No. 813,576. PATENTED FEB. 27, 1906.

R. N. OAKMAN.

APPARATUS FOR LIGHTING AND EXTINGUISHING GAS.

APPLICATION FILED MAY 27, 1905.

FIG. 1.

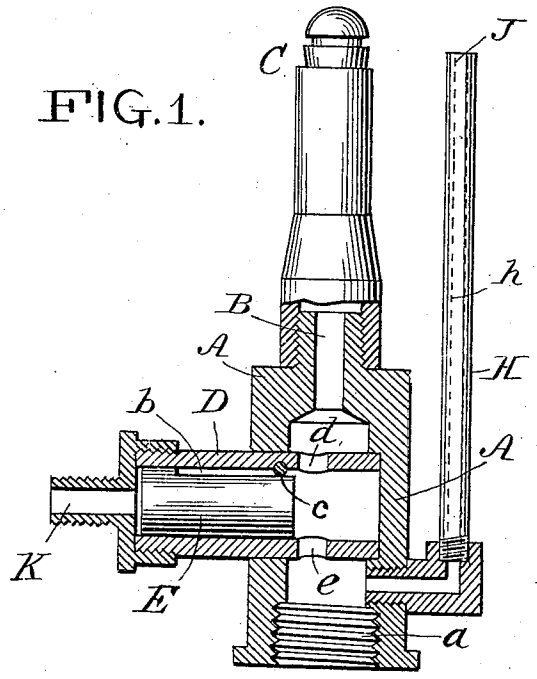


FIG. 2.

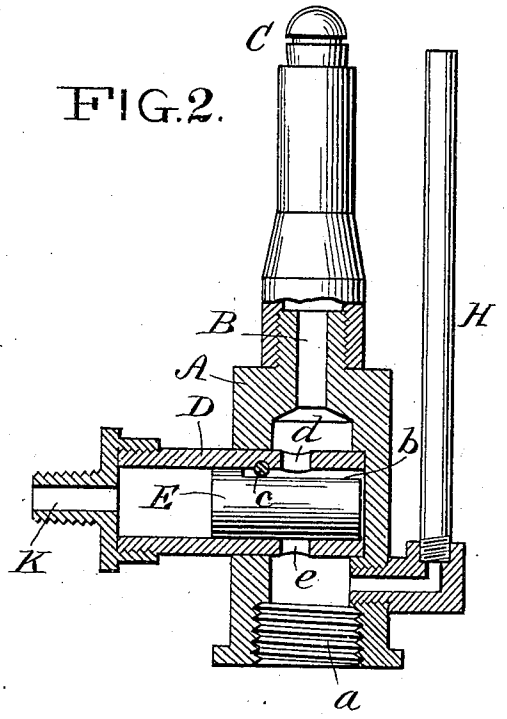


FIG. 3.

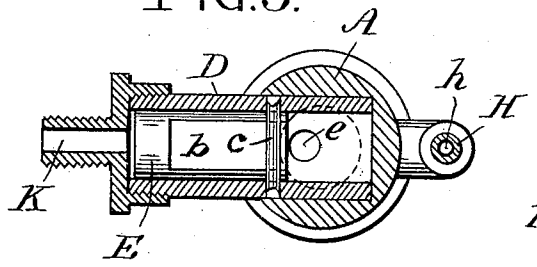


FIG. 5.

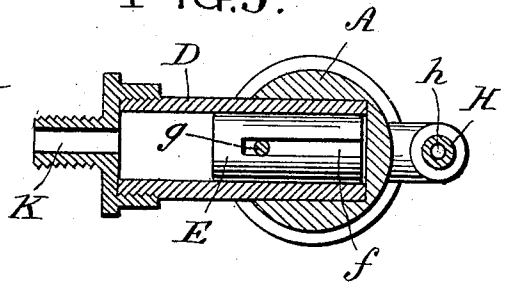


FIG. 4.

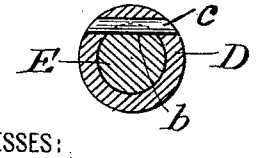
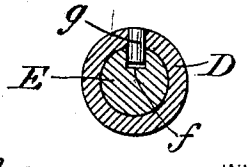


FIG. 6.



WITNESSES:

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APPARATUS FOR LIGHTING AND EXTINGUISHING GAS.

No. 813,576. Specification of Letters Patent. Patented Feb. 27, 1906.

Application filed May 27, 1905. Serial No. 262,567.

To all whom it may concern:

Be it known that I, RICHARD N. OAKMAN, a citizen of the United States, residing at 45 Broadway, New York city, State of New York, have invented a new and useful Improvement in Apparatus for Lighting and Extinguishing Gas, of which the following is a full description.

The object of my invention is to produce an apparatus for opening and closing low-pressure conduits for gas or other fluid or liquid from a point distant from the device and by means of which the flow is cut off or turned on, as required, and to light the gas at the burner while the conduit is open.

The accompanying drawings illustrate the invention, of which—

Figure 1 is a view of the apparatus in vertical section. Fig. 2 is also a vertical section showing the piston at the other end of the cylinder. Fig. 3 is a horizontal section of the cylinder or chamber with inclosed piston. Fig. 4 is a cross-section of cylinder and piston with cross-pin for preventing the piston from turning. Fig. 5 is a horizontal section of a modification of cylinder and piston, showing a slot in the top of the piston and a vertical pin entering the slot. Fig. 6 is a cross-section of the modification.

Viewing Fig. 1, A is an upright post, provided with screw-socket *a* to connect it with a gas-pipe. The post is provided with the passage-way B, leading to a burner C. Through an opening in the post is inserted the cylinder or chamber D, which is provided with the openings *d* and *e*, which afford a passage-way for the gas through the cylinder and way B to the burner C. The opening *e* is closed and opened by the body of the piston E, which passes over it and shuts off the flow of gas to the burner. The movement of the piston in the opposite direction uncovers the opening *e* when the end of the piston has passed beyond it on its backward stroke and allows free passage for the gas to the burner.

As shown in Fig. 1, the piston stands ready to pass over the opening *e* and close it. On the periphery of the piston there is shown a plane surface *b*, running to the inner end of the piston, but leaving the full body of the piston at the other end to prevent the passage of air or gas. The object of this plane surface is to furnish a duct from the rear end of the cylinder to the passage-way B to permit the escape of gas or air which may be present at the end of the cylinder and to permit the entrance of air from the passage-way B into the cylinder beyond the inner end of the piston. I make use of this plane surface also to prevent the piston from turning in the cylinder, as shown in Figs. 1, 2, and 4. A cross-pin *c* through the cylinder passes over the plane surface and effectually prevents the turning of the piston. This part of the device may be modified, as shown in Figs. 5 and 6. Instead of the plane surface *b* I have shown a slot *f* and vertical pin *g*, entering the slot, which arrangement performs the same function as the plane surface and cross-pin.

Leading from the socket in the post below the cylinder is shown a pipe H, having a diminutive duct or channel *h*. This channel allows the passage of a small quantity of gas to a small burner J, which remains always ignited. Its flame is located in the sphere of the gas from the burner C and ignites it when the passage-way is open to that burner.

The piston is reciprocated by any of the well-known devices for compressing or exhausting air or other fluid, which need not be described. Such a device is connected with the tube K and reciprocates the piston.

What I claim is—

1. In a gas lighting and extinguishing apparatus, a cylinder having a throughway for the passage of gas to a burner, and provided with a reciprocating piston, arranged to close the throughway when the body of the piston covers it, and to open the throughway, when moved in the reverse direction until the end of the piston has passed over and beyond the throughway, in combination with a burner at the end of the throughway and a duct upon the piston communicating from the rear of the cylinder to the throughway to the burner.

2. In a gas lighting and extinguishing apparatus a cylinder provided with a throughway for the passage of gas to the burner and having a reciprocating piston, to open and close the throughway of the cylinder, in combination with a burner at the end of the throughway, a duct upon the piston, communicating with the throughway to the burner, and means for preventing the piston from turning within the cylinder.

3. In a gas lighting and extinguishing apparatus a cylinder provided with a throughway for the passage of gas to the burner and having a reciprocating piston, and a burner at the upper end of the throughway in combination with a duct upon the piston, extending to its end and communicating from the rear

end of the cylinder to the throughway leading to the burner, a small burner having its flame located in the path of the main burner, and a small passage-way to this burner leading from a point in the gas-conduit below the cylinder.

In testimony whereof I said RICHARD N. OAKMAN, have signed my name to this specification, in the presence of two subscribing witnesses, this 26th day of May, 1905.

RICHARD N. OAKMAN.

Witnesses:

HENRY SELIGMANN,

FRANCIS E. PRATT.