No. 625,787. Patented May 30, 1899.

S. E. MOSHER.

ELECTRIC LIGHTING DEVICE.

(Application filed Mar. 21, 1898.)

(No Model.) 2 Sheets—Sheet 1.

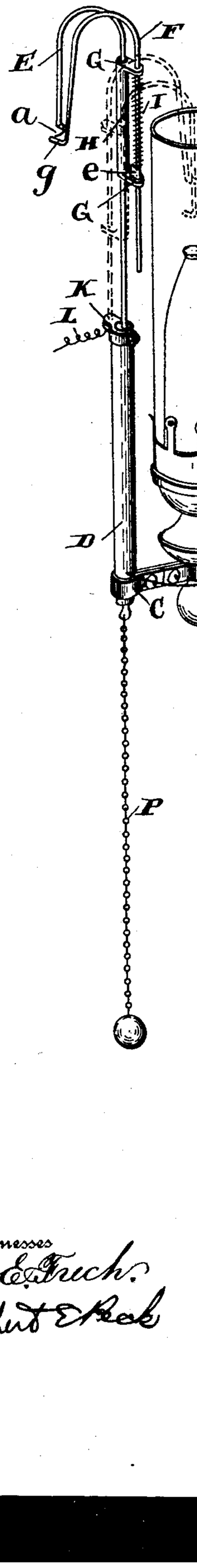

Fig. 1.

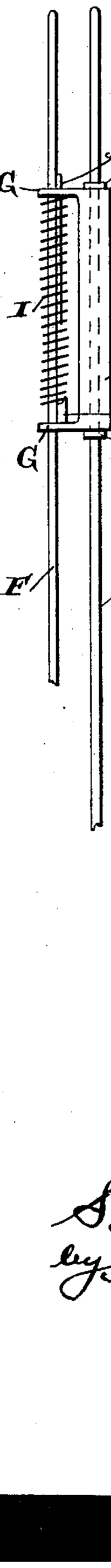

Fig. 3.

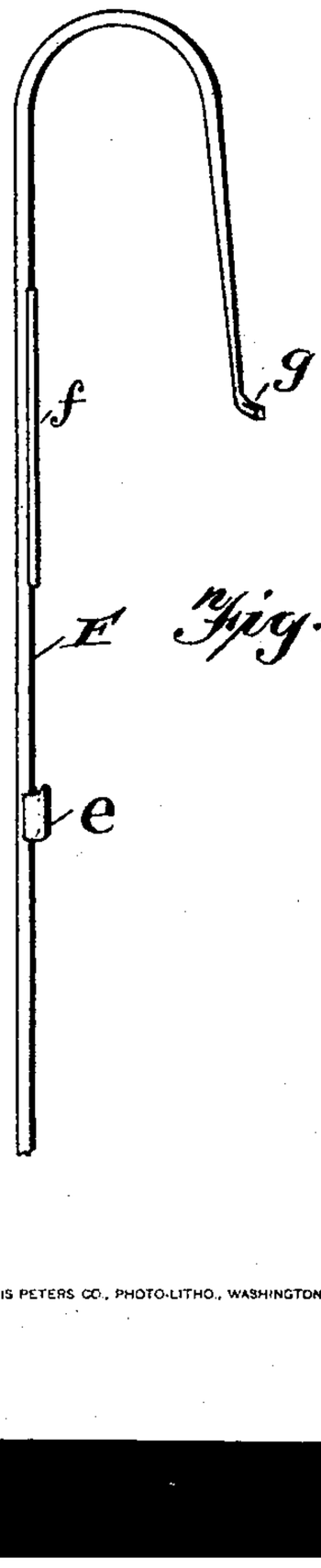

Fig. 5.

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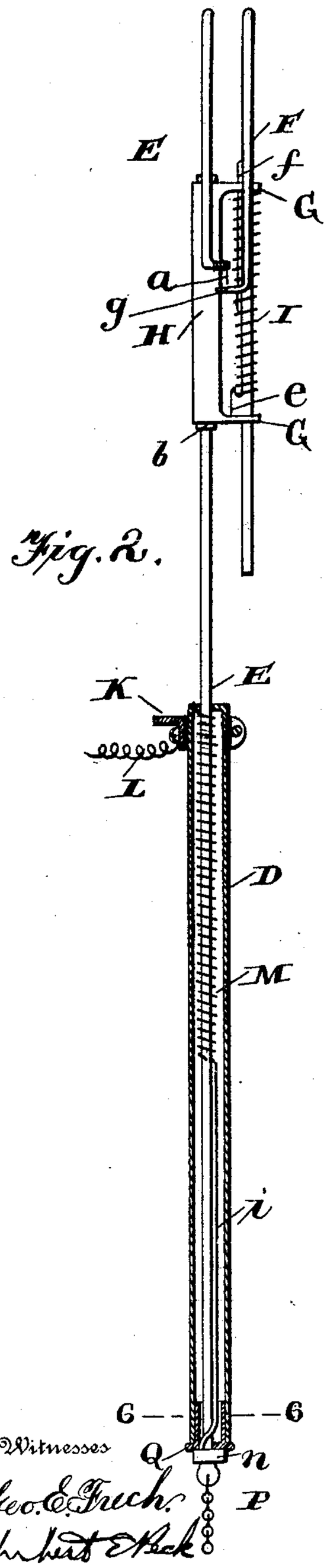


Fig. 2.

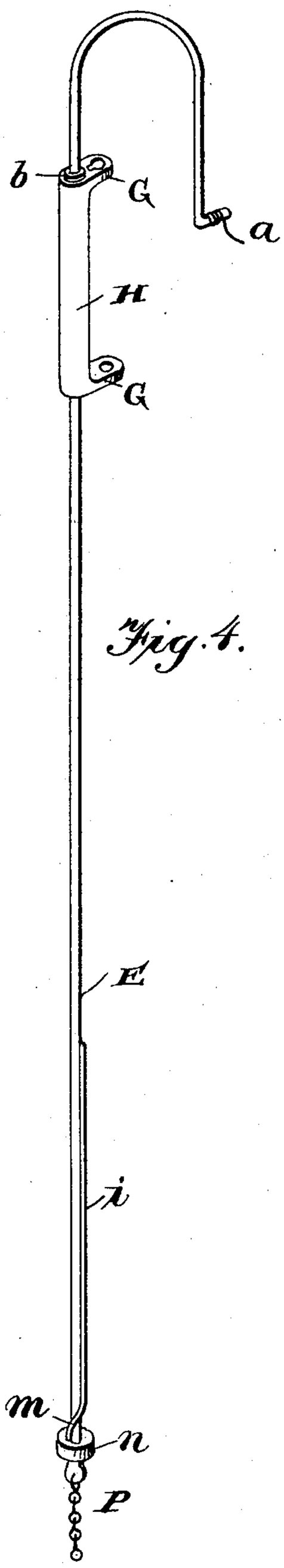
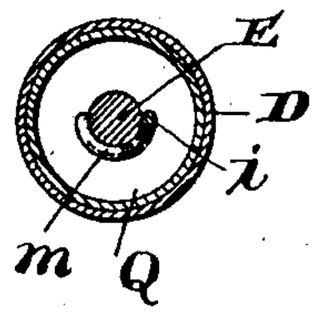


Fig. 4.

Fig. 6.



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UNITED STATES PATENT OFFICE.

SAMUEL E. MOSHER, OF CHILLICOTHE, OHIO.

ELECTRIC LIGHTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 625,787, dated May 30, 1899.

Application filed March 21, 1898. Serial No. 674,654. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL E. MOSHER, of Chillicothe, in the county of Ross and State of Ohio, have invented certain new and useful Improvements in Electric Lighting Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in electric lighting devices, and pertains to an electric lighting device adapted to be used in connection with burners having chimneys, all of which will be fully described hereinafter and particularly referred to in the claims.

The object of my present invention is to provide an electric lighting device constructed to carry the sparking members over or within and without the chimney of an incandescent or other gas-burner for producing a spark or sparks at or within the upper end of the chimney for lighting the burner.

In the accompanying drawings, Figure 1 is a perspective view of a burner, showing my invention applied thereto, the same being shown in full lines out of operative position and in dotted lines in the position for producing a spark or sparks. Fig. 2 is a sectional view through the guiding-tube, the other parts of the device being shown in elevation. Fig. 3 is a rear view of the upper end of the lighting device. Fig. 4 is a detached view of the sparking supporting-rod. Fig. 5 is a similar view of the coacting sparking member.

Referring now to the drawings, A indicates an incandescent or other gas-burner having a chimney B, and C a bracket connected in any desired manner with the burner or the burner-bracket.

D is a guiding member or tube of my lighting device, which is secured in any desired manner to the outer end of the bracket or support C, and passing through this guiding member or tube is a rod E. The upper end of this rod E is curved downward and essentially U-shaped, as shown, and has its end turned laterally and provided with a light sparking spring or member *a*. This rod forms one of the sparking members and a support for the coöperating member F. This coöperating sparking member F moves vertically through ears G of a bracket H, which is connected in any desired manner to the supporting sparking member or rod E, and this bracket H is insulated from the supporting-rod by means of a rubber *b* or any other packing in any desired manner. A spring I surrounds the sparking member F and has its upper end engaging the under side of the upper ear G and its lower end engaging a projection *e* thereon. This member is provided with a vertical feather or rib *f*, passing through a corresponding opening in the upper ear, by means of which the member is held from turning as it moves up and down in its supporting-ears. The upper end of this member is curved downward to correspond with the curve of the other member and is approximately or essentially U-shaped, as shown. The upper extremity of this member is turned inward, as shown at *g*, and travels in a path adapted to engage the spring sparking member *a*, before referred to, and thus making and breaking contact as it moves up and down for the purpose of producing a spark.

The tube or guiding member D is electrically connected with one pole of the battery and is in electrical contact, therefore, with the supporting-rod E. At the upper end of this tube a projection K is provided, which is insulated in any desired manner from the upper end of the tube and has the electrical connection L with the other pole of the battery.

The supporting-rod is provided with a longitudinal guiding fin or bead *i*, the lower end of which is twisted into a spiral, as shown at *m*. Situated within the tube is a spring M, having its upper end connected with the upper end of the tube and its lower end connected with the supporting-rod, whereby the supporting-rod is held normally upward.

A collar or other stop *n* is provided at the lower end of the supporting-rod to limit its upward movement, and a chain or cord P is attached to this rod for drawing it downward. The fin upon the supporting-rod passes through the corresponding groove or opening in cap Q at the lower end of the tube. The straight portion of the fin serves to guide the rod downward and hold it against turning,

while the spiral portion of the fin serves to turn the rod about quarter around as soon as it is drawn downward.

The operation of the device is as follows: A downward pull upon the chain or cord causes the supporting-rod E to turn quarter around, which throws it over the upper end of the chimney, as will be readily understood and as is shown in dotted lines in Fig. 1, and upon a further drawing downward upon the chain the rod is drawn straight down within the upper end of the chimney until the lower end of the sparking member *a* strikes and passes the projection *d*, which makes electrical connection with the said sparking member. A further downward pull forces this member upward against the spring, and its end makes and breaks contact with the spring sparking member of the supporting-rod within the chimney, as will be readily understood. It makes and breaks contact when it is drawn downward and may also when it is released, thus making one or two sparks at the top or within the upper end of the chimney at each operation.

From the above description it will be seen that the essential feature of my present invention consists in having vertically-moving sparking members adapted as they are drawn downward to be turned around over a chimney and when released to move away from the chimney and out of the heat thereof.

A device constructed as above is very simple and yet effective in its operation.

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

1. An electric sparking device comprising two longitudinally-movable and oscillating sparking members, and means constructed and arranged to oscillate the two members, move them longitudinally together a predetermined distance, and then one sparking member in relation to the other for causing an engagement and disengagement thereof, substantially as described.

2. A lighting device comprising sparking members, one movable in relation to the other, a movable support for the said members, and a cam device for turning the support when it is moved endwise, substantially as described.

3. An electrical lighting device comprising a guiding member, a member movable therethrough and supporting the sparking members, one of the sparking members longitudinally movable in respect to the other, and a stop for one of the sparking members, the parts adapted to operate substantially as described.

4. An electrical lighting device comprising a guiding member, sparking members, a support for the sparking members moving in and supported by the member, the guiding member and supporting members having cam-surfaces, whereby when they are moved relatively to each other the sparking members are turned, substantially as described.

5. An electrical lighting device comprising a guiding member, sparking members, a support for the sparking members having a guiding-fin with a cam-surface engaging the said guiding member, whereby a downward pull of the sparking members' support will cause a partial rotation thereof for the purpose described.

6. An electrical lighting device comprising a guiding member, sparking members, a support carrying at its upper end the sparking members and passing through the guiding member, one of the sparking members movable in relation to the other, a spring for holding the movable sparking member out of engagement with its coacting sparking member, and a stop for engaging the movable sparking member when the support is drawn downward whereby it is caused to engage with the stationary sparking member, substantially as described.

7. An electrical lighting device comprising sparking members one supporting the other and insulated therefrom, one of the sparking members movable in relation to the other, an endwise-moving support, a stop for the movable sparking member and a spring for holding the movable sparking member out of contact with its coacting sparking member whereby the parts are adapted to operate as described.

8. An electric lighting device comprising sparking members, one of the sparking members having a guiding-support for the coacting sparking member, one of the sparking members being movable in relation to the other and insulated therefrom, a spring for holding the sparking members normally out of contact, a stop for the movable sparking member, and a longitudinally-movable support for the sparking members, whereby the parts are adapted to operate as described.

9. An electric lighting device comprising a guiding member, a supporting-rod movable therethrough, two sparking members carried by said supporting-rod and having their upper ends approximately U-shaped, the supporting-rod and the guiding member having engaging surfaces adapted to give the supporting-rod a partial rotation and thereby the sparking members a partial rotation when the supporting-rod is drawn downward, substantially as described.

10. An electric lighting device comprising a guiding member, a sparking-member support longitudinally movable and rotatable through the guiding member, two sparking members carried by the said support and each having laterally-turned ends, one of the sparking members movable in relation to the other, means for partially rotating the supporting-rod and thereby the sparking members and

one sparking member longitudinally in relation to the other, substantially as described.

11. An electric lighting device comprising a guiding-tube, an endwise-moving rod therein, a spring having one end connected to the rod and the other to the tube, the rod having a longitudinal fin with a cam-surface, and the tube having coacting surfaces with the said fin, the rod having sparking members at its upper end, the said sparking members extending laterally therefrom, whereby a downward movement of the rod will cause the rotation of the support and carry the sparking members over the lamp-chimney, the parts combined to operate as described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL E. MOSHER.

Witnesses:
WILBY G. HYDE,
IRA MOSHER.