

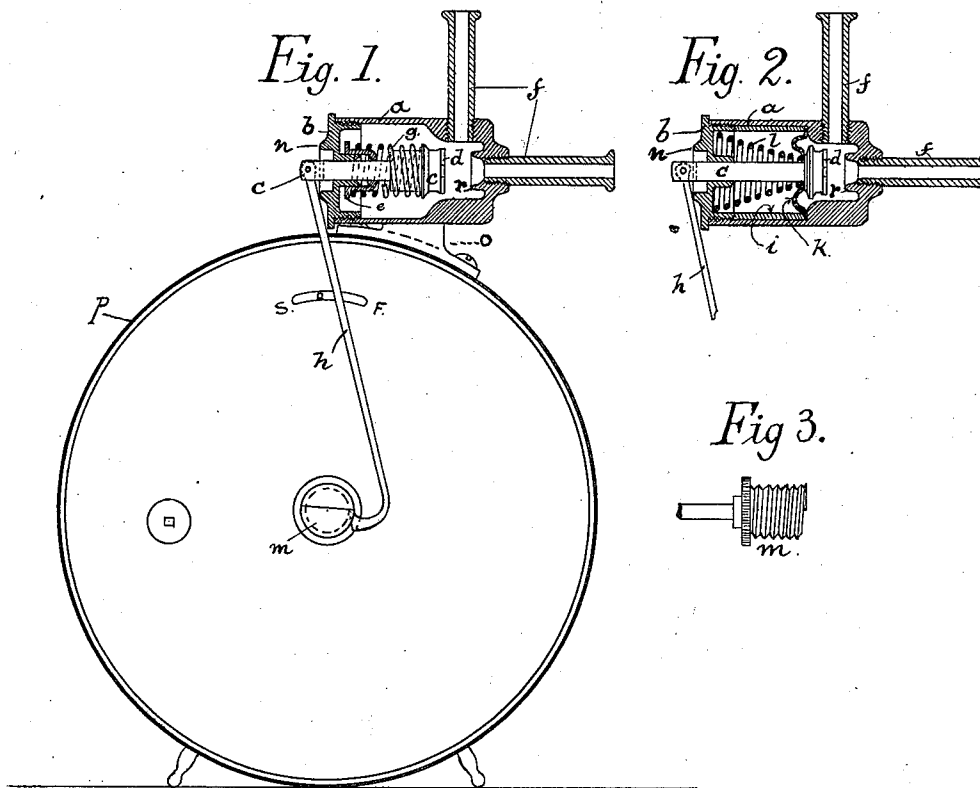
(No Model.)

G. B. SNOW.

TIME MECHANISM FOR OPERATING GAS COCKS.

No. 507,564.

Patented Oct. 31, 1893.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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TIME MECHANISM FOR OPERATING GAS-COCKS.

SPECIFICATION forming part of Letters Patent No. 507,564, dated October 31, 1893.

Application filed September 21, 1892. Serial No. 446,393. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. SNOW, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain Improvements in Timing Mechanism for Gas-Burners, of which the following is a specification.

My invention relates to mechanism for cutting off the gas supply from a gas burner at a predetermined time. Its object is, the production of a device for the purpose which can be cheaply made, and at the same time be durable, easily operated, certain and effective. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1. is a view of the device, showing the valve casing in vertical section. Fig. 2. is a similar vertical section of the valve casing, showing an alternative construction. Fig. 3. is a side view of the casting-off screw, which is attached to the center arbor of the clock.

"a" represents a valve casing, attached by a flange "o" to a casing "p," which contains an ordinary clock movement. The casing "a" contains a long stemmed valve "c c;" the stem of which passes through a central hole in the screw-cap "b," which closes the casing "a," and forms a gas tight joint therewith. The valve "c" is preferably faced with a leather disk "d," which, when the valve is actuated by the spring "g," will form a gas-tight joint on the circular ridge "r." The gas passes into and out of the casing "a" through the pipes "f f."

For the purpose of making a gas-tight joint where the valve stem passes through the cap "b," there is provided a stuffing-box "e," containing suitable packing, and which is pressed against a central hub upon the inner side of the cap "b" by the spring "g." The spring thus performs the double office of keeping the stuffing-box gas-tight and impelling the valve "c" against its seat.

To the valve stem "c" is jointed the lever "h," the hooked end of which engages in the threads of a left-handed screw "m," fastened to the end of the center arbor of the clock movement contained in the case "p." The screw "m" should have as many, or more threads in number as the number of hours during which it is desired that the flow of gas

should continue. Its end should be partly filed away, so that the last thread will end abruptly; so that when the lever "h" is engaged therewith, it will be gradually screwed off by the continued revolutions of the clock arbor, and finally suddenly released. It will be observed that the movement of the lever along the threads of the screw will be in a plane at a right angle to the center line of the valve stem "c," and the latter will be turned thereby. To provide for this movement, the fulcrum of the lever "h" is on a circular ridge "n," upon the face of the cap "b." The lever is thus allowed to accommodate itself without cramping itself or the valve stem.

As a matter of convenience, the screw "m" is so fastened upon the clock arbor that it will cast off the lever "h" when the minute hand reaches the figure XII.

In Fig. 2, is shown an alternative construction of the valve, in which a stuffing-box is dispensed with. The valve stem "c" passes through the center of a flexible diaphragm "k," the periphery of which is secured and rendered gas-tight by the thimble "i," which forms a continuation of the threaded part of the cap "b." The conical spiral spring "l" bears against the diaphragm at its center, and serves the double purpose of preventing leakage at this point and closing the valve.

When it is desired to operate the device, the clock is wound and set in motion, and the lever "h" is brought down and engaged with a screw thread on the casting-off screw "m." If it is desired to continue the operation of the device for a fractional part of an hour, the minute hand of the clock is set to the desired number of minutes, counting backward from the figure XII, and the lever is engaged with the thread nearest the free end of the screw. For each additional hour, it is moved along one thread. The continued revolution of the clock arbor will finally cast off the lever from the free end of the screw, when the spring will close the valve. The apparatus is thus capable of adjustment for any time from a minute to as many hours as there are threads upon the casting-off screw, and the desired time can be easily gaged to within a few seconds.

It is evident that other means than those specified herein can be employed for keeping

the valve stem "c" gas-tight where it passes out through the casing. I have shown two ways for accomplishing it, but I do not confine myself to either; for other means, well known to mechanics, may be employed without departing from the spirit of my invention.

I therefore claim—

1. In a device for timing the flow of gas, the combination of a spring seated valve, a clock movement, provided with a rotating casting off screw, and a lever, having one end connected to the valve stem, and operating to lift the valve from its seat, and its other end adapted for engagement with the casting off screw; said lever having its fulcrum at one end of the valve casing, substantially as hereinbefore set forth.

2. In a device for timing the flow of gas, the combination of a clock movement provided with a rotating casting off screw, a reciprocating valve provided with a stem, a lever having one end connected to the valve stem, and its other end adapted for engagement

with the casting off screw to unseat the valve, a stuffing box surrounding the valve stem, and a spring situated between the valve and stuffing box, and adapted to compress the packing in the stuffing box and to seat the valve when the lever is released; substantially as hereinbefore set forth.

3. In a device for timing the flow of gas, the combination of the valve casing *a*, having an opening surrounded by a circular ridge *n*, the reciprocating spring seated valve *c*, having its stem extended through the said opening, a clock movement, provided with a rotating casting off screw *m*, and the lever *h*, fulcrumed on the circular ridge *n*, and having one end connected with the valve stem, and its other end adapted for engagement with the casting off screw; substantially as hereinbefore set forth.

GEORGE B. SNOW.

Witnesses:

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