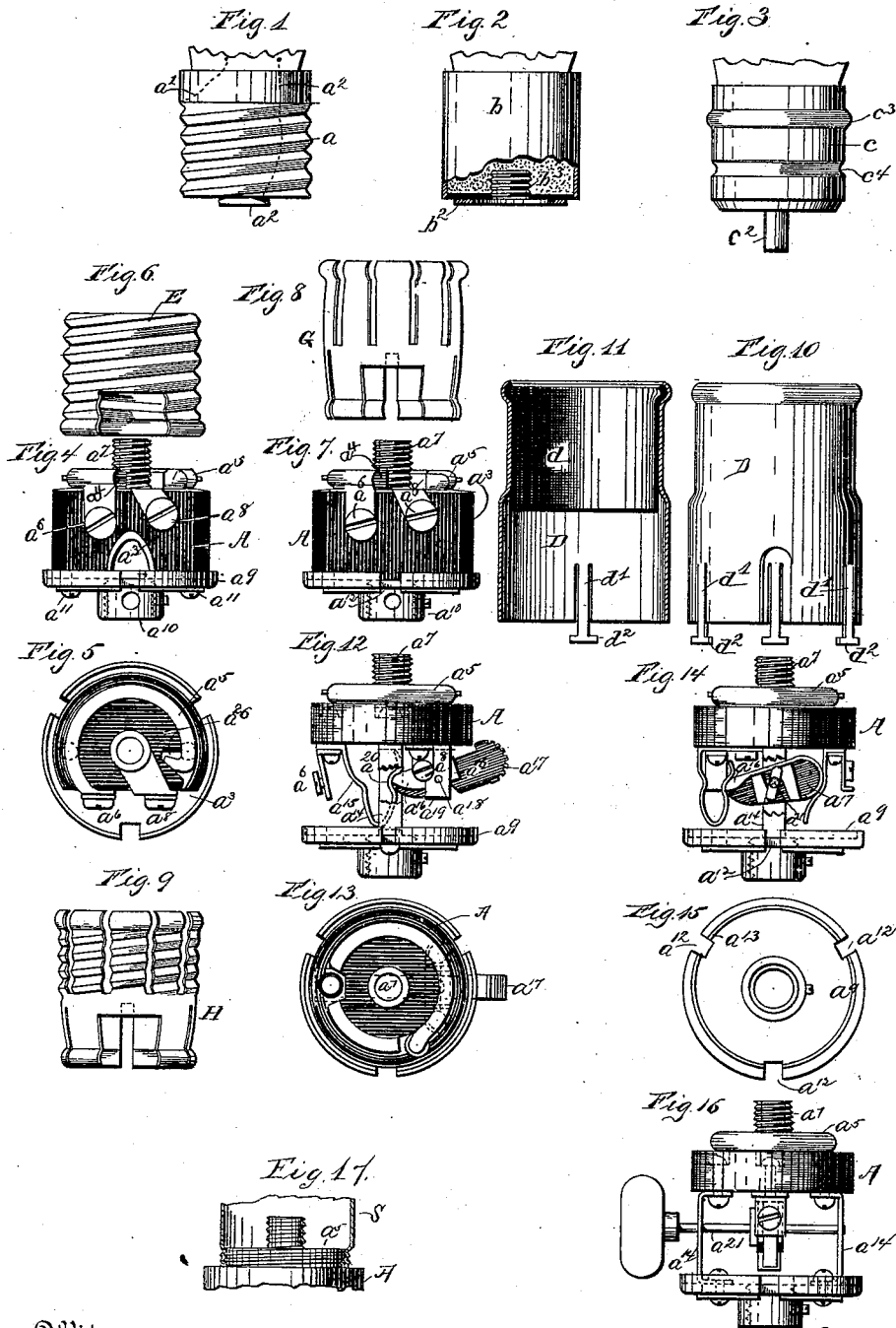


(No Model.)

C. J. KLEIN.  
SUPPORT FOR ELECTRIC LAMPS.

No. 471,645.

Patented Mar. 29, 1892.



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# UNITED STATES PATENT OFFICE.

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## SUPPORT FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 471,645, dated March 29, 1892.

Application filed December 1, 1890. Serial No. 373,155. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. KLEIN, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Supports for Electric Lamps, of which the following is a specification.

The principal feature of my present improvement has for its object to provide for attaching electric lamps of different patterns to one support.

My improvement also comprises a novel attachment of an outside shell concealing the attaching devices.

Another feature of the improvement consists of means for completing an electric circuit through a lamp or cutting it off from the lamp.

To facilitate an understanding of my improvement I have in the accompanying drawings not only illustrated it, but I have also shown the position of electric lamps to which it is applicable.

In the accompanying drawings, Figure 1 is a side view of the base of an Edison lamp. Fig. 2 is a sectional side view of the base of a Thomson-Houston electric lamp. Fig. 3 is a side view of the base portion of a Westinghouse lamp. Fig. 4 is a side view of a support embodying my improvement. Fig. 5 is a top view of my support. Fig. 6 is a side view of a shell which is connected with said support for attaching the Edison lamp thereto. Fig. 7 is a side view of a support embodying my improvement in condition for use with a Thomson-Houston lamp. Fig. 8 is a side view of a shell which is to be fitted to said support for attaching the Westinghouse lamp thereto. Fig. 9 is a side view of a shell constructed so as to serve for attaching either an Edison lamp or a Westinghouse lamp to a support made according to my improvement. Fig. 10 is a side view of a shell of novel construction which is intended to fit outside my support and the base portion of a lamp connected thereto. Fig. 11 is a central vertical section of this shell and an interior insulating-lining. Fig. 12 is a side view of a support of modified construction and differing from the form of my support first illustrated by having a key or circuit-changer comprised in it. Fig. 13 is a top view of the support shown in

Fig. 12. Fig. 14 is a side view of a support of modified construction, also having a key or circuit-changer, but one slightly differing from that illustrated in Fig. 12. Fig. 15 is a bottom view of the base of the support shown in Fig. 14. Fig. 16 is a side view of the base of the support shown in Fig. 14, but taken in a plane at right angles to that of Fig. 14. Fig. 17 is a vertical section showing a modification.

Similar letters of reference designate corresponding parts in all the figures.

It will be seen that the base of the Edison lamp shown in Fig. 1 has a coarse screw-thread  $a$  formed upon it. This screw-thread is formed in a sheet-metal shell, which is insulated from the rest of the lamp. One wire  $a'$ , extending from the incandescing filament extends to this sheet-metal shell. The other wire, extending from the incandescing filament, leads to a metal plate  $a^2$ , which is insulated from the metal shell upon which the screw-thread  $a$  is formed.

Looking at Fig. 2 it will be seen that the base of the Thomson-Houston lamp is surrounded by a metal shell  $b$  and that its bottom has a metal plate  $b^2$  attached to it. The shell  $b$  and the plate  $b^2$  are insulated from each other. An internally-screw-threaded metal socket  $b^3$  is also fastened to the base of this lamp and it is intended to form the means of attachment to the support. This socket is insulated from the plate  $b^2$  and shell  $b$ . Wires extend from the socket  $b^3$  and the plate  $b^2$  to the incandescing filament of the lamp.

By reference to Fig. 3 it will be seen that the base of the Westinghouse lamp is surrounded by a metal shell  $c$  and that from its lower end a metal pin or stud  $c^2$  extends. The shell  $c$  and the pin or stud  $c^2$  are insulated from each other and in communication with the wires leading to the incandescing filament. The shell  $c$  has a circumferential rib  $c^3$  and a circumferential groove  $c^4$ , serving as a means for fastening them to their supports.

The support which I have illustrated in Figs. 4, 5, and 7 has a body  $A$ , of hard rubber or other insulating material, made mainly of cylindrical form, but having a flat surface  $a^3$

formed in it. At the upper end there is a neck-like portion  $a^4$ , which is mainly of cylindrical form. A strip of metal  $a^5$  extends almost wholly around the neck-like portion  $a^4$ .

5 At one end this strip is turned into a notch  $a^6$ , formed in the neck-like portion  $a^4$  of the body-piece A, and at the other end it is extended down the front of the flat surface  $a^3$  of the body-piece and is here provided with a screw  $a^9$ ,  
10 whereby a wire may be fastened in electrical communication with it. At the center of the body-piece is an externally-screw-threaded tubular metallic nipple  $a^7$ , which is inserted in the neck-like portion of the body-piece  
15 and has a lug extending from it over the front of the surface  $a^3$  of the body-piece, where it is provided with a screw  $a^8$ , suitable for electrically connecting a wire with it. The circuit-wires are intended to be extended to the  
20 screws  $a^8$   $a^9$ .

I have shown the base of the body-piece as fitted to a metal disk  $a^9$ , provided on the under side with a socket  $a^{10}$ , whereby the entire support may be fastened to any suitable sustaining device—as, for instance, a lamp-fix-  
25 ture of any approved form. The disk  $a^9$  may be fastened to the body-piece by means of screws  $a^{11}$ , passing up through said disk and engaging with the lower portion of the body-  
30 piece. The Thomson-Houston lamp, Fig. 2, may be attached directly to the support by having its socket  $b^3$  screwed upon the nipple  $a^7$  of the support. The plate  $b^2$  of this lamp will then bear against the strip  $a^5$  of the sup-  
35 port. In this way the electric current will be continued from the screws  $a^8$   $a^9$  through the nipple  $a^7$  and the strip  $a^5$  to the socket  $b^3$  and plate  $b^2$  of the lamp, and thence to the incandescent filament.

40 Outside the support and the base portion of the lamp a shell D (illustrated in Figs. 10 and 11) may be used. It has a lining  $d$  of insulating material, so as to prevent it from interfering with the circuit connections. When  
45 this shell is used, the disk  $a^9$  of the support will be extended beyond the body-piece thereof, so as to receive and support the lower end of the shell D. A convenient means for attaching the shell D to the disk  $a^9$  may be pro-  
50 duced by slitting the lower portion of the shell D vertically, so as to form tongues  $d'$ , and extending the latter below the shell and providing them with transverse extremities  $d^2$ . Then the disk  $a^9$  of the support will be provided  
55 with radial notches  $a^{12}$  (see particularly Fig. 15) and grooves  $a^{13}$ , extending substantially parallel with the circumference of the disk. By placing the shell D upon the support and bending the tongues outward when opposite  
60 the notches  $a^{12}$  the tongues, after the lowering of the shell D sufficiently to carry the transverse extremities of the tongues below the disk  $a^9$ , may be made to pass through said notches. The tongues may then be bent in-  
65 ward, or they may be so constituted as to move inward by their resilience, so that their extremities  $d^2$  will enter and engage with the

grooves  $a^{13}$  of the disk  $a^9$ . When this happens, the engagement of the shell with the disk will be complete.

70 To secure the Edison lamp, Fig. 1, to my support, a shell E, made of metal and slitted or notched in the lower portion, so as to be somewhat resilient, is slipped over the strip  $a^5$  of the support. This shell E is screw-threaded  
75 to correspond with the shell  $a$  of the base portion of the Edison lamp. The strip  $a^5$  of my support is also made outwardly rounding, so that it may be engaged by that screw-thread or portion of the screw-thread of the shell E  
80 which is nearest the lower edge of the latter. Obviously by engaging the shell E with the strip  $a^5$  said shell will be secured to the support, and when the Edison lamp is fitted to it will continue the electric circuit from the  
85 screw  $a^9$  of the support to the shell  $a$  of said lamp. The plate  $a^2$  of the lamp will contact with the top of the nipple  $a^7$  of the support, and thus the electric circuit will be continued between the screw  $a^8$  and the plate  $a^2$  of the  
90 lamp.

The shell D may be applied to the support when the Edison lamp is fitted thereto in the same manner as I have described its applica-  
95 tion in conjunction with the Thomson-Houston lamp.

In order to fasten the Westinghouse lamp to the support, I apply to the support a shell G of sheet metal. (Shown in Fig. 8.) This shell is mainly of cylindrical form, is slitted or  
100 notched at the bottom, like the shell E, and has at the lower edge grooves which engage the strip  $a^5$  of my support, is also slitted at the upper end to engage with the rib  $c^3$  on the shell  $c$ , surrounding the base of the West-  
105 inghouse lamp. When this shell is fitted to the support, it will continue the electric circuit from the strip  $a^5$ , and hence from the screw  $a^9$  to the shell  $c$  on the base of the lamp, and the pin or stud  $c^2$  of the lamp will enter  
110 and contact with the nipple  $a^7$  on the support, and hence the circuit will be continued from said pin or stud through said nipple to the screw  $a^8$ . When the Westinghouse lamp is thus connected with my support the shell  
115 D may be used as before described.

In Fig. 9 I have shown a shell H which is very much like the shell G just described, but has its upper portion screw-threaded, and  
120 thereby is enabled to form a means for attaching the Edison lamp as well as the Westinghouse lamp.

In Figs. 12 and 13 I have shown a modified form of support. It has a body-piece A of  
125 insulating material, as in the first-described example of my support, and this body-piece is similarly provided with a metal strip  $a^5$  and a metal nipple  $a^7$ . This support, like the first-described, has also a disk  $a^9$ . This disk  
130  $a^9$  is, however, arranged considerably below the body-piece, and is connected therewith by upright arms or brackets  $a^{14}$ , which may be made of metal strips having their extremities bent transversely and fastened to the

disk and body-piece by screws. In this example of my improvement the circuit is extended from the strip  $a^5$  and the nipple  $a^7$  down through the body-piece. Attached to the body-piece is a metal strip  $a^{15}$  in electrical communication with the binding-screw  $a^6$ . The other binding-screw  $a^8$  is in electrical communication with the nipple  $a^7$ . The metal strip  $a^5$  is in electrical communication with a metal bracket  $a^{19}$ , extending downwardly from the body-piece A. To this bracket a lever  $a^{17}$ , made of insulating material, is fulcrumed by means of a metal pin  $a^{18}$ . A metal piece  $a^{16}$  covers a portion of the lever  $a^{17}$  and receives through it the pin  $a^{18}$ , so that it is in electrical communication therewith. The metal strip  $a^{15}$  is bent downwardly and then upwardly, so as to have the general form of the letter V. It is made resilient and its limb  $a^{20}$  is free. This limb has preferably formed in it a notch suitable for engagement by that end of the lever  $a^{17}$  to which the metal piece  $a^{16}$  is applied. The metal piece  $a^{16}$  covers but the upper portion of the arm of the lever  $a^{17}$ , to which it is applied. Hence when this lever is rocked into one position the metal piece  $a^{16}$  will be in electrical contact with the limb  $a^{20}$  of the strip  $a^{15}$ , and when the lever is oscillated into a reverse position said metal piece  $a^{16}$  will be moved out of contact with the strip  $a^{15}$ . Obviously by oscillating the lever  $a^{17}$  into and out of engagement with the strip  $a^{15}$  the circuit may be continued or interrupted.

When a lamp is connected with the support, the circuit will be from a lead-wire to the binding-post  $a^6$ , through the strip  $a^{15}$  to contact  $a^{16}$ , the support  $a^{19}$ , the contact  $a^5$ , thence through lamp-filament to nipple  $a^7$ , to binding-post  $a^8$ , and out. By moving the contact on the key-lever away from the strip  $a^{15}$  the circuit will be broken.

Figs. 14 and 16 show a modified form of support. This differs from the form or support shown in Figs. 12 and 13 only by reason of the fact that a rocking piece  $a^{17}$ , bearing a metal piece  $a^{16}$ , is affixed to a shaft  $a^{21}$ , which is journaled in the metal strips  $a^{14}$ . A hand-piece on this shaft  $a^{21}$  provides for oscillating the piece  $a^{17}$  to continue or interrupt the circuit.

The shells E G H might be internally screw-threaded and the metal strip  $a^5$  of the support externally screw-threaded, as shown in Fig 17. Here the shell is marked S, and may be considered as either of the shells previously designated E, G, and H, and it need not be slitted or notched at the lower end.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a lamp-support

having a neck-like portion provided with a metal strip and a centrally-located nipple insulated from said metal strip, of a shell detachably secured thereto for fastening an electric lamp to said support, substantially as specified. 65

2. The combination, with a lamp-support having a neck-like portion provided with a metal strip and a centrally-located metal nipple insulated from said metal strip, of a shell detachably secured thereto for fastening an electric lamp to said support and continuing an electric circuit from said support to said lamp, substantially as specified. 70

3. The combination, with a lamp-support, of a shell slitted or notched at the lower portion and screw-threaded, indented, and slitted at the upper portion and detachably secured thereto for fastening an electric lamp to said support, substantially as specified. 75

4. The combination, with a lamp-support provided with notches, of a shell detachably secured thereto for fastening an electric lamp to said support, and a shell D, having tongue-like portions terminating in transverse extensions, substantially as specified. 80

5. The combination, with a lamp-support, of a shell adapted to be removably secured thereto and screw-threaded, indented, and slitted at the end portion opposite to that which is secured to the support, substantially as specified. 85

6. A support for a lamp, having a resilient contact-strip bent downwardly and then upwardly and having a notch in its upwardly-turned end, a rocking lever of insulating material in said support, and a metal piece on the rocking lever adapted to engage with the resilient contact-strip within its notch and close a circuit, substantially as specified. 90

7. In a support for a lamp, the combination of a body of insulating material mainly of cylindrical form, but having a flat surface  $a^8$  formed in its side, a neck-like portion on the upper end of the body, a metal strip extending partially around the neck-like portion and having one end turned into a notch in the neck-like portion and its opposite end connected to a binding-screw on the flat surface of the body, and a nipple on the body connecting with a binding-screw on the flat surface, substantially as specified. 100

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHAS. J. KLEIN.

Witnesses:

L. E. FRORUK,  
JNO. F. GEIDEL.