

M. FALCON & D. H. ISEMINGER.

GAS-LIGHTER.

No. 175,443.

Patented March 28, 1876.

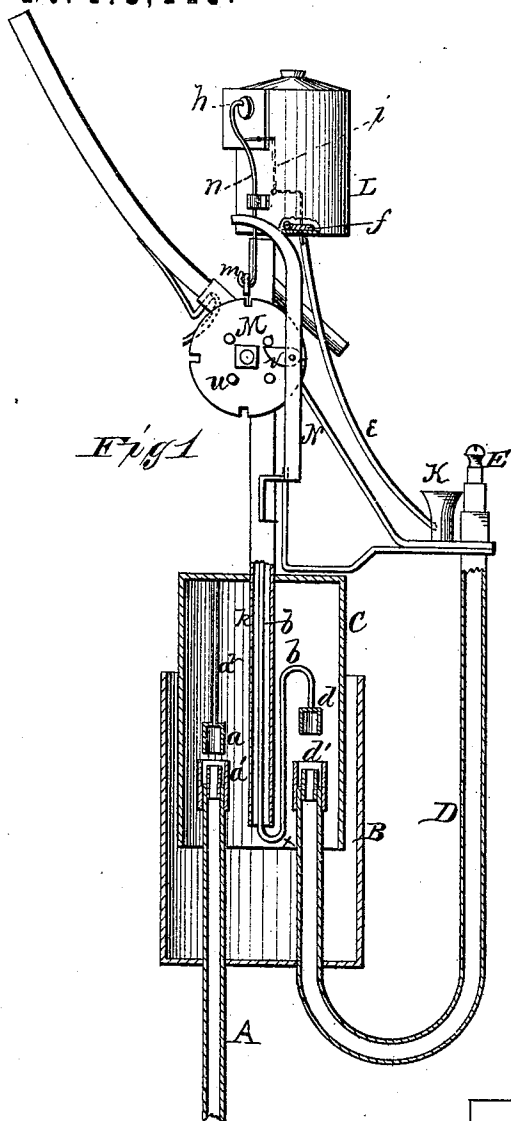


Fig 1

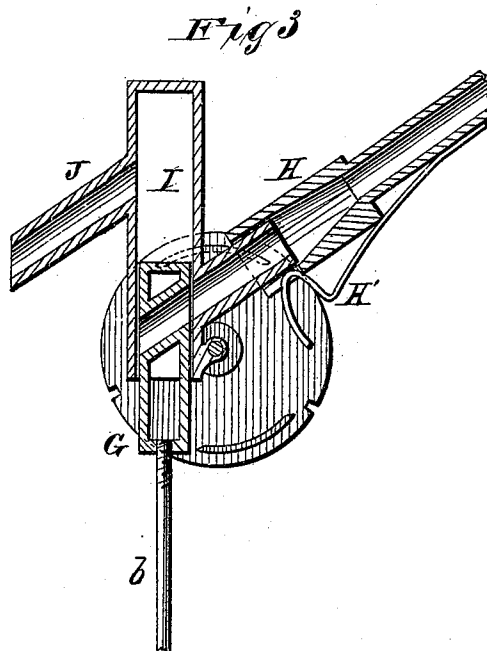
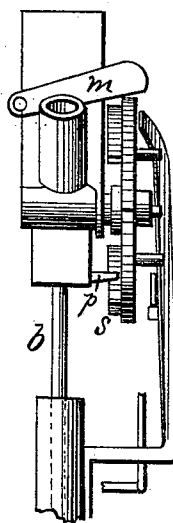


Fig 3

Fig 2



WITNESSES
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UNITED STATES PATENT OFFICE.

MATTHEW FALOON AND DANIEL H. ISEMINER, OF McLEAN COUNTY,
ILLINOIS.

IMPROVEMENT IN GAS-LIGHTERS.

Specification forming part of Letters Patent No. **175,443**, dated March 28, 1876; application filed
February 25, 1876.

To all whom it may concern:

Be it known that we, MATTHEW FALOON and DANIEL H. ISEMINER, of the county of McLean, and in the State of Illinois, have invented certain new and useful Improvements in Gas-Lighting Apparatus; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a device for automatically lighting and extinguishing gas-lights, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation, partly in section, of our apparatus. Fig. 2 is a view of the upper part thereof. Fig. 3 is an enlarged detailed section of a part thereof.

A represents the gas-pipe which conveys the gas into a cylinder, B, open at the top, and provided with an interior cylinder, C, open at the bottom, on the principle of an ordinary gasometer or gas-holder, the exterior cylinder B being provided with a suitable quantity of water for sealing the holder C. D is the pipe leading from the cylinder B to the burner E. The pipes A and D are, at their upper ends, provided with mercury-seals a^1 d^1 , respectively, for closing the same gas-tight by means of the cup-valves a d . The valve a is attached to a stem or rod, a^2 , connected to the top of the holder C. The valve d is attached to a rod, b , bent as shown, and passing up through a tube, k , in the center of the holder C, said rod connecting with an elevator, G, used to raise a combustible substance—for instance, a combustible pill—from the opening of the reservoir-tube H, which may be filled with pills ready for use. When the elevator G is raised, the pill is lifted from the opening in the tube H and carried up through a chamber, I, to an outlet, J, through which it escapes and falls into a receptacle, K, where

the combustible pill comes into contact with a chemical supplied from the elevated tank L through a tube, e , connecting said tank with the receptacle K, a few drops of such chemical fluid being allowed to escape from the tank through the tube into the receptacle by means of a valve, f .

Any desired mode of introducing the chemical fluid into the receptacle K may be employed. We have shown a valve, f , closing the opening in the bottom of the tank, and this valve connected by a rod, i , with a valve, h , at the top of the tank, this latter valve being connected by a rod, n , with a latch, m , on top of the wheel M. When the chemical fluid and chemical pill come in contact combustion takes place, and a flame shoots up from the tank K and lights the gas escaping from the burner E. Any two or more chemicals that will produce combustion may be employed.

Gas by an extraordinary or unusual pressure passing through the gas-pipe A, presses against the valve a and escapes into the top of the holder C, raising said holder, which raises the elevator G by means of the tube k . This, in turn, raises the pill to the mouth of the exit-pipe J, the pill escapes and falls into the receptacle K, ignites, and the gas escaping from the burner E is lighted. When the gas escapes through the pipe A into the holder C, the valve d is also raised by the rod b , which was raised by the raising of the pill-elevator G, and the gas passes through the tube D to the burner E. Thus, by the one pressure of gas, the gas flows through, as described, the elevator is raised, the pill escapes into the receptacle K, and the gas is lighted at the burner. The elevator G remains up, it being held by a projection, p , at its lower end being caught on a flange, s , on the wheel M; hence the valve d is held up and gas continues to pass into the tube D and to the burner.

After the extraordinary pressure of gas is removed, the holder C partly falls back, but is prevented from falling entirely back by the tube k , which incloses the rod b , resting upon the bottom of the curve of the rod b at x . The two flanges s s on the wheel M allow the elevator G to fall back at alternate elevations of the holder C.

When a second extraordinary pressure of gas is applied, the cylinder or holder C is again raised, and with it the tube *k*, which thereby presses against and raises the elevator G a second time, and the wheel M is turned partly, by means of the pawl *v* on an arm, N, attached to the elevator operating on pins *w*, on the side of the wheel, so as to remove the stop *s* from under the elevator, and allow it thus alternately to fall back, and with it the rod *b* also falls, which allows the valves *a* and *d* to fall into their respective mercury-seals *a'* *d'*, and thus stop the escape of gas.

One extraordinary pressure of gas thus allows of the free flow of gas, and a second extraordinary pressure of gas stops the flow, when the pressure is removed and the light is extinguished.

The pill tube or reservoir H is provided with a spring, H', so as to prevent the combustible pills, with which the tube is filled, from falling out when said tube is being put into position and attached.

Instead of combustible pill and chemical fluid to produce combustion, a percussion cap or substance can be used to light the gas at the burner, as may be desired.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a gas-lighting apparatus, the combination of the gas inlet-pipe A, holder B C, outlet-pipe D to burner E, valves *a* *d*, and seals *a'* *d'*, substantially as and for the purposes herein set forth.

2. The combination of the holder C with central tube *k*, curved rod *b*, with valve *d*, and pill-elevator G, substantially as and for the purposes herein set forth.

3. The combination of the elevator G, reservoir H, with spring H', chamber I, and outlet J, substantially as and for the purposes herein set forth.

4. The combination of the tank L, valve *f*, rod *i*, valve *h*, rod *n*, latch *m*, and arm N, as and for the purposes herein set forth.

5. The combination of the wheel M with stops *s*, elevator G, with foot *p*, arm N, pawl *v*, and pins *w*, substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 31st day of January, 1876.

MATTHEW FALOON.
DANIEL H. ISEMINER.

Witnesses:

THOS. SLADE,
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