

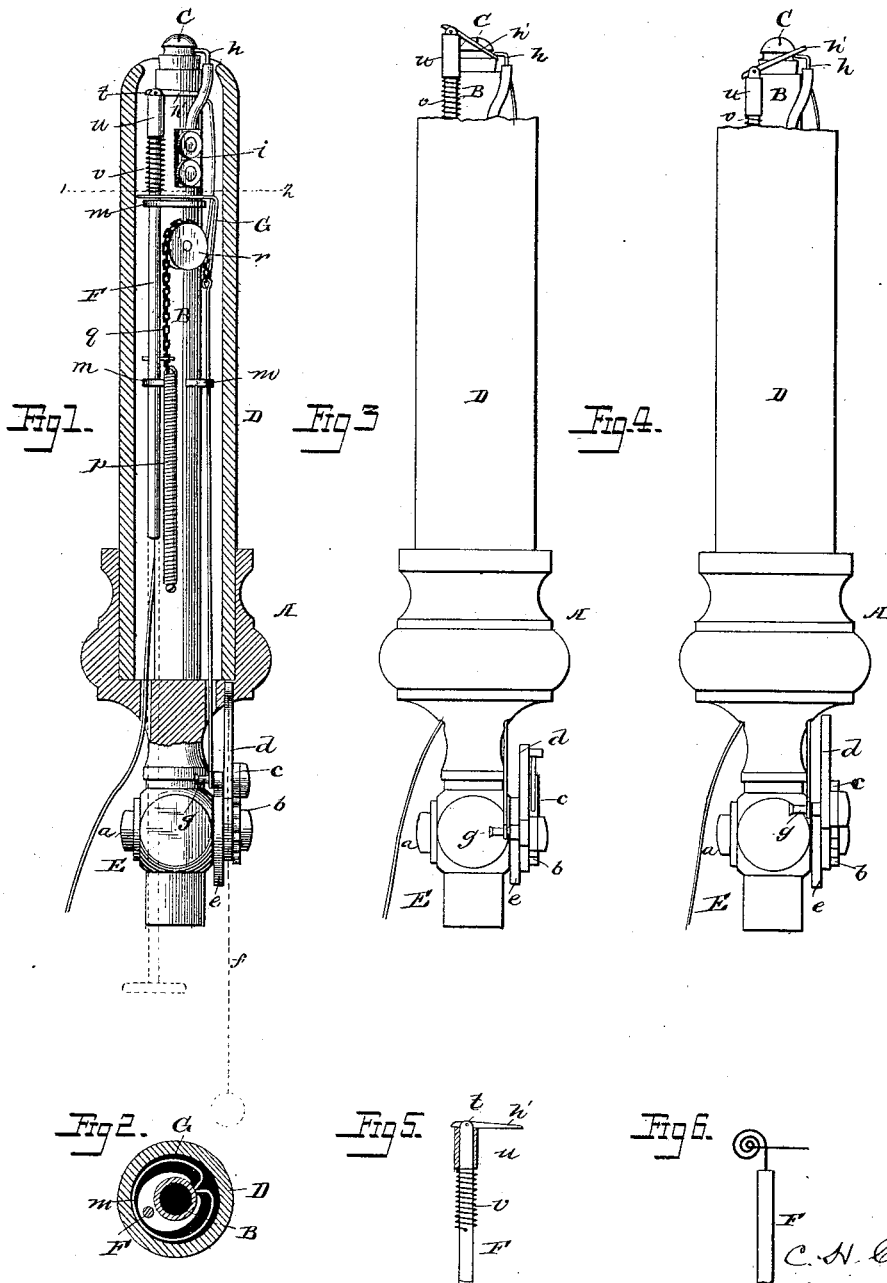
(No Model.)

C. H. CROCKETT & C. C. ALLEN.

GAS LIGHTING DEVICE.

No. 346,533.

Patented Aug. 3, 1886.



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UNITED STATES PATENT OFFICE.

CHARLES H. CROCKETT AND CHANCELLOR C. ALLEN, OF BOSTON, MASS.

GAS-LIGHTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 346,533, dated August 3, 1886.

Application filed January 6, 1886. Serial No. 157,814. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. CROCKETT and CHANCELLOR C. ALLEN, citizens of the United States, and residents of the city of Boston, in the county of Suffolk, in the State of Massachusetts, have invented certain new and useful Improvements in Gas-Lighting Devices, of which the following is a specification.

Our invention relates, specially, to that class of gas-burners in which an elongated stem supports the tip in an elevated position, to permit the application of an inclosing vitreous sleeve to imitate a candle, and to aid in reflecting light; and our invention consists in certain appliances, fully described hereinafter, and adapted to operate between the stem and sleeve, whereby to electrically ignite the gas.

In the drawings, Figure 1 is a sectional elevation of a candle-sleeve burner, illustrating our invention. Fig. 2 is a section on the line 12, Fig. 1. Fig. 3 is an external view with part of the sleeve broken away. Fig. 4 is a view showing the electrodes in a different position. Fig. 5 is an enlarged section showing the movable electrode and support. Fig. 6 is a modification.

The cup-shaped base A, hollow stem B, tip C, pillar E, and vitreous sleeve D are constructed and arranged as usual in burners of this class. The cock or plug *a* is provided with a ratchet, *b*, actuated by a pawl, *c*, on a lever, *d*, which is lifted by a spring, *e*, and pulled down by a pendent pull, as in ordinary electric-lighting burners; but the lever *d*, instead of having an arm carrying an electrode, as usual, is provided with a pin, *g*. The fixed electrode *h* is secured at the top of the stem B, and is insulated by a block, *i*, of non-conducting material, and the movable electrode *h'* is secured to a rod, F, sliding in guides *m m* on the stem, so arranged that the rod can be raised and lowered to carry the electrode *h'* into and out of contact with the electrode *h* without contact with the inclosing-sleeve D.

To prevent the sleeve from tilting and striking the igniting devices, a guard of any suitable character centers it near the top of the sleeve. For instance, a wire is bent to form a curved guard, G, inclosing the stem, the ends of the wire being extended downward and secured to the stem, so as to permit a slight

yielding of the guard, and prevent the stem from bending and breaking.

The rod F may be extended downward through the base A, as shown in dotted lines, Fig. 1, so as to be raised and lowered directly by hand to make and break the contact of the electrodes, in which case it will not be absolutely necessary to use a lever, pawl, and ratchet to operate the cock. We prefer, however, to so connect the rod and lever in any suitable manner as to operate the rod on the movement of the lever. The rod may be raised by a spring and lowered by pulling on the lever *d*; but as this would leave the movable electrode normally in an elevated position we prefer to connect a spring, *p*, to the stem and to the rod F, to pull the latter down, and to connect the rod and lever so as to lift the rod as the lever is depressed. Thus a chain or cord, *q*, is connected to the rod extended over a guide-pulley, *r*, turning on a support secured to the stem and carried down and connected to the pin *g*, projecting from the lever *d*. When the lever is depressed to turn the cock, the movable electrode is raised, and the parts are restored to the position shown in Fig. 1 when the lever is released, the electrode *h'* being held normally below the electrode *h*, so as not to be effected by the flame.

It will be seen that the parts thus constructed operate within a very contracted space, thereby permitting the application of the usual reflecting sleeve or candle D.

The movable electrode may be fixedly connected to the rod F; but to secure a wiping action and absolute contact on every movement with the fixed electrode, we prefer to pivot it to the stem and use a spring to hold it normally in a horizontal position. One means of effecting this result is shown in the drawings, the electrode *h'* being pivoted by a cross-pin, *t*, in a slit at the end of the rod F and projecting beyond the rod on both sides of the pivot. A sleeve, *u*, is pressed up against the electrode by a spring, *v*, coiled round and secured at the lower end to the rod, and tends to hold the electrode normally in a horizontal position, but will yield when the electrode is carried toward either of the positions shown in Figs. 3 and 4, so as to wipe the electrode *h'* on the electrode *h*, and restore the electrode *h'* to a

horizontal position as soon as it escapes the electrode *h*. A similar result may be secured by coiling the wire forming the electrode *h'* to insure a spring connection of the electrode with the rod *F*, as shown in Fig. 6.

The movable electrode may vibrate on a pivot and be connected with the cock by connections extending through the candle or sleeve.

Without limiting ourselves to the precise construction and arrangement of parts shown, we claim—

1. The combination, in a gas-burner, of the cock, actuating-lever *d*, immovable electrode secured to the burner-tip, a sliding rod carrying the moving spring-electrode, spring *p*, guide-pulley *r*, and chain extending over the guide-pulley and connected to the lever and to the rod, substantially as described.

2. A gas-burner provided with a stem, reflecting-sleeve, cock, operating-lever, and a lighting mechanism consisting of a fixed electrode and movable spring-electrode, and actuating appliances connected with the operating-lever, said lighting mechanism adapted to be arranged between the stem and sleeve, substantially as described.

3. The combination, with the base and stem and sleeve *D*, of a guard, *G*, substantially as described.

4. The combination, with the burner having a fixed electrode at its tip, of a rod carrying a movable electrode, a spring controlling said electrode, a cord and pulley for operating the rod, and a spring for retracting the cord, substantially as described.

5. The combination, with the burner and fixed electrode, of a vertically-moving rod carrying a spring-controlled electrode, a chain and pulley operating the rod, a spring retracting the chain, a cock, and a lever for actuating the cock and the chain, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES H. CROCKETT.
CHANCELLOR C. ALLEN.

Witnesses:

CHARLES E. LOWD,
FRANCIS BRYANT.