

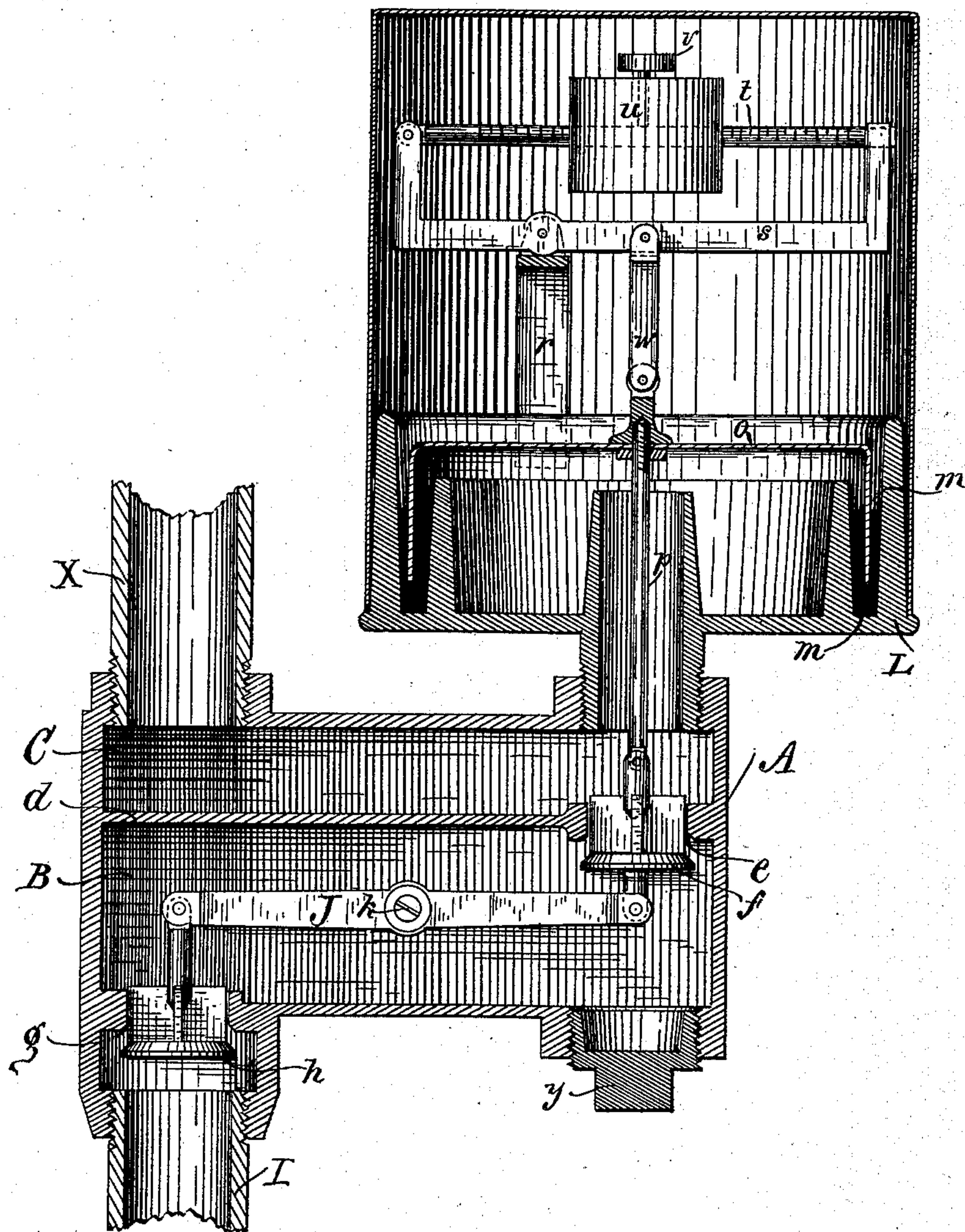
(No Model.)

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GAS PRESSURE REGULATOR AND CUT-OFF.

No. 384,967.

Patented June 26, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE S. FAULKNER, OF INDIANAPOLIS, INDIANA.

GAS PRESSURE-REGULATOR AND CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 384,967, dated June 26, 1888.

Application filed December 27, 1887. Serial No. 258,994. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. FAULKNER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Gas Pressure-Regulators and Cut-Offs, of which the following is a specification.

My invention relates to an improvement in that class of gas pressure-regulators and cut-offs in which the flow of gas from the mains to a consumer's system of supply-pipes is so controlled that a uniform pressure will be maintained in the consumer's pipes under ordinary conditions of use, and in which communication with the main is automatically entirely shut off when from any cause the pressure, either in the consumer's supply-pipes or in the mains, falls below a previously-determined amount.

The object of my improvement is to provide a new arrangement of parts in a regulator of the class above mentioned, whereby the device occupies but a small space, and is adapted to be attached to a vertical line of pipe without disturbing the continuous alignment of the pipe, all as hereinafter fully described.

The accompanying drawing represents my invention.

The figure represents a sectional view taken vertically through the center of the device.

A represents a substantially rectangular case divided interiorly into the chambers B and C by the partition *d*. Chamber B communicates with chamber C through an opening, *e*, which is closed by the valve *f*. On the lower side of chamber B, in the partition *d*, is an opening, *g*, which is closed by the valve *h*, and to which the inlet-pipe I, leading to the main, is connected. Valves *f* and *h* are of equal area, and are connected to the opposite ends of a lever, J, and on opposite sides thereof at equal distances from the fulcrum *k*, which is secured to the side of the chamber B, the purpose being to cause the pressure against one valve to balance the pressure against the other, and to cause valve *h* to be closed by the movement of valve *f* beyond a certain point, as hereinafter explained. The outlet from chamber C is arranged di-

rectly above the inlet to chamber B, so that the inlet and outlet pipes I and X are in line vertically.

Secured to the top of case A, and communicating with chamber C, is a cup, L, having an annular groove, *m*, which is partly filled with a liquid, *n*, preferably mercury, into which dips the edge of an inverted sheet-metal cup, *o*. Valve *f* is connected with cup *o* by means of a rod, *p*. Erected on cup L is a standard, *r*, to which is pivoted the scale-beam lever *s*, having a graduated bar, *t*, on which is mounted so as to slide thereon a weight, *u*, having a set-screw, *v*, by means of which the weight is adjustably secured to the bar. Lever *s* is connected to cup L by the link *w*. An opening closed by the plug *y* is formed in case A for the purpose of inserting valve *f*.

The operation of my device is as follows: Valves *f* and *h* being open, as shown in the drawing, the gas enters through pipe I and openings *g* and *e*. Weight *u* is now adjusted on lever *s*, so as to counterbalance the required pressure in chamber C and the consumer's system of supply-pipes. If, now, the pressure in the mains increases to a point above that required in the supply-pipes, cup *o* and weight *u* are raised and valve *f* is momentarily closed, so that the pressure in the supply-pipes is at once reduced to the point desired. If a break occurs, or any other accident occurs so that the pressure is materially reduced below the point desired, either in the consumer's system of pipes or the main, the weight *u* operates through link *w*, cup *o*, rod *p*, valve *f*, and lever J, to close valve *h*, thus automatically cutting-off the connection of the consumer's system of pipes with the main. On a return of the pressure in the main and the inlet-pipe the whole force of the returning pressure is against valve *h*, and operates to keep said valve closed, thus preventing the flooding with gas of the consumer's premises. To re-open valve *h* and start the flow of gas in the consumer's system of pipes, it is necessary to raise lever *s* by hand.

I claim as my invention—

In a gas pressure-regulator and cut-off, case A, having chamber B, provided with inlet-opening *g*, partition *d*, having opening *e*, and

chamber C, having outlet X, cup L, mounted on
said chamber C and having groove *m*, cup *o*,
having rod *p* and valve *f* secured thereto,
valves *f* and *h*, lever J, connecting said valves,
5 lever *s*, pivoted to standard *r* and connected
with rod *p*, and weight *u*, adjustably secured
to lever *s*, all combined and arranged to co-

operate in the manner and for the purpose
specified.

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Witnesses:

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