

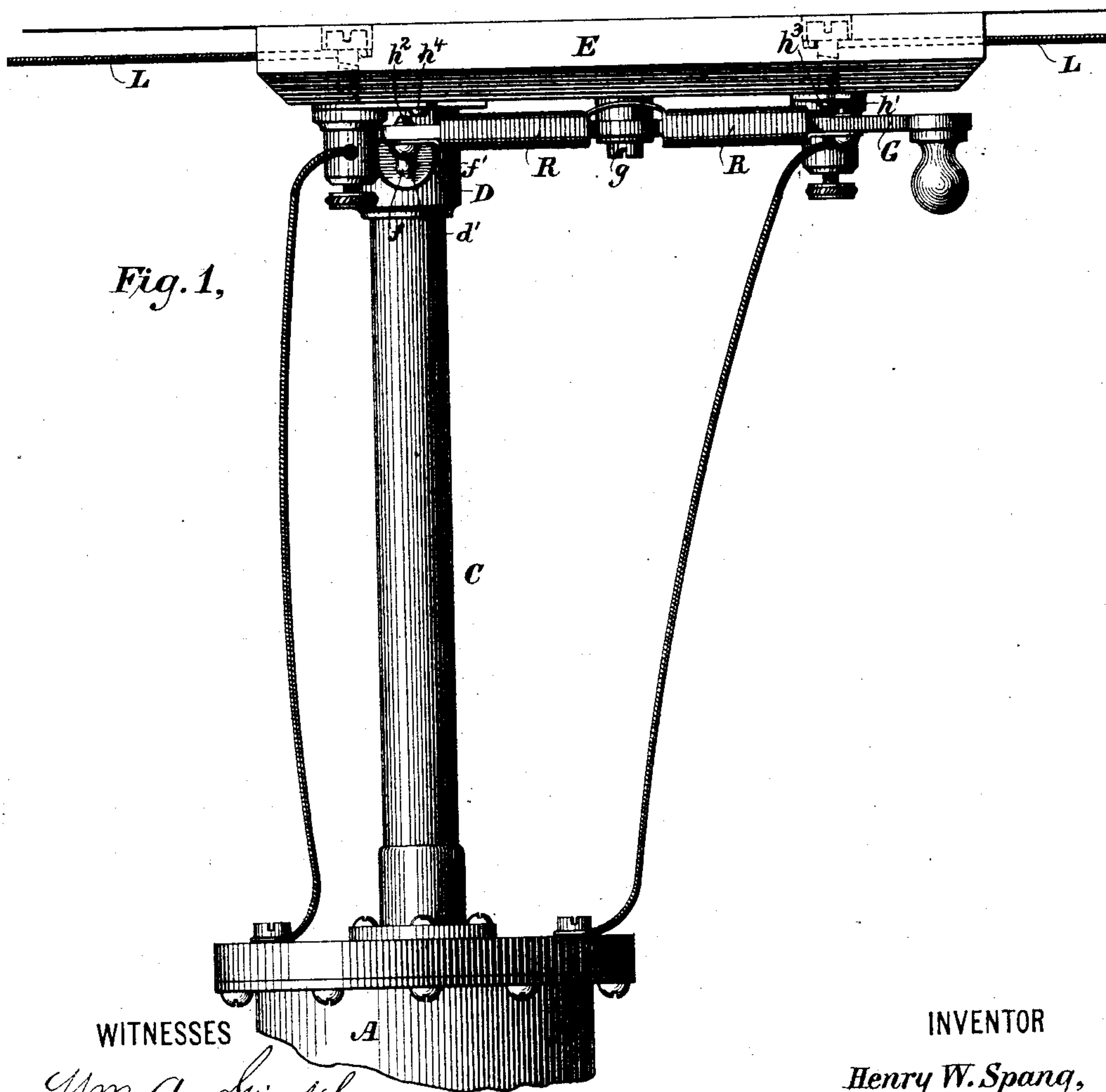
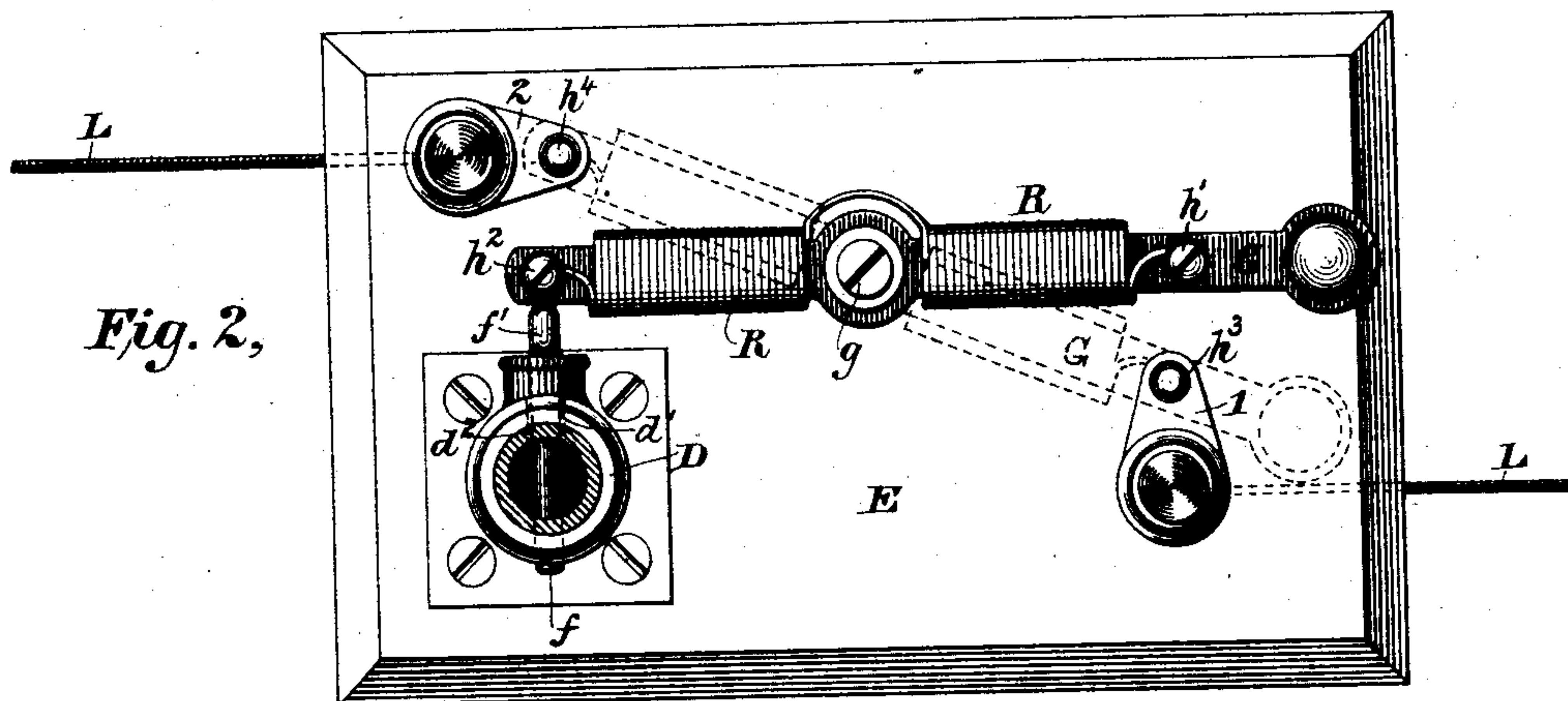
(No Model.)

H. W. SPANG.

COMBINED SUPPORT AND SWITCH FOR ELECTRIC LAMPS.

No. 284,505.

Patented Sept. 4, 1883.



WITNESSES

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COMBINED SUPPORT AND SWITCH FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 284,505, dated September 4, 1883.

Application filed April 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. SPANG, a citizen of the United States, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Combined Supports and Switches for Electric Lamps, of which the following is a specification.

My invention relates to certain improvements in the construction of devices for preserving the circuit-connections of the main line of an electric light or other similar system during the time it is desired to remove a lamp or other apparatus from the circuit.

The object of the invention is to insure the completion of the main circuit at and during the time any lamp or other apparatus through which the current normally flows may be removed from the system. Heretofore it has been customary to suspend electric lamps by means of flexible supports, and to lead the electric conductors to the respective positive and negative binding-posts in any convenient manner. When it is desired to remove the lamp for the purpose of repairing or renewing the mechanism, it has been necessary to unite the two conductors leading to the lamp by means of an independent tie-wire, or by coupling the ends together. This operation is accompanied with considerable inconvenience, and it is liable to be omitted by the workmen. Moreover, the lamps, when supported merely by flexible conductors, are liable to be displaced by the wind, and their globes are frequently broken.

My invention consists in providing a supporting-arm rigidly attached to the upper portion of the lamp, preferably the extremity of the tube inclosing the upper carbon rod, and in providing a socket which may be secured to the ceiling or other supporting structure, into which the extremity of this rod is locked when the lamp is in position. Attached to the same support with the socket is a movable switch or circuit-closing device, consisting of a pivoted arm or lever provided with two contact-points, respectively connected with the conductors leading to and from the lamp. Corresponding contact-points are carried upon the switch, and these points are electrically connected through an artificial resistance,

which is approximately equal to the normal resistance of the lamp. When the lamp is supported in position, the rod being locked in its socket, the switch may be turned out of contact with the two contact-points, and the current finds its way through the lamp in the usual manner. When it is desired to remove the lamp from the socket, it is necessary, in order to unlock the supporting-rod, to first move the circuit-closing arm into contact with the contact-points, thereby completing the circuit-connections of the main conductor, independently of the lamp, before the lamp can be unlocked and thus taken out of circuit.

In the accompanying drawings, which illustrate my invention, Figure 1 is a view in elevation of an electric lamp and a supporting-switch embodying my invention, and Fig. 2 is a plan of the bottom of the switch and support.

Referring to the drawings, A represents the upper portion of the tube of an electric lamp, into which the upper carbon rod extends. Attached to the extremity of the tube A is a rod, C, of any required length, for supporting the lamp. The upper extremity of the rod C fits into the socket D, carried upon a plate, E, of non-conducting material, which plate is supported from the ceiling or other convenient place. Through the socket D and rod C are formed perforations d' and d^2 , respectively, for receiving a pin, f , by means of which the rod is securely locked into the socket.

A switch or circuit-closing device, G, is pivoted to the plate E at a point, g . The arm G is preferably of non-conducting material, and carries at its opposite extremities two contact-points, h' and h^2 . These contact-points are electrically connected with each other through an insulated conductor, R, surrounding the arm G and constituting an artificial resistance, which is preferably approximately equal to the normal resistance of the lamp. Two contact-plates, h^3 and h^4 , are respectively provided for the contact-points h' and h^2 , and are connected with the main line L, upon opposite sides of the lamp, by conducting-plates 1 and 2. The points h' and h^2 are caused to impinge against their respective plates h^3 and h^4 when the switch-arm G is in the position shown in dotted lines. The pin f is provided with an enlarged head, f' , which, when the pin is drawn out for the

purpose of releasing the rod C, impinges against one extremity of the arm G, and it is only by moving the arm G into the position shown in the dotted lines, thereby closing the circuit of the main line L, through the conducting-plates 1 and 2 and the resistance R, that the pin can be withdrawn a sufficient distance to allow the rod to be removed.

Instead of employing a coil of insulated wire for the resistance R, any suitable form of artificial resistance may be used. It is not essential that the resistance should be carried upon and moved with the switch-arm G. It may, for instance, be made to constitute the conducting-plate 2, uniting the contact-point h^4 with the main line L, the remaining parts of the apparatus being constructed in the same manner as described, except that the switch-arm G can then be of metal, instead of non-conducting material.

The switch will be of service, not merely for short-circuiting the lamp when it is desired to remove the same, but also for the purpose of cutting the carbons out of circuit when it is desired to replace them, thereby dispensing with the necessity of employing the switch attachments commonly applied to the lamps themselves.

I claim as my invention—

1. The combination, substantially as herein-before set forth, of a stationary socket, an elec-

tric-lamp support entering said socket, a locking device for securing said support within said socket, and a switch preventing the unlocking of said support from said socket, except when in position to close an electric shunt-circuit about said electric lamp.

2. The combination, substantially as herein-before set forth, of the supporting-rod, a socket for receiving the same, the pin for locking said support into said socket, the movable circuit-closing arm and its contact-points, so constructed as to intersect the path of said pin, except when in position to complete the circuit between its contact-points, thereby shunting said lamp.

3. The combination, substantially as herein-before set forth, of an electric lamp, means for supporting said lamp, a pivoted lever, an artificial resistance carried upon and moving with said lever, and two contact-points in electrical connection, with which the respective terminals of said resistance are placed when said lever is in a predetermined position.

In testimony whereof I have hereunto subscribed my name this 21st day of April, A. D. 1883.

HENRY W. SPANG.

Witnesses:

CASSIUS HOLTON,
ISAAC Y. SPANG.