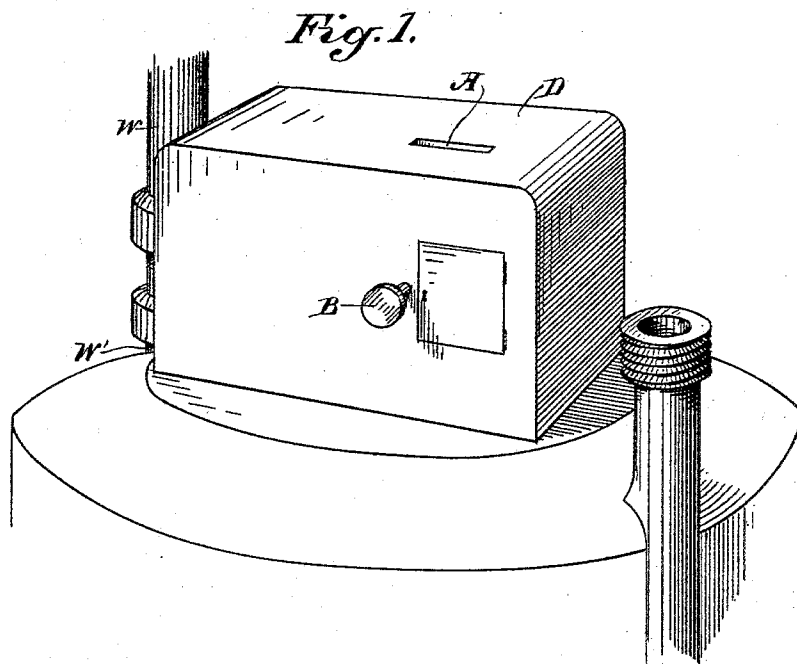
(No Model.)

2 Sheets—Sheet 1.

J. HERBERT.
COIN CONTROLLED METER.

No. 603,104.

Patented Apr. 26, 1898.



Witnesses,

J. H. Morse
H. F. Aschbeck

Inventor

Joseph Herbert
By Devery & Co
Attys

(No Model.)

2 Sheets—Sheet 2.

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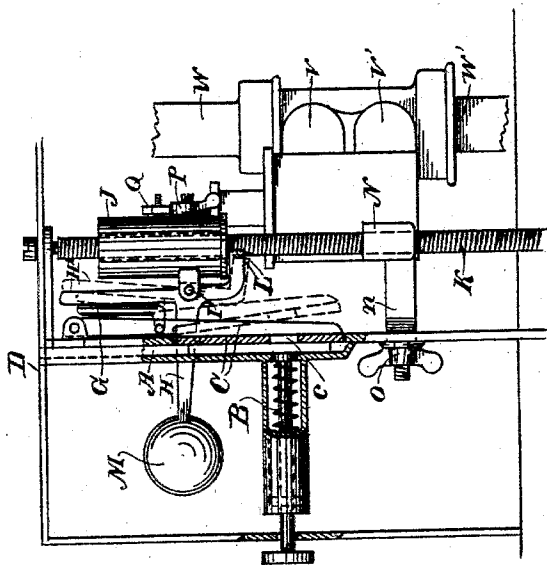


Fig. 4.

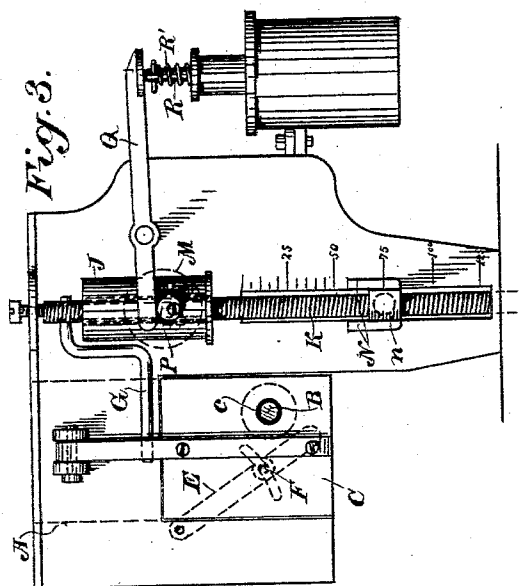


Fig. 3.

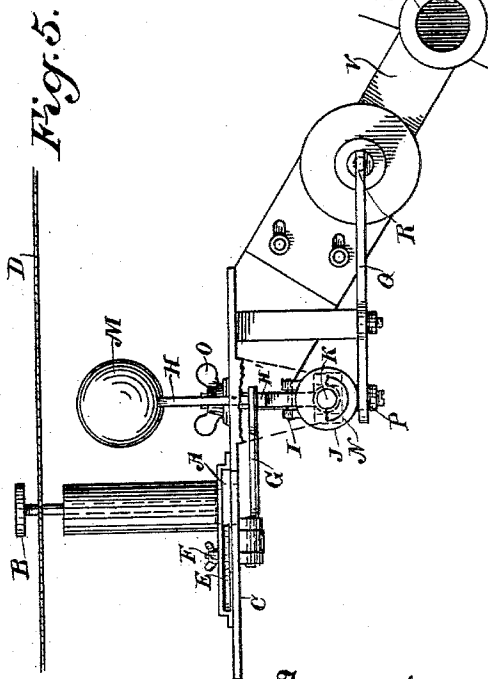
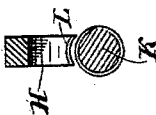


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH HERBERT, OF OAKLAND, CALIFORNIA.

COIN-CONTROLLED METER.

SPECIFICATION forming part of Letters Patent No. 603,104, dated April 26, 1898.

Application filed February 8, 1897. Renewed November 4, 1897. Serial No. 657,428. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HERBERT, a citizen of the United States, residing at Oakland, county of Alameda, State of California, have invented an Improvement in Coin-Controlled Meters; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a coin-controlled apparatus which is especially designed for the measurement of gas, water, or other substance which can be so measured and may also be applied to the measurement of electrical currents by the same mechanical operations as are shown in my apparatus.

It consists, essentially, in a novel arrangement of mechanism which is disengaged and placed in position for operation by the introduction of a coin and the movement of a disengaging-arm, and in the means for delivering the fluid while the apparatus remains thus in operation, and means for adjusting and regulating the apparatus, and in details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view showing my apparatus attached to a meter. Fig. 2 is a front view of the same, the front of the casing being removed. Fig. 3 is a rear view of the same. Fig. 4 is a view at right angles to Fig. 3. Fig. 5 is a top view of the same. Fig. 6 is a detail of the sliding weight-support.

In the present case I have shown my apparatus as adapted to be attached to a meter by which gas is measured; but it will be manifest that it may be applied to any other measuring device which can be operated by mechanical means.

The mechanism of my apparatus consists of a coin-chute A, into which the coin may be introduced, said coin passing down the chute until it arrives at a point opposite the operating key or rod B. In line with this operating-rod B is a gate C, suitably hinged at some point within a casing D, which contains the apparatus. There is a hole *c* made through this gate C in line with the rod B, so that unless there is a coin between the inner end of the rod and this hole any movement of the rod will simply push it through the hole without producing any result. Whenever a coin

is dropped into the chute A, it is stopped at the point in line with the rod B, and when the latter is pushed in it will press the coin against the gate, moving both coin and gate sidewise until the coin drops through into a suitable receptacle beneath.

The amount of gas to be measured and sold at each operation may be such as would be paid for in such coin as twenty-five or fifty cents, as determined, and in order to stop the coin at the proper position in line with the rod B, I have shown an inclined arm E with a suitable operating knob or screw F, by which it is set and locked in position. This arm E is so pivoted that it forms an inclined side to the lower part of the coin-chute A, so that by the position of this arm E the point at which the coin of any predetermined size is stopped is determined. Thus if twenty-five cents' worth of gas is the amount to be delivered at each operation this arm E will be so set that the twenty-five-cent piece will stop in line with the operating arm or rod B and no other coin will serve.

When the gate C is moved by the pressure of the rod, it acts through a bent arm G, which is attached to it, this arm pressing against a lever H or an extension contact-bar H', so as to move it as follows: This lever is fulcrumed, as shown at I, to a sliding weight J, which loosely fits around a vertical screw K, and the short arm of the lever has the semicircular screw-threaded portion or nut L, which is adapted to engage the threads of the screw K, as shown, thus holding the weight J in position wherever it may be with relation to the screw K. The long arm of the lever H, projecting horizontally, has a sufficient weight M upon it to insure contact of the screw-threaded nut L with the screw K until the weight M is lifted and this screw-threaded portion or nut L withdrawn, when the weight will be free to fall until it strikes a stop N, when the arm G will have passed above the contact-bar H' and will then allow the weight M to act and again force the seminut L into contact with the screw, so that when the screw begins to revolve it will cause the nut and weight to again move upward. The position of the stop N is determined by the amount of gas to be sold at one operation. The stop has a shank *n*, which is slid-

able in a slot, and a locking-nut O, by which it is secured at the desired point. The slot may be marked with gage-lines, so that it is easy to set the stop N at the desired point.

5 The operation will then be as follows: When the coin is dropped into the coin-chute A, it falls until it is arrested by the inclined side E, standing in line with the operating-rod B. This rod being pushed in swings the gate C, and through the action of the arm G upon the vertical contact portion H' of the weighted lever H it moves this lever, turning about its fulcrum until the screw-threaded portion or nut L is disengaged from the threads of the screw K. This allows the weight J and the lever and connected parts to drop until arrested by the stop N. The weight J has a lug P fixed to it, so that when the weight is raised to its highest point this lug acts upon a lever Q, suitably fulcrumed, so that one end is within the line of travel of the lug, and the opposite end of this lever Q acts upon the stem R of a spring-pressed valve S, which thus normally closes the inlet through which gas flows to the meter. As soon as the weight J has been dropped, as previously described, the lever-arm Q being thus removed, the spring R' acts to raise the stem R of the valve S, thus opening the passage through which the gas may flow. As soon as the gas commences to flow it acts through the screw T, which is actuated from the usual meter mechanism, and upon the worm-wheel U, which is fixed to the lower end of the screw-shaft K, and thus begins to turn this screw-shaft.

The pitch at which the threads of the screw are cut is so calculated with reference to the movement of the meter parts, the screw T, and worm-wheel U that the amount of gas purchasable by the coin which has been introduced will be delivered through the valve S, while the rotation of the screw moves the weight J and its attached parts up to its normal position. When it reaches this position, the lug P will contact with the lever-arm Q, and pressing upon the stem of the valve S will close the valve, thus shutting off the supply of gas until the operation has been again repeated.

50 The lug P is eccentrically mounted, as shown, and can be turned and regulated to any desired degree of nicety, and thus insure the closing of the valve at the proper time.

The passage through which the gas passes is here shown as in the form of two short cylinders, one of which forms a valve-casing, and the other, *w*, is coupled to the pipe which admits gas into the passage V above the valve S. The gas passing through the valve S returns through the passage V' into the vertical portion W', which connects directly with the meter, as shown.

A diaphragm or partition W² in the vertical portion W W' separates the upper and lower pipes V V', through which the gas must pass in passing through the valve.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In a coin-controlled measuring apparatus, a coin-chute, an adjustable stop in the line of the chute, by which the coin is arrested, a gate movable transversely with relation to the coin-chute and having a hole made through it, a rod or stem standing in line with said hole, so that it operates upon the gate only when the coin is in position between the rod and the gate, an arm connected and movable with the gate, a vertical screw-threaded shaft having a loosely-slidable weight movable upon it, a lever-arm carrying a screw-threaded segmental nut adapted to engage the screw-threaded shaft and retain the weight in position, a contact portion of the lever against which the gate-actuated arm presses when the gate is moved, whereby the segmental nut is disengaged from the screw and the weight allowed to drop.

2. A coin-actuated measuring device, comprising a vertical screw, connections by which said screw is rotated by the passage of the fluid to be measured, a weight surrounding and loosely movable upon said screw, a weighted lever fulcrumed to the movable weight carrying at one end a segmentally-threaded nut which normally engages the screw and holds the weight in position with relation thereto, a vertical contact-bar connected with the weighted lever, an arm fixed to a swinging gate adapted to move the contact-bar and the lever when the gate is swung inwardly so that by said movement the segmental screw is disengaged and the weight allowed to drop, a stop by which the weight is arrested at the determined point and the segmental nut allowed to again engage the screw-threads whereby the rotation of the shaft will cause the nut and the weight to travel upward while the shaft continues its rotation.

3. A coin-controlled measuring device consisting of a vertical screw-threaded shaft and connections with the meter whereby the flow of the fluid to be measured through the meter will cause the revolution of the shaft, a weight loosely slidable upon the shaft, a weighted arm fulcrumed to the slidable weight, carrying at one end a segmental nut which engages the threads of the screw and at the other end a weight by which this contact is normally maintained and a vertical contact-bar fixed to the lever, a hinged swinging gate with an arm adapted to engage the contact-bar and move the weighted lever so as to disengage the segmental nut and allow the weight to drop until the gate-arm has passed above the contact-bar and allowed the nut to again engage the screw, a coin-chute and means for arresting the coin at a determined point, a stem movable at right angles with the position of the coin whereby its action presses the coin to one side to move the gate and operating mechanism and at the same time allow the coin to drop into a recep-

5 tacle beneath and a valve controlling the flow of the fluid, said valve being released by the dropping of the weight, and closed when the weight has been again returned to its normal position.

10 4. In a coin-controlled measuring apparatus, an inlet pipe or passage through which the fluid to be measured is adapted to flow, a vertically-movable valve with a spring by which the valve is normally retained in an open position, a lever-arm fulcrumed so that one end is adapted to act upon the valve-spindle, a vertical screw, means for rotating it by the action of the flow of gas through the meter, a weight with a disengaging nut, coin-controlled mechanism by the action of which the nut is disengaged to allow the weight to drop to a predetermined stop and a stop carried by and adjustable upon the weight so as to contact with the valve-actuating lever when the weight has reached a point determined by the amount of fluid passing through the meter whereby the valve is closed and the movement of the parts arrested.

25 5. In a coin-controlled measuring apparatus, an inlet pipe or passage through which

the fluid to be measured is adapted to flow, a vertically-movable valve with a spring by which the valve is normally retained in an open position, a lever-arm fulcrumed so that one end is adapted to act upon the valve-spindle, a vertical screw, means for rotating it by the action of the flow of gas through the meter, a weight with a disengaging nut, coin-controlled mechanism by the action of which the nut is disengaged to allow the weight to drop to a predetermined stop and a stop carried by and adjustable upon the weight so as to contact with the valve-actuating lever when the weight has reached a point determined by the amount of fluid passing through the meter whereby the valve is closed and the movement of the parts arrested, said stop being adjustable to regulate the closure of the valve.

In witness whereof I have hereunto set my hand.

JOSEPH HERBERT.

Witnesses:

S. H. NOURSE,
JESSIE C. BRODIE.