W. MALLERD.

Gas Burner Regulator.

No. 54,569. Patented May 8, 1866.

Fig. 1

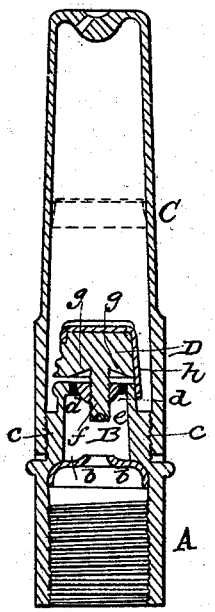


Fig. 3

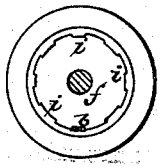
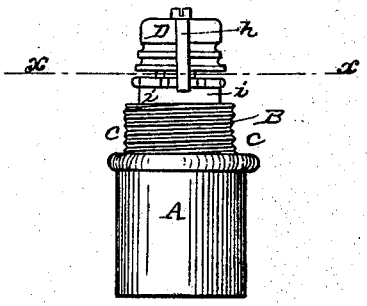


Fig. 2



WITNESSES

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REGULATING ATTACHMENT FOR GAS-BURNERS.

Specification forming part of Letters Patent No. **54,569**, dated May 8, 1866.

To all whom it may concern:

Be it known that I, WILLIAM MALLERD, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and Improved Regulating Attachment to Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical central section of this invetionn. Fig. 2 is a detached side elevation of the regulating attachment. Fig. 3 is a transverse section of the same, the line *x x*, Fig. 2, indicating the plane of section.

Similar letters of reference indicate like parts.

This invention consists in the arrangement of a regulating-cap and notched disk, in combination with a suitable spring-stop or click and with a gas-burner, in such a manner that by said click and disk the cap can be adjusted to the number of feet to be burned per hour, said click being so arranged that the regulating can be effected in the dark by the sense of feeling.

It consists, further, in the arrangement of a gas-chamber, the top of which is provided with a cup-shaped depression right over the aperture in the diaphragm, which admits the gas to the bottom of said chamber in such a manner that the gas, on entering said chamber, strikes the cup-shaped depression, whereby it is deflected down before it is permitted to pass through the apertures in the top of said gas-chamber, and by these means the force of the current of gas is broken and a uniform supply is obtained.

It consists, finally, in the arrangement of a cup-shaped cap over the apertures, through which the gas escapes from said gas-chamber in such a manner that the gas, on issuing from said apertures, is again deflected, and its current is still further regulated, if it is necessary to do so, after the same has passed the regulating-chamber.

A represents the socket of a gas-burner, which is provided with an internal screw-thread, *a*, to fit the gas-pipe, in the usual manner. From the socket rises the gas-chamber B, the bottom of which is formed by a diaphragm, *b*, with a bell-mouthed central aperture, through which the gas enters. The outside of said chamber is provided with a screw-thread, *c*, to receive the burner C, which is constructed in any suitable manner, and the gas which has entered into said chamber through the aperture in the diaphragm *b* passes off through the small holes *d* in the top of said chamber. It is not permitted, however, to pass clear through said chamber in an unobstructed current; but on entering the chamber it strikes a cup-shaped depression, *e*, in the bottom end of a regulating-screw, *f*, and by this depression the gas is deflected and its force is broken, so that the same flows from the chamber in a steady and uniform current. This current is further regulated by a cap, D, which forms the head of the regulating-screw *f*, which is so shaped that a revolving gas-chamber, *g*, is formed over the apertures *d*, whereby the gas issuing from said apertures is again deflected, and a uniform and steady supply of gas is obtained for the burner C.

The position of the cap D is regulated by a click, *h*, which catches in suitable notches or holes *i* in the circumference or surface of the top of the chamber B, the number and position of the nicks or holes being so selected that each nick or hole corresponds to about one cubic foot of gas per hour.

By this arrangement the burner can be set at any moment to consume a certain number of cubic feet of gas per hour simply by turning the cap D.

The arrangement of the nicks *i* and click *h* is shown in Figs. 2 and 3; but I do not wish to confine myself to this precise mechanism, since any suitable spring-stop might be substituted for the click *h*.

It must also be remarked that the regulating-cap D can be used alone or with one or more chambers or valve or valves.

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

1. The click *h*, or its equivalent, in combination with the regulating-cap D, and with

the notches *i* or their equivalents, constructed and operating substantially as and for the purpose described.

2. The cup-shaped depression *e* in the bottom end of the screw *f*, in combination with the diaphragm *b*, gas-chamber B, and burner C, constructed and operating substantially as and for the purpose set forth.

3. The secondary gas-chamber *g*, formed between the cap D and chamber B, in combination with any burner or burners, substantially as and for the purpose described.

WILLIAM MALLERD.

Witnesses:
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