(No Model.)

W. F. RUDOLPH.

ELECTRIC IGNITER FOR GAS LIGHTING.

No. 560,370. Patented May 19, 1896.

Fig: 3.

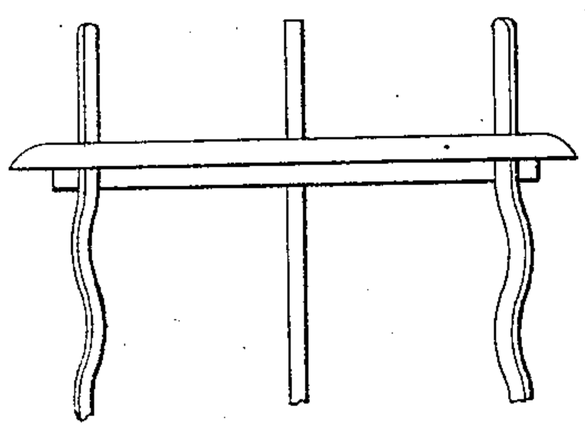


Fig: 4.

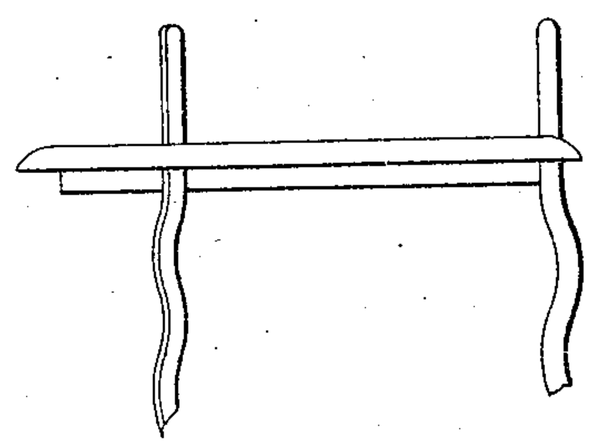


Fig: 1.

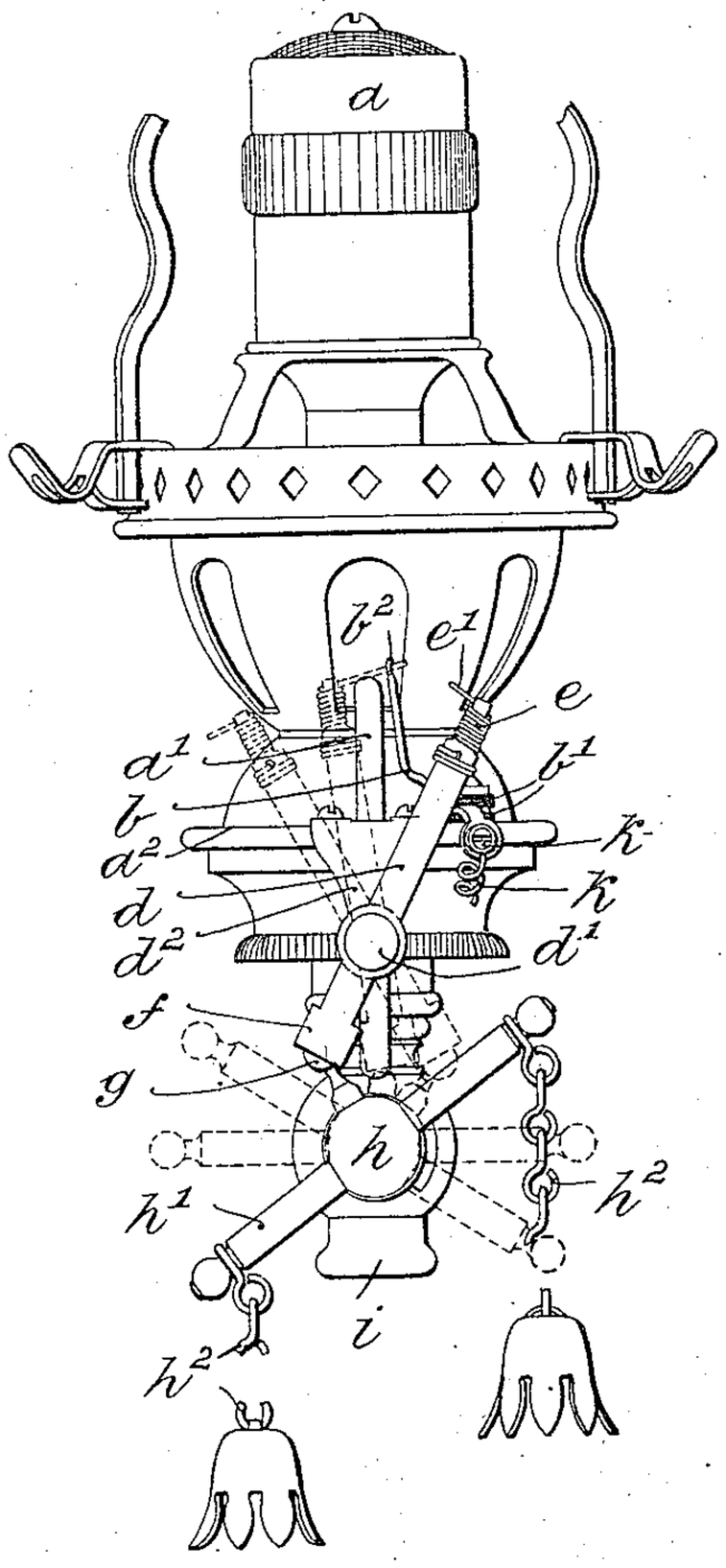
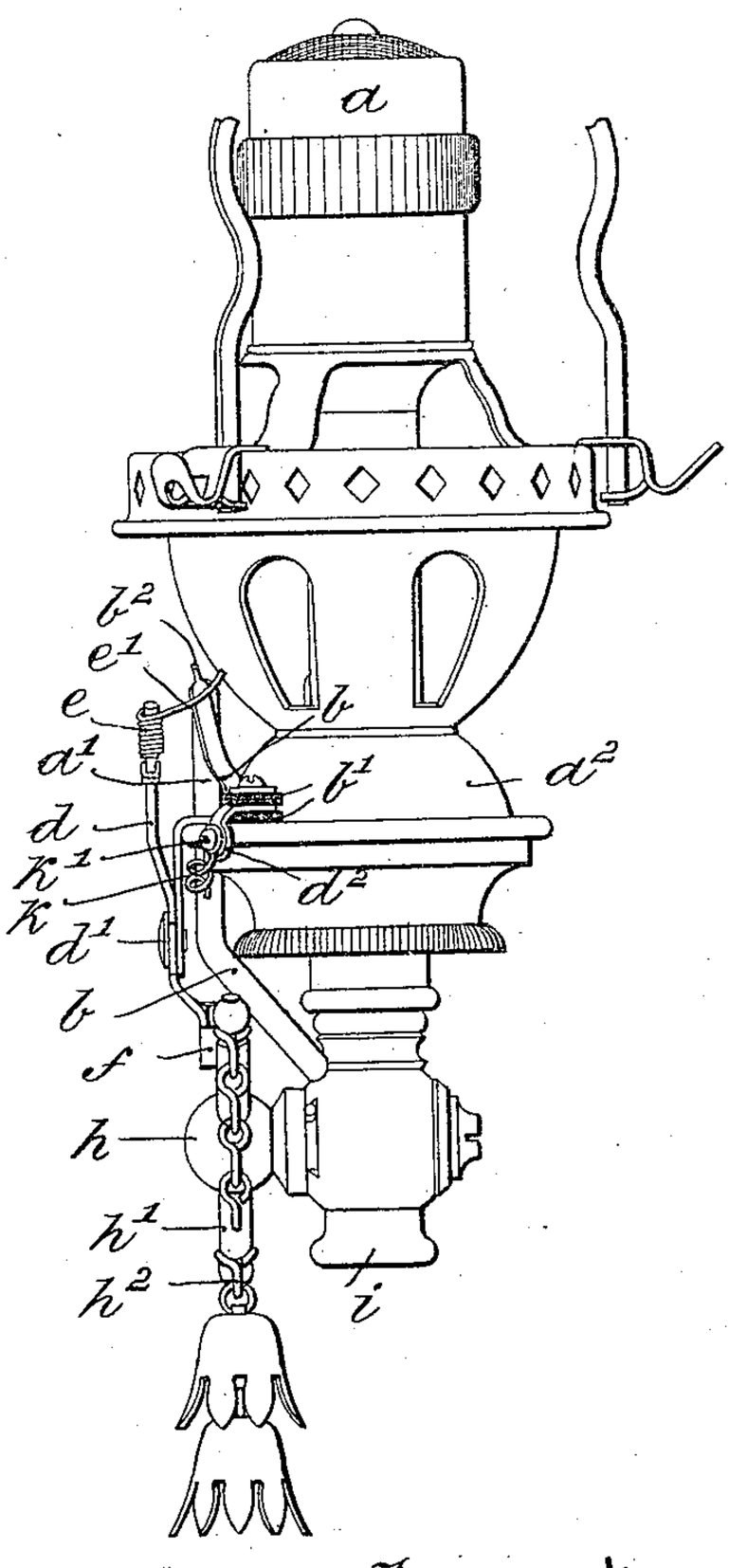


Fig: 2.



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UNITED STATES PATENT OFFICE.

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ELECTRIC IGNITER FOR GAS-LIGHTING.

SPECIFICATION forming part of Letters Patent No. 560,370, dated May 19, 1896.

Application filed November 29, 1895. Serial No. 570,361. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. RUDOLPH, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Electric Igniters for Gas-Lighting, of which the following is a specification.

My invention has relation to an electric igniter for gas-lamps of that class wherein one of the electrodes is fixed in juxtaposition to a gas-burner, while the other is adapted to be oscillated back and forth and carries a spring-arm impinging upon the fixed electrode and adapted to make and break circuit with the same; and it relates particularly to the construction and arrangement of such an igniter and to mechanism for actuating the movable electrode.

The principal objects of my invention are, first, to provide a simple, durable, and efficient igniter for electrically lighting gas-lamps; second, to provide in such an igniter a fixed electrode, and a movable electrode pivoted to and oscillating in a fixed bracket secured to the burner, said movable electrode being provided with a spring-contact adapted to engage a hooked extension of the fixed electrode when the movable electrode is oscillated in one direction and to slide over the same when moved in the opposite direction, said movable electrode being in flexible engagement with the stop-cock and adapted to be oscillated by the same when the gas is turned on and off, and, third, to provide in such an igniter a burner, a petcock or auxiliary burner, a stop-cock controlling both burners, a fixed electrode located adjacent to the petcock-burner, an oscillating electrode in flexible connection with the stop-cock and adapted to be actuated thereby, and a spring-arm carried by the oscillating electrode and adapted to engage the fixed electrode to make and break contact therewith.

My invention consists of an electric igniter for gas-lamps constructed, arranged, and adapted to be operated in substantially the manner hereinafter described and claimed.

The nature, characteristic features, and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a front elevational view of a lamp and igniter, showing in full and dotted lines the different positions of the oscillating electrode and of the means for actuating said electrode. Fig. 2 is a side elevational view of Fig. 1, and Figs. 3 and 4 are similar views in broken sections of the upper portions of the framework of the lamp.

Referring to the drawings, *a* represents the burner of a gas-lamp, which, as illustrated, is preferably of the form or type known as a "Welsbach" lamp and provided with an auxiliary burner *a'* and known as a "petcock-burner." The fixed electrode *b* is secured to the frame a^2 of the lamp and projects upward alongside, preferably, of the auxiliary burner *a'*. The electrode *b* is insulated, as at *b'*, from said frame a^2. The upper end b^2 of the electrode *b* is hook-shaped, as indicated in Fig. 1. The movable electrode *d* is pivoted, as at *d'*, in a bracket d^2, depending from the frame a^2 of the burner. Around the upper end of the electrode *d* is coiled a spring *e*, one end of which is secured to the electrode, while the other end extends inward toward the electrode *b* in the form of a horizontal arm *e'*. At the lower end of the electrode *d* is formed a box *f*, into which fits a ball-shaped projection *g* of the stop-cock *h*, controlling both burners *a* and *a'*. The stop-cock *h* is preferably operated through the two arms *h'*, to each of which is attached a cord or chain h^2. The current is by the wire *k* to the binding-post *k'* of the fixed electrode *b*, the return being through the movable electrode *d*, stop-cock *h*, and pipe *i*, to ground.

In operation when the stop-cock *h* is turned to the right to let on the gas to the pipe *i* of the burner the ball projection *g* impinges against the right-hand side of the box *f*, thus oscillating the upper end of the electrode *d* toward the left, during which movement the spring-arm *e'* impinges upon and is gradually withdrawn from the hook-shaped end b^2 of the fixed electrode *b*. This withdrawal is against the tension of the spring-arm *e'*, which flies forward away from the electrode *d* and over the burner *a'*, thus creating a spark

which ignites the gas issuing from the burner a'. When the cock h is turned to the left to shut off the gas from the burner, the ball projection g impinges upon the left-hand side of the box f, thus oscillating the electrode d toward the right, during which movement the spring-arm e' slides yieldingly over the back of the hook-shaped end b^2.

It is obvious that the fixed electrode b^2 may project alongside and over the main burner a instead of, as shown in the drawings, alongside and over the petcock or auxiliary burner a'. In such case the oscillating electrode must be made proportionately longer and should be pivoted higher up on the frame a^2 of the lamp.

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

1. An electric igniter for gas-lighting, consisting of a fixed electrode in juxtaposition to the burner, a movable electrode having an oscillatory movement and provided with an arm adapted to make and break contact with the fixed electrode, a box connected with said movable electrode, and a stop-cock in flexible engagement with said box and adapted when actuated to oscillate said movable electrode, substantially as described.

2. An electric igniter for gas-lighting, consisting of a fixed electrode in juxtaposition to the burner, a movable electrode pivoted in the frame of the burner, a spring-arm carried by said movable electrode and adapted to make and break contact with the fixed electrode, a box carried at the lower end of the movable electrode, and a stop-cock provided with a ball-shaped extension in engagement with said box and adapted when the stop-cock is actuated to oscillate said movable electrode, substantially as described.

3. An electric igniter for gas-lighting, consisting of a fixed electrode provided with a hook-shaped extension in juxtaposition to the burner, a movable electrode provided with a spring-arm, adapted to make and break contact with said fixed electrode, a box carried at the lower portion of said movable electrode, and means for oscillating said movable electrode, whereby when said movable electrode is oscillated in one direction its spring-arm is caught under and gradually withdrawn from the hook of the fixed electrode and when moved in the opposite direction the spring-arm slides over the hook of said fixed electrode, substantially as described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

WILLIAM F. RUDOLPH.

Witnesses:
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THOMAS M. SMITH.