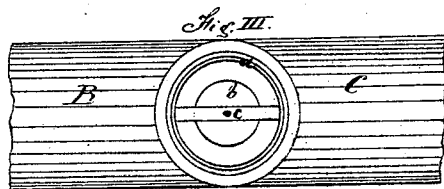
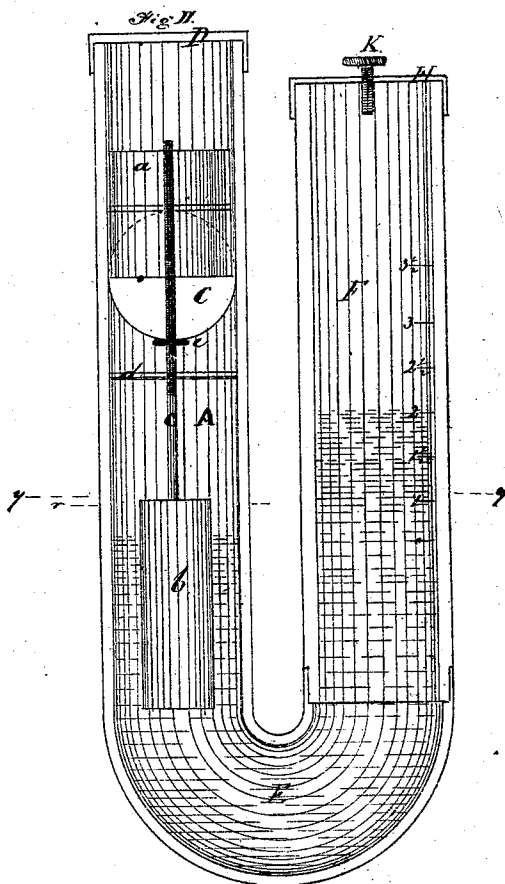
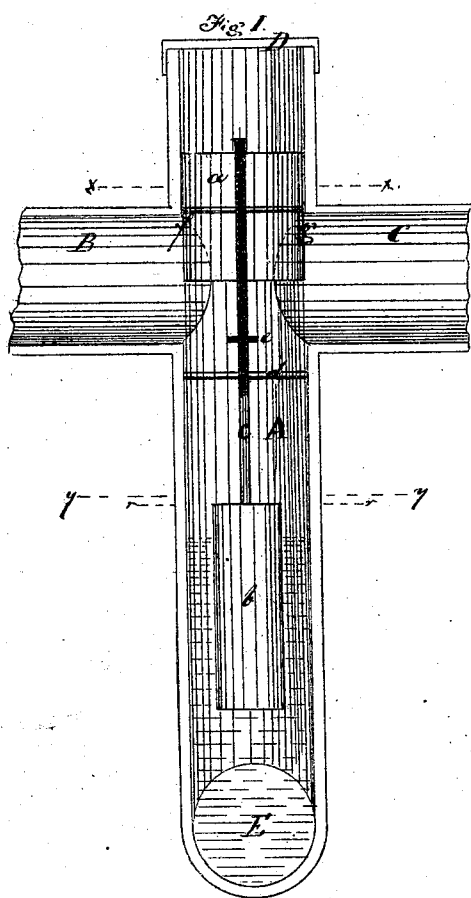


HENRY GERNER.

Improvement in Gas Regulators.

No. 116,176.

Patented June 20, 1871.



Witnesses:  
J. E. Grondal  
John Dwyer

Inventor:  
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# UNITED STATES PATENT OFFICE.

HENRY GERNER, OF NEW YORK, N. Y.

## IMPROVEMENT IN GAS-REGULATORS.

Specification forming part of Letters Patent No. 116,176, dated June 20, 1871.

*To all whom it may concern:*

Be it known that I, HENRY GERNER, of New York city, State of New York, have invented certain Improvements in Gas-Regulators, of which the following is a specification:

The nature of my invention consists in the combination, in a gas-regulator, of a tube provided with an inlet and outlet aperture having a valve and float raised or lowered by the pressure of the gas upon the fluid contained in the tube, said tube being connected by an elbow to glass tube marked with divisions to serve as an indicator, all being constructed and arranged as hereinafter more fully described.

Figure I is a longitudinal section, side view, of an apparatus embodying my invention. Fig. II is a longitudinal section, front view, of the same. Fig. III is a top view of the same through line *x x*.

A is a hollow cylinder or tube, into one side of which the pipe B, communicating with a gasometer, or, as ordinarily, with the gas-meter, is inserted. Into the other side runs the pipe C leading to the burners. To the cylinder A is connected or cast in one, through the elbow E, the tube or cylinder F, made of glass. The interior of A, E, and F is filled with a fluid, by preference glycerine or quicksilver, say, up to the line *y y*. By removing the cap D, which closes the cylinder or tube A, the air-tight vessel *b*, in cylindrical form, is introduced, which will sink down into and float on the fluid, say, up to *r r*. To the top of cylinder *b* is fastened the rod *c*, on which is placed the cylinder *a*, open in both ends. The rod *c* is made with screw-threads, so that the cylinder *a* can be raised or lowered, as may be required, to place the lower edge of the same in line with the upper part of the ports or inlet and outlet *f* and *g* of the pipes B and C. *d* is a guide for the rod *c*. *e* is a set-screw. H is a cap closing the tube F. K is a screw, by aid of which air is admitted or shut off into the interior of the tube F.

It will readily be understood that the gas, pressing on the fluid in the tube A, will, according to the pressure, cause the fluid to rise and fall. As the air-tight cylinder *b* floats on this fluid it must, consequently, rise or fall with

the same, thereby causing the open cylinder *a*, attached to the same by means of the rod *c*, to ascend or descend in the tube A, thereby closing or opening the ports, or inlet and outlet *g* and *f*, of the pipes B and C.

As it is required by increased pressure to diminish the flow of gas by partially closing the inlet and outlet *g* and *f*, and by decreased pressure to increase the flow of gas by partially opening the inlet and outlet *g* and *f*, the cylinder *a*, ascending and descending as the fluid is caused to rise and fall by increased or decreased pressure of the gas, will automatically perform this service exactly as it is required.

The set-screw *e* serves to prevent the cylinder *a* to cut off the flow of gas over a certain desired point, where a maximum of light is required in proportion to the capacity of the delivery-pipe.

The glass tube F, being marked with half-inch divisions, will serve as an indicator, by which every consumer readily may be enabled to ascertain the pressure at which the gas is supplied.

### Claims.

Having thus described my improvement so fully that everybody skilled in the art will easily be enabled to manufacture and use such an apparatus, I desire to claim as my invention—

1. In combination with the tube A having cap D, and connected with the inlet and outlet pipes B C, the inner sliding tube *a*, open at both ends, and the float *b*, connected together by the screw-rod *c*, provided with the regulating set-screw *e*, all substantially as and for the purposes herein set forth.

2. In combination with the tube A, with inner tube *a*, screw-rod *c*, set-screw *e*, and float *b*, the elbow E and glass tube F, provided with cap H and air-regulating screw K, all substantially as and for the purposes herein set forth.

HENRY GERNER.

Witnesses:

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