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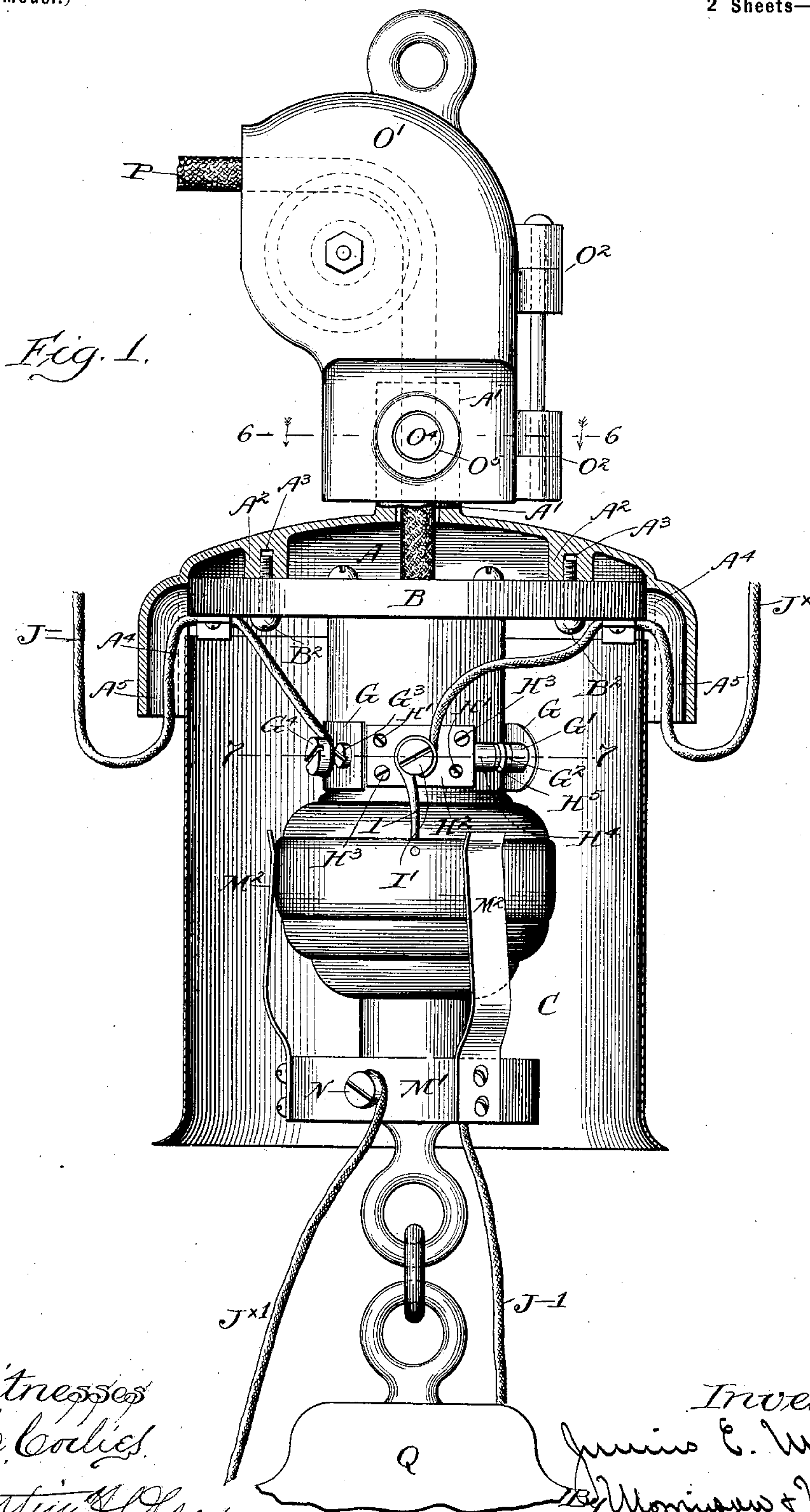
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HANGER FOR ELECTRIC LAMPS.

(Application filed June 16, 1898.)

(No Model.)

2 Sheets—Sheet 1.



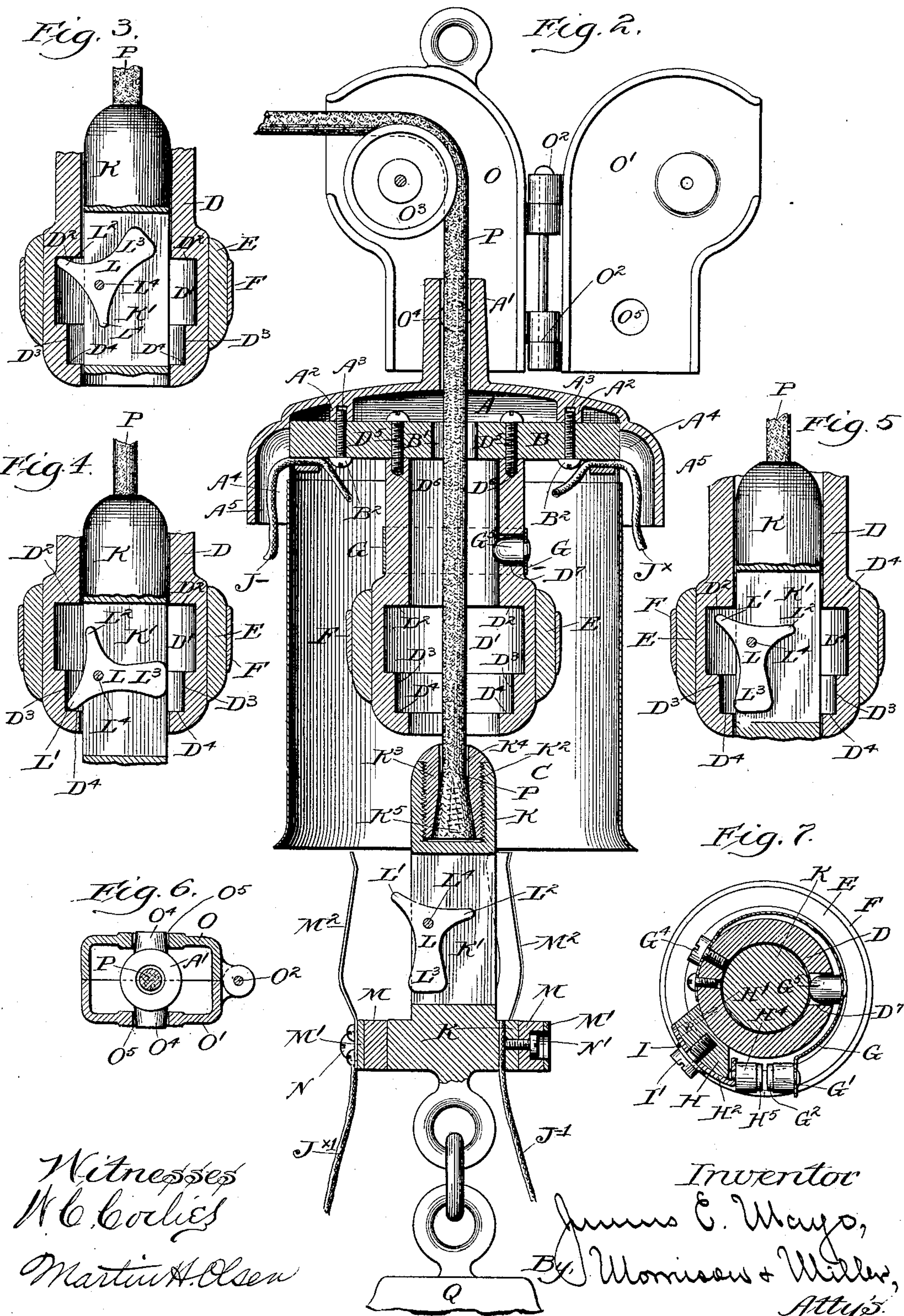


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(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

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## HANGER FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 614,484, dated November 22, 1898.

Application filed June 16, 1898. Serial No. 683,655. (No model.)

*To all whom it may concern:*

Be it known that I, JUNIUS E. MAYO, a citizen of the United States, residing at Belvidere, in the county of Boone and State of Illinois, have invented certain new and useful Improvements in Hangers for Electric Lamps, of which the following is a specification.

The object of my invention is to provide means for lowering electric lamps from their sockets, disconnected from their electric circuits, for the purpose of putting in fresh carbons or repairing the lamps and without extinguishing the remaining lights in a circuit; and it consists of certain new and useful features of construction and combinations of parts hereinafter fully described, and specifically pointed out in the claims.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is a side elevation of a hanger for electric lamps embodying my invention in vertical central partial section. Fig. 2 is a central vertical section of the same. Figs. 3 to 5, inclusive, are central vertical sections of the vertical socket of the hanger, showing a stem inserted therein and a locking device for securely locking the stem and socket together. Fig. 6 is a section on the dotted line 6 6 in Fig. 1 of parts there shown. Fig. 7 is a section on the dotted line 7 7 in Fig. 1.

Like letters of reference indicate corresponding parts throughout the several views.

A is a circular metallic cap provided on the outside with an upwardly-projecting tubular suspending-lug A', on the inside with downwardly-projecting bosses A<sup>2</sup>, having interiorly-threaded screw-holes A<sup>3</sup> therein, and also having its rim A<sup>4</sup> expanded to form entrance-ways A<sup>5</sup> thereinto for line-wires.

B is a circular plate, of slate or other suitable non-conducting material, having an opening B' extending through its center and secured to the bosses A<sup>2</sup> by means of screws B<sup>2</sup>, passing therethrough into holes A<sup>3</sup> therein.

C is a circular jacket for protecting the parts covered thereby and is secured to the rim A<sup>4</sup> of the cap A in any suitable manner.

D is a circular vertical metallic socket opening downward, enlarged in transverse diameter at its lower portion to form a circular vertical chamber D' therein, having annular

shoulders D<sup>2</sup> D<sup>3</sup> D<sup>4</sup> at the ends thereof, and is secured to the plate B by means of screws D<sup>5</sup> passing therethrough into holes D<sup>6</sup> therein.

E is a ring of hard rubber or other suitable non-conducting material and is fast to the socket D.

F is a ring of copper or other suitable conducting material and is fast to the ring E.

G is a switch-spring, preferably of phosphor-bronze, provided with a receptacle G', containing a carbon point G<sup>2</sup>, and is secured to the outside of the socket D by means of screws G<sup>3</sup> G<sup>4</sup>.

G<sup>5</sup> is a stud rigidly secured to the inside of the free end of the spring G and projects through the opening D<sup>7</sup> into the interior of the socket D.

H is a block of any suitable non-conducting material, secured to the socket D by means of screws H'.

H<sup>2</sup> is a plate of copper or other suitable conducting material, secured to the block H by means of screws H<sup>3</sup>.

H<sup>4</sup> is a receptacle fast to the plate H<sup>2</sup>, containing a carbon point H<sup>5</sup>, which is normally in contact with the carbon point G<sup>2</sup> through the action of the switch-spring G.

I is a metallic conductor connecting the ring F with the plate H<sup>2</sup> through the binding-post I'.

J<sup>+</sup> J<sup>-</sup> are line-wires, the former connecting with the binding-post G<sup>4</sup> and the latter with the binding-post I'.

K is a stem adapted to enter the socket D and having a longitudinal slot K' extending therethrough and registering with the chamber D' therein. The upper end of the stem K is bored and threaded interiorly at K<sup>2</sup> to admit the counterpart-nut K<sup>3</sup>, which has a central vertical opening K<sup>4</sup> therein, gradually increasing in transverse diameter toward the bottom thereof.

L is a trifurcated locking device having members L' L<sup>2</sup> L<sup>3</sup>, one whereof, as L<sup>3</sup>, is weighted, in this instance by being increased in size, mounted by means of a pivot L<sup>4</sup> in the longitudinal slot K' in the stem K.

M is a ring of non-conducting material, fast to the stem K.

M' is a ring of brass or other suitable conducting material, secured to the ring M.



M<sup>2</sup> are bronze springs secured by their lower ends to the ring M', their upper ends being free.

N is a binding-post connecting the line-wire J<sup>+</sup> with the ring M'.

N' is a binding-post connecting the line-wire J<sup>-</sup> with the stem K.

O O' are two plates connected by means of hinges O<sup>2</sup> to form a sheave-case.

O<sup>3</sup> is a sheave mounted in the sheave-case.

O<sup>4</sup> are trunnions projecting from the suspending-lug A' into bearings M<sup>5</sup> in the plates O O'.

P is a lamp-hoisting rope fast to the stem K through the nut K<sup>3</sup> and screw K<sup>5</sup> in the end thereof and passing through the parts D B A' over the sheave O<sup>3</sup>.

The construction of the sheave-case O O', with its bearings O<sup>5</sup>, and the tubular suspending-lug A', with its trunnions O<sup>4</sup>, adapts them to readily receive the hoisting-rope P, provides convenient means for connecting and disconnecting them, and prevents water from entering the cap A through the rope-aperture in the suspending-lug A'.

Fig. 1 shows the parts of the hanger operatively connected together and carrying a lamp Q. The electric current, coming from a dynamo, passes through the wire J<sup>+</sup>, traverses the binding-post I', plate H<sup>2</sup>, conductor I, ring F, springs M<sup>2</sup>, ring M', wire J<sup>+</sup>, lamp Q, wire J<sup>-</sup>, stem K, socket D, binding-post G<sup>4</sup>, and wire J<sup>-</sup>, whence it returns to the dynamo.

Fig. 2 shows the lamp Q disconnected from its hanger. The withdrawal of the stem K from its socket D released the stud G<sup>5</sup>, which left the switch-spring G free to act and which, acting, pressed the carbon points G<sup>2</sup> and H<sup>5</sup> into contact, whereupon the electric current, passing from the wire J<sup>+</sup>, traverses the binding-post I', plate H<sup>2</sup>, carbon points G<sup>2</sup> H<sup>5</sup>, spring G, binding-post G<sup>4</sup>, and wire J<sup>-</sup>, whence it returns to the dynamo.

Fig. 2 shows the lamp Q disconnected from its circuit to receive new carbons or for any other purpose. If the free end of the hoisting-rope P be now pulled, the stem K will pass upward into the socket D and the member L' of the locking device L will engage with the lower end of the socket D, thereby tilting the locking device L to the position shown in Fig. 3, when the member L<sup>2</sup> thereof will engage with the shoulder D<sup>2</sup> in the socket D. If the hoisting-rope P be now slackened slightly, the stem K will descend a little and the member L' of the locking device L will engage the shoulder D<sup>3</sup>, which will prevent

such locking device from turning to the position shown in Fig. 5 by reason of the weight of the member L<sup>3</sup> thereof and guide the same downward until its said member L' strikes the shoulder D<sup>4</sup> in the socket D, thereby operatively locking the latter and the stem K together.

To disconnect the lamp Q from its circuit, pull the hoisting-rope P until the member L' of the locking device L, sliding upward along the vertical portion of the shoulder D<sup>3</sup> until it is free to swing over the top thereof, when the locking device L will swing to the position shown in Fig. 5. Upon releasing the hoisting-rope P the weight of the stem K and lamp Q will cause them to descend to the position shown in Fig. 2, wherein the lamp Q is shown disconnected from its circuit.

I claim--

1. In a hanger for electric lamps, in combination, a circular vertical socket, opening downward and enlarged in transverse diameter, at its lower portion, to form a circular vertical chamber therein having annular shoulders at the ends thereof, a stem adapted to enter the socket and having a longitudinal slot extending therethrough and registering with the chamber in the socket, and a trifurcated locking device rotatably mounted, on a horizontal bearing in the slot in the stem, and adapted to engage with the annular shoulders in the chamber, thereby locking the stem and socket together, substantially as and for the purpose specified.

2. In a hanger for electric lamps, in combination, a circular vertical socket opening downward, a spring on the socket normally closing a circuit, a stud fast to the spring and projecting inward, through a transverse opening, in the socket, into the vertical opening therein, and a stem adapted to enter the socket and, by outward pressure upon the stud, open the circuit, substantially as and for the purpose specified.

3. In a hanger for electric lamps, in combination, two plates, hinged together to form a sheave-case, each having a trunnion-bearing therein, a sheave mounted in the sheave-case, a circular cap provided with an upwardly-projecting tubular suspending-lug having trunnions thereon adapted to enter the trunnion-bearings in the sheave-case, substantially as and for the purpose specified.

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