

(No Model.)

W. McVAY.
ELECTRICAL GAS ALARM.

No. 358,161.

Patented Feb. 22, 1887.

Fig. 3.

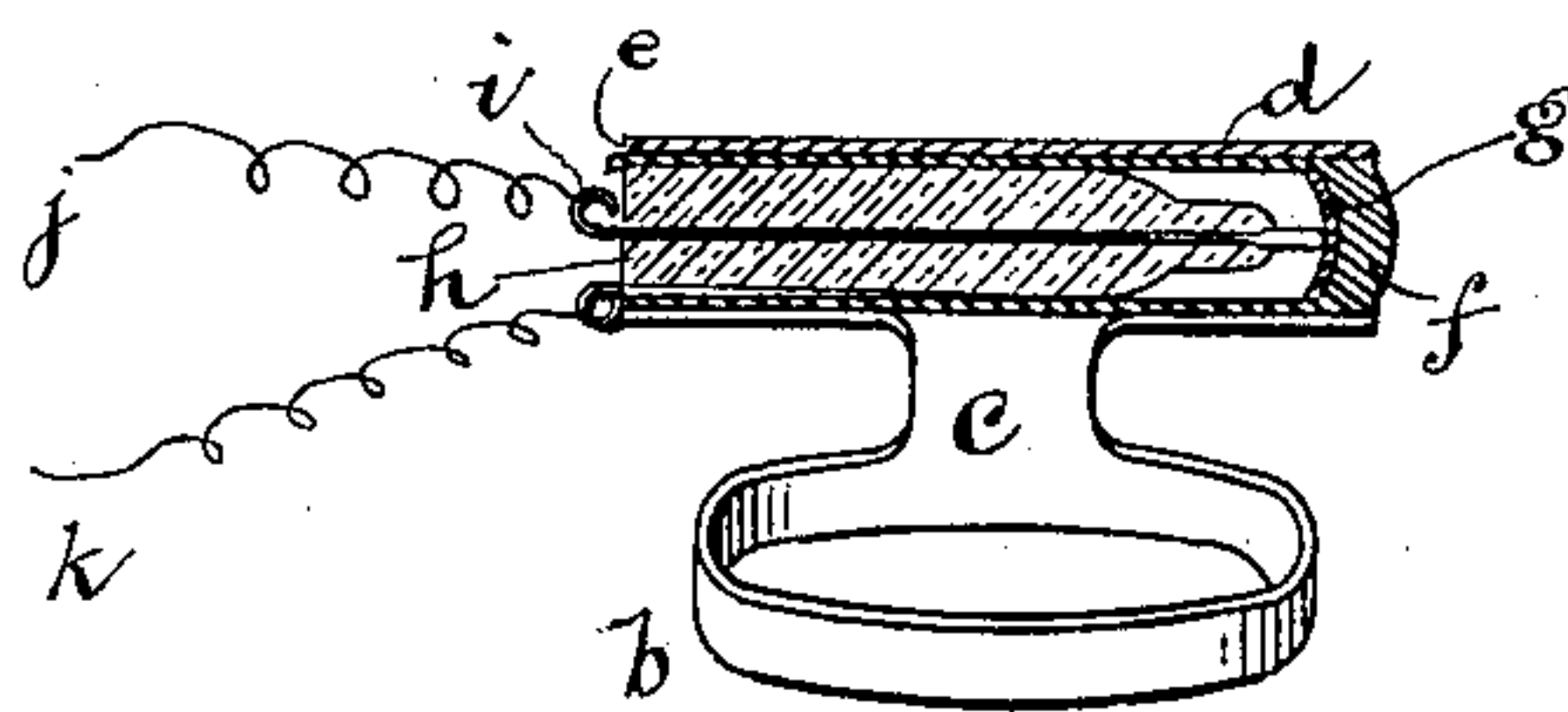


Fig. 4.

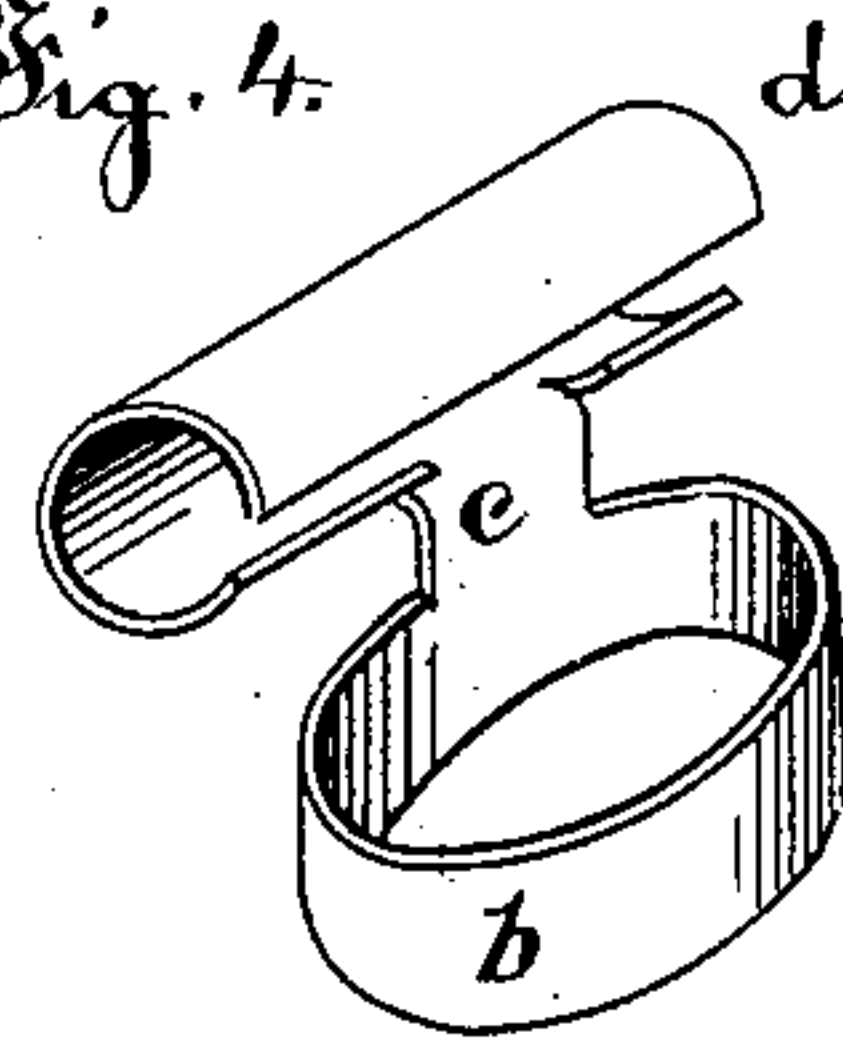


Fig. 2.

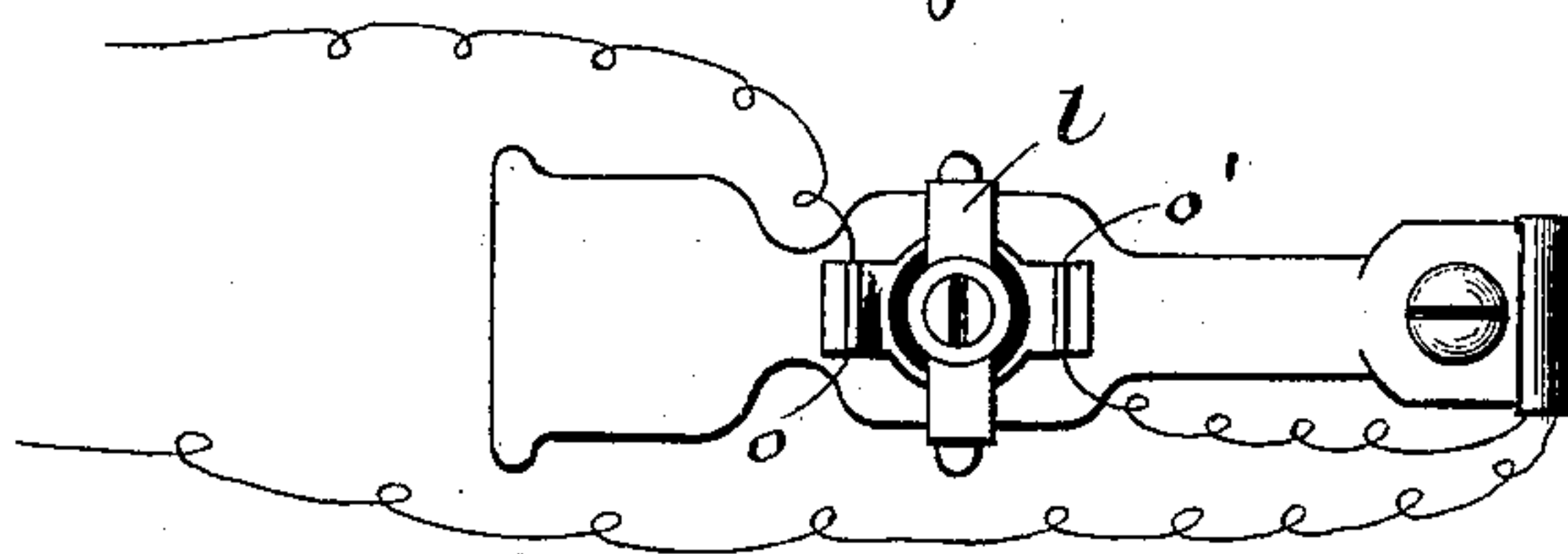


Fig. 5.

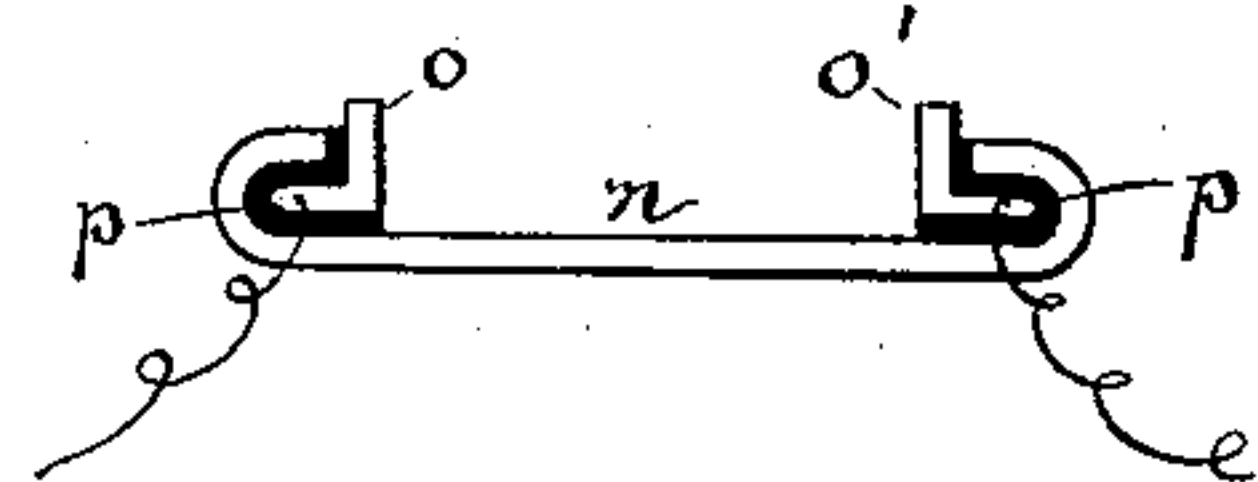
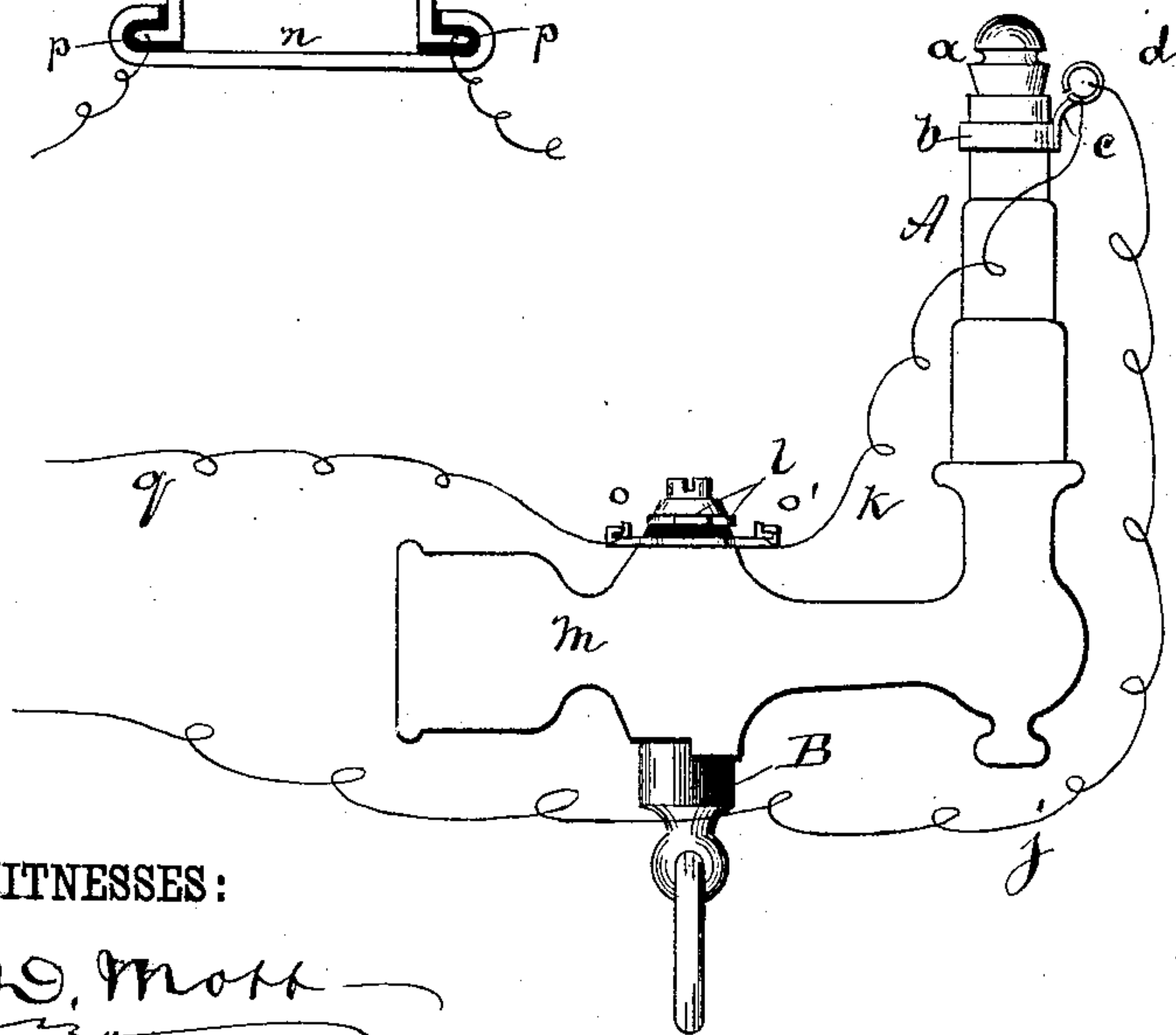


Fig. 1.



WITNESSES:

O. W. Moss
C. Beitzwick

INVENTOR:

W. McVay
BY Munir & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM McVAY, OF QUINCY, ILLINOIS.

ELECTRICAL GAS-ALARM.

SPECIFICATION forming part of Letters Patent No. 358,161, dated February 22, 1887.

Application filed June 19, 1886. Serial No. 205,655. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM McVAY, of Quincy, in the county of Adams and State of Illinois, have invented a new and Improved Electrical Gas-Alarm, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation of a gas bracket and burner with my improvement applied. Fig. 2 is a plan view. Fig. 3 is an enlarged detail sectional view of the thermostat and thermostat-holder. Fig. 4 is an enlarged perspective view of the thermostat-holder. Fig. 5 is an enlarged view of a detail to be described.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

The object of my invention is to provide a simple and efficient device for establishing an electric circuit when the gas-flame is extinguished, and for breaking the circuit and holding it open while the gas-flame is burning.

My invention consists in the combination, with the burner, of a thermostat held near the tip and within reach of the flame and a switch applied to the gas-key for breaking the connection with the thermostat when the gas is turned off from the burner.

The burner A and gas-key B are of the usual well-known description. To the burner, near the tip *a*, is fitted a collar, *b*, provided with an arm, *c*, carrying a split sleeve, *d*, arranged at right angles with the axis of the burner. To the split sleeve *d* is fitted a brass tube, *e*, having the closed end *f* provided with a lining, *g*, of aluminium or other unoxidable metal. To the tube *e* is fitted a glass tube, *h*, in which is sealed a platinum wire, *i*, which projects beyond the end of the glass tube and contacts with the aluminium lining *g* when the brass tube *e* is cold. The glass tube *h* is secured in the tube *e* by means of a wedge or by cement, or in any other convenient way. Electrical wires *j* *k* are connected with the platinum wire *i* and the brass tube *e*.

To the smaller end of the gas-key B is fitted a plate, *l*, projecting equally in opposite directions from the key and arranged parallel with the thumb-piece of the key. To the

bracket *m*, in which the key is fitted, is secured an apertured plate, *n*, surrounding the key and secured to the bracket. The ends of the plate are turned over toward each other and bent down upon L-shaped pieces *o* *o'*, of platinum or copper, with an intervening insulation, *p*. The L-shaped pieces *o* *o'* project upward into the path of the plate *l*, so that when the key B is turned so as to let the gas into the burner the ends of the plate *l* will touch the insulated right-angled pieces *o* *o'* and establish an electrical connection between them through the plate *l*. The electric circuit is from the battery through the wire *q* to the angled plate *o*, and the angled plate *o'* is connected by the wire *k* with the tube *e*, and the platinum wire *i* is connected by the wire *j* with the bell and battery.

When the gas is turned on by turning the key B, the electrical connection from the battery through the bell is established through the angled plates *o*, *o'*, and *l*, tube *e*, and the platinum wire in the manner described; but as soon as the gas is lighted and the tube *e* is heated, its rate of expansion being greater than that of the tube *h*, it carries the aluminium lining *g* away from the platinum wire, and thus breaks the electrical connection; but should the gas be extinguished without turning the key B, so as to break the circuit between the angled plates *o* *o'*, the cooling down of the tube *e* would bring the aluminium lining *g* into contact with the platinum wire *i*, and thus establish the electric circuit, which would cause the ringing of the electric alarm-bell and attract attention to the burner.

My improvement is especially adapted for use in hotels and boarding-houses, where people unused to gas are liable to blow out the gas-flame, leaving the gas turned on.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a thermostat for gas-burners, of the expansion-tube *e*, provided with the unoxidable lining *g*, the platinum wire *i*, and the glass tube *h*, inclosing the platinum wire and secured in the open end of the expansion-tube *e*, substantially as shown and described.

2. The combination of the expansion-tube *e*,

provided with the unoxidable lining *g*, the
platinum wire *i*, the glass tube *h*, inclosing the
platinum wire and secured in the open end of
the expansion-tube *e*, and the collar *b*, provided
5 with the arm *c* and splitsleeve *d*, substantially
as shown and described.

3. The combination, with the thermostat
formed of the expansion-tube *e*, having the un-
oxidable lining *g*, and the glass tube *h*, covering

the platinum wire *i*, of the switch formed of the 10
plate *l*, carried by the key, the insulated L-
shaped pieces *o o'*, supported in the path of
the plate *l*, and the electrical connections, sub-
stantially as shown and described.

WILLIAM McVAY.

Witnesses:

B. W. MONTGOMERY,
F. C. PARKER.