

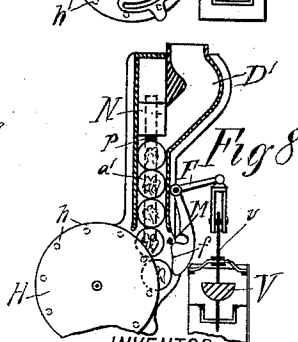
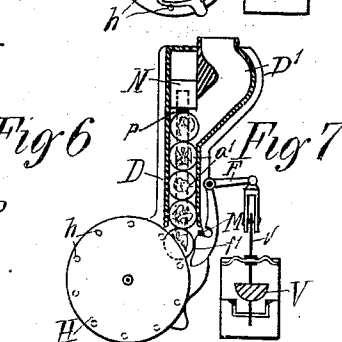
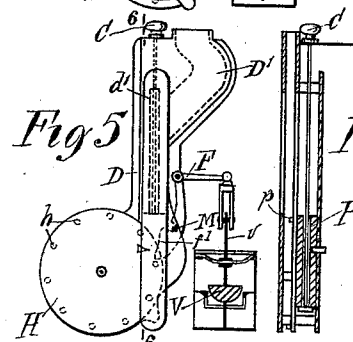
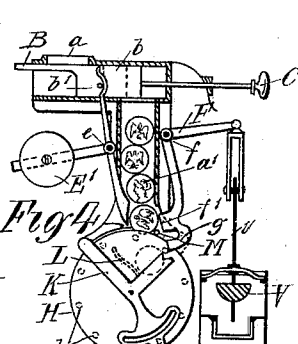
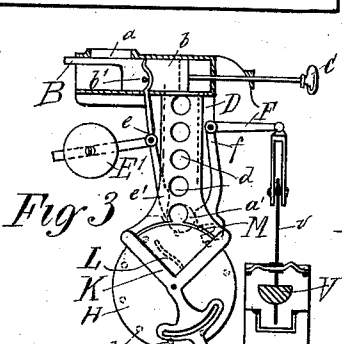
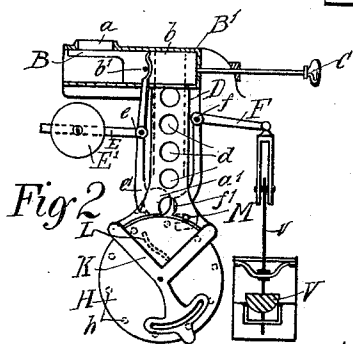
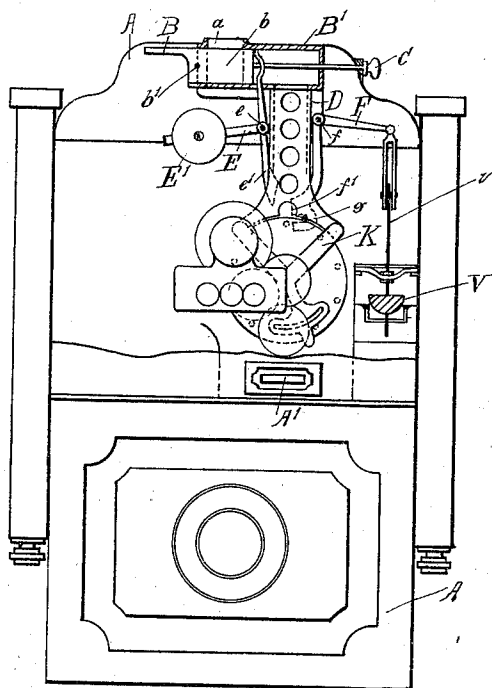
(No Model.)

L. HAAS.
COIN FREED GAS APPARATUS.

No. 542,762.

Patented July 16, 1895.

Fig 1



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LUDWIG HAAS, OF MAYENCE, GERMANY.

COIN-FREED GAS APPARATUS.

SPECIFICATION forming part of Letters Patent No. 542,762, dated July 16, 1895.

Application filed May 1, 1895. Serial No. 547,784. (No model.)

To all whom it may concern:

Be it known that I, LUDWIG HAAS, engineer, of Mayence, Germany, have invented new and useful Improvements in Coin-Freed Gas Apparatus, of which the following is a specification.

My invention relates to improvements in coin freed or controlled apparatus, and particularly to that class of apparatus which is adapted to control the supply of a meter, and more especially a gas-meter.

The object of my invention is to produce a simple and positive mechanism, which when a coin of a certain value is dropped into the chute will operate to release or open the gas-supply valve and permit the meter to run until gas to the value of the coin has been consumed, and will then automatically shut off the gas-supply.

A further object of my invention is to construct this mechanism in such a way that the deposited coin acts under pressure to tilt a lever projecting into the coin-chute and open the gas-valve, and, further, to provide a mechanism driven by the registering apparatus of the meter, which when the desired quantity of gas is consumed will deposit the coin, shut off the gas, and permit the parts of the mechanism to return to their normal position.

Still another object of my invention is to produce a coin-controlled apparatus which may be applied to meters of various kinds as well as gas-meters.

To these ends my invention consists of certain features of construction and combination of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters refer to corresponding parts throughout the several views.

Figure 1 is a broken front elevation, partly in section, of my improved apparatus. Fig. 2 is a detail sectional view of a part of the apparatus, showing the first position of the deposited coin and the gas-valve closed. Fig. 3 is a view similar to Fig. 2, but with the gas-valve slightly open, so as to start the apparatus. Fig. 4 is a view similar to Figs. 2 and 3, but with the valve wide open and the other parts of the mechanism correspondingly

moved. Fig. 5 is a detail view, partly in section, of a slightly-modified form of the apparatus, in which one lever is dispensed with and a weight used to force the coin into an operative position. Fig. 6 is a vertical section on the line 6 6 of Fig. 5. Fig. 7 is a detail sectional view of the mechanism shown in Fig. 5, but with the valve-lever tilted by the coins, so as to slightly open the valve and start the meter; and Fig. 8 is a view similar to Fig. 7, but with the parts of the mechanism moved to open the valve wide.

I have shown the apparatus mounted in a suitable case A, which may be of any approved kind and which, as shown, has in the top a coin-slot *a*, through which a coin can be dropped into the slot *b* of the slide B, this slide moving in the slideway B', the slide being actuated by a handle-rod C, which on being pulled brings the slot *b* over the coin chute or channel D, so that the coin drops down the chute.

The chute D is preferably provided with openings *d*, through which the coins *a'* in the chute may be observed. At one side of the chute is a three-armed lever E which is pivoted at the center, as shown at *e*, and the upper end of this lever projects into the path of the pin or stud *b'* on the slide B, while the lower end of the lever E terminates in an inward bend *e'*, which projects into the lower part of the chute D, in which position it is held by a weight E' on the third or horizontal arm of the lever E.

On the opposite side of the coin-chute D is a bell-crank lever F, which is pivoted at its elbow as shown at *f*, and the lower end of this bell-crank projects into the coin chute or channel D opposite the end *e'* of the lever E, this lower end of the bell-crank being thickened edgewise to form a coin-engaging boss, as shown at *f'*, and provided with a slot *g*, which engages a pin M extending transversely into the coin-chute. The upper and outer end of the bell-crank F connects by means of a link *v* with a valve V, which controls the gas-supply, and which when raised permits the gas to flow.

The valve V is shown only in a general way, as any suitable valve may be used.

Below the coin chute or channel D is a ro-

tating disk H, which is journaled in a suitable supporting-frame K, and is provided near its periphery with pins H, on which the coins rest, as presently described. At one side of the wheel or disk H is a passage-way L, down which the coins roll, and these pass through an opening A' into a suitable receptacle; but this part of the mechanism is not particularly shown, as my invention relates exclusively to the mechanism controlling the valve V. The disk H is driven from the registering mechanism, the driving-power being left out of the drawings because it would vary with the kind of meter used.

The operation of the apparatus as arranged in Figs. 1 to 4 is as follows: A coin is dropped through the slot *a* into the slot *b*, and the handle-rod C is pulled so as to bring the coin over the chute D, into which it drops. When the above operation is performed the stud *b'* strikes the upper end of the lever E and tilts the lever, raising the weight E' and permitting the coin *a'* to drop downward between the lower end *e'* of the lever E and the lower end *f'* of the lever F. The coin will now rest on one of the pins *h*. The handle C is then pushed in or released, and the weight E' drops, thus swinging in the lower end of *e'* of the lever E and pushing the coin *a'* against the lower end *f'* of the lever F with sufficient force to tilt the lever F and slightly raise the valve V. This brings the mechanism into the position shown in Fig. 3. The meter of course begins to register when the valve is opened and the disk H begins to turn, so that a pin *h* strikes the lower end of the lever F, and tilts the lever still further, throwing it in the position shown in Fig. 4 and opening the valve V wide. The coin will now rest on the disk H and one of the pins *h*, as in Fig. 4, and on the continued rotation of the disk H the lever F is released and the coin drops upon the passage-way L and rolls down into a receptacle prepared to receive it. A coin which is too small will drop down between the levers F and E and between the pins *h* without affecting the machine. After the coin drops the valve V drops, and the parts are once more in a normal position.

Figs. 5 to 8 illustrate a modification of the apparatus which provides for forcing a coin or coins against the lever F so as to tilt it and dispenses with the use of the lever E. As here illustrated a curved supplemental coin-chute D' delivers into the straight chute D, which is arranged above the disk H, substantially as already described, and the chute D is adapted to receive a series of coins *a'*, which are pressed down by a slide-plate N, this being actuated by a weight P, which slides at one side of the chute D and engages the plate by means of a suitable connecting-pin *p*, which slides in the slot *d'*. (See Fig. 6.) The weight P is raised by a handle-rod C, like that already described, except that in

the modification the rod is vertically arranged. The weight P and plate N are raised when the coins are inserted, these running down the supplemental chute D' into the chute or channel D, the lower one resting upon the pins *h* of the disk H and between one of the pins and the lower end *f'* of the lever F. When the weight P is dropped the lower coin presses against the lever F hard enough to tilt it and slightly open the valve V, as shown in Fig. 7, whereupon the meter and disk H start and the latter carries the coin against the lever F with sufficient force to tilt the lever still further and throw the valve V wide open, as in Fig. 8.

If there are several coins in the chute one follows the other, so that the valve is held open until the last coin drops, and if there is but one coin in the chute it is carried by the rotation of the disk beneath the lever F and deposited.

It will of course be understood that springs may be substituted for the weights E' or P without affecting the principle of the invention.

Now, what I claim, and desire to have protected by Letters Patent, is the following:

1. In a coin freed apparatus the combination with a coin channel of a lever entering its lower extremity, a weight arranged to press the lowermost coin in the channel against the lever, and a disk under the coin channel gearing with a register mechanism and provided with supports for the coins substantially as described.

2. In a coin freed apparatus the combination with a coin channel of a lever entering its lower extremity, a weight arranged to press the lowermost coin against the lever, means to release the weight, and a disk under the coin channel gearing with a register mechanism and provided with supports for the coins substantially as described.

3. In a coin freed apparatus the combination with a coin channel of a lever entering its lower extremity, of an entrance channel opening in the side of coin channel, a sliding plate in the coin channel barring the said opening, a weight arranged to press the lowermost coin in the channel, against the lever, and a disk under the coin channel gearing with a register mechanism and provided with supports for the coins substantially as described.

4. In a coin freed apparatus the combination with a coin channel of a lever entering its lower extremity, a weight sliding along the channel, having a projection inside the channel capable of being raised to lift the barring plate and rest on the uppermost coin, and a disk under the coin channel gearing with a register mechanism and provided with supports for the coins substantially as described.

5. In a coin freed apparatus the combination with a coin channel of a lever entering

its lower extremity, a weight arranged to press
the lowermost coin in the channel against the
lever, and a disk under the coin channel gear-
ing with a register mechanism, and provided
5 with supports adapted to carry the coin around
the disk substantially as described.

In testimony whereof I have signed my

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

LUDWIG HAAS.

Witnesses:

CARL BOTZ,

ALVESTO S. HOGUE.