

(No Model.)

C. W. HOLTZER.
ELECTRIC GAS LIGHTER.

No. 382,001.

Patented May 1, 1888.

Fig. 1.

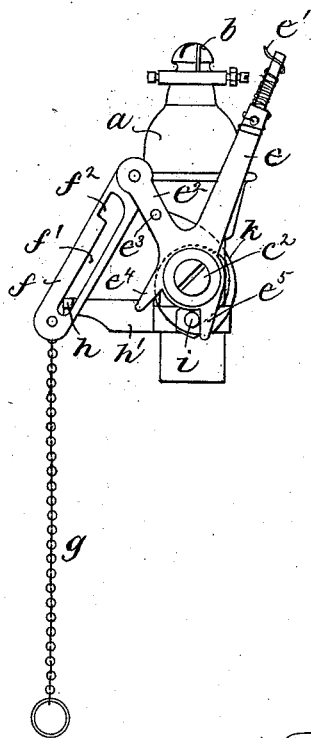


Fig. 2,

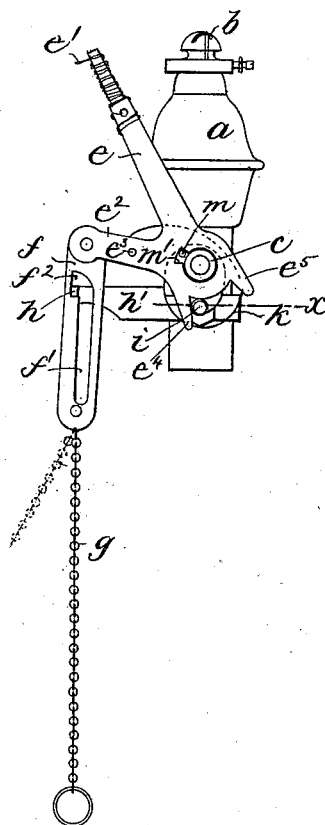


Fig. 3.

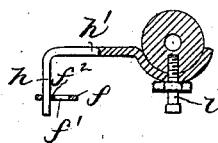


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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ELECTRIC GAS-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 382,001, dated May 1, 1888.

Application filed June 22, 1887. Serial No. 242,123. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. HOLTZER, of Brookline, county of Norfolk, State of Massachusetts, have invented an Improvement in Electric Gas-Lighters, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to an electric gas-lighter of that class in which a gas-cock is turned and a vibrating electrode moved past a stationary electrode on the burner-tip to produce a spark at the same operation.

In gas-lighting devices of this kind as heretofore commonly made the vibrating electrode has had a ratchet-and-pawl connection with the spindle of the gas-cock, and the said electrode is operated to make a complete to-and-fro vibration each time the gas-cock is turned either to let on or shut off the gas. This construction and mode of operation is objectionable, for the reason that the external appearance of the apparatus is the same, whether the gas-cock is open or closed, and consequently, if for any reason a spark should not be produced or should fail to ignite the gas, and the operator should vibrate the electrode several times without lighting the gas, the operation might be stopped when the gas-cock was open, as the operator would not know from the appearance whether it was open or closed.

The present invention is embodied in a gas-lighter in which the vibrating electrode is connected with the gas-cock in such manner that the latter is moved by the electrode when turned in either direction, a single movement of the electrode in one direction operating to turn on and light the gas, and the return movement of the electrode operating to turn off the gas, instead of both operations of turning on and turning off the gas being effected by precisely the same double or to-and-fro movement of the electrode, as has been heretofore practiced.

The vibrating electrode is provided with a spring or actuator tending to move it in one direction—as, for example, to shut off the gas—and with a catch or locking device to hold it against the action of such actuator after it has been moved to turn on and light the gas by means of a pendent or handle such as com-

monly employed. The said catch or locking device is disengaged by the operator when the light is to be extinguished. The instrument thus indicates at a glance whether the gas-cock is in its open or closed condition, and if it fails to light after one or two trials the operator may with certainty leave the gas-cock in its closed condition.

Figure 1 is a side elevation of a gas-burner provided with a lighting device embodying this invention, being shown in its closed condition; Fig. 2, a similar elevation showing the burner with the gas-cock open, or the parts in the position occupied while the gas is burning, and also showing the connection between the vibrating electrode and the gas-valve; Fig. 3, a sectional detail on line *x x*, Fig. 2; and Fig. 4, a longitudinal sectional detail showing the cock in cross-section.

The burner *a* may be of any suitable or usual construction, provided with the usual insulated electrode, *b*, forming one terminal of the circuit in which the spark is produced, and properly located with relation to the orifice from which the gas issues. The tubular base portion of the burner is provided with a gas-cock, *c*, of usual construction, having but a single passage which may be brought into or out from line with the passage through the burner-tube in the usual manner, as will be readily understood from Fig. 4. The said gas-cock *c* has connected with it a vibrating arm, *e*, provided with a piece of spring-wire forming the electrode *e'*, that co-operates with the electrode *b* when the said arm *e* is moved from the position shown in Fig. 1 to that shown in Fig. 2.

The arm *e* may be operated in any suitable manner, being shown as provided with an arm, *e''*, pivotally connected with a link, *f*, which may be provided with a chain and pendant, *g*, such as usually employed in gas-lighting apparatus of this general character. The said link *f* is provided with a longitudinal slot, *f'*, terminating in a lateral recess, *f''*, forming a shoulder at the end of the said slot. A projection, *h*, on an arm or bracket, *h'*, fastened to the burner-tube in any suitable manner, as by the bolt *i*, (see Fig. 3,) extends into the said slot *f'*. Thus by drawing down on the pendant the vibrating arm *e* is moved from the position shown in Fig. 1 to that shown in

Fig. 2, and the recess f^2 receives the projection h , as shown in Fig. 2, so that these parts constitute a locking device that retains the arm e in the position shown in Fig. 2 until released by disengagement of the shoulder in the link f from the projection h . As shown in this instance, the arm e is acted upon by a spring, k , connected at one end with the bolt or pin i , and at its other end with a pin or projection, e^3 , on the arm e^2 , and acting on the said arm with a tendency to move it from the position shown in Fig. 2 to that shown in Fig. 1, its force being resisted by the locking device $f h$ for the arm e^2 when engaged, as shown in Fig. 2.

When desired to extinguish the light, the pendant g may be pulled laterally, as indicated in dotted lines, Fig. 2, when it will disengage the recess or shoulder of the link f from the projection h , and thus unlock the vibrating arm, which will be moved back to the position shown in Fig. 1 by its actuating spring k .

The arm e is shown as provided with projections $e^4 e^5$, that receive the end of the pin or bolt i between them, and thus constitute stops that limit the amount of movement of the said arm in either direction, although it is obvious that the link f and projection h might be depended upon to limit this movement. The arm e may be connected with the spindle of the gas-cock in any suitable manner, as by the screw e^2 , (shown in Fig. 1,) which might secure the said parts rigidly together. It is preferable, however, to so connect the arm with the gas-cock as to permit a slight independent movement or lost motion between said parts. Such connection is shown in Fig. 2 as effected by a projection, m , on one part engaging a recess, m' , on the other part, which recess is

slightly wider than said projection. By this construction the arm e , when actuated by the spring after it is unlocked, has a short movement before it engages the gas-cock, and thus engages it with a blow and thereby moves the gas-cock with certainty, even if it should stick a little in its socket.

While the construction of the locking device shown in this instance is convenient and effective, it is obvious that it can be modified in various ways without departing from the invention.

I claim—

1. The combination of the gas-burner provided with a stationary electrode and a rotating gas-cock with a vibrating electrode mounted on the spindle of said gas cock, and an actuating spring tending to turn the said electrode in one direction, and a locking device which holds the said electrode with the spring strained, the said electrode being connected with the gas-cock and causing the latter to move with it when turned in either direction, substantially as described.

2. The combination of the burner and stationary electrode with the vibrating spring-actuated electrode and locking device therefor, and the rotating gas-valve connected with said vibrating electrode by engaging devices admitting of a small lost motion between said electrode and gas-cock, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. HOLTZER.

Witnesses:

JOS. P. LIVERMORE,
M. E. HILL.