(No Model.) 2 Sheets—Sheet 1.

C. DORNFELD.

HOLDER FOR INCANDESCENT ELECTRIC LAMPS.

No. 307,270. Patented Oct. 28, 1884.

Fig: 1

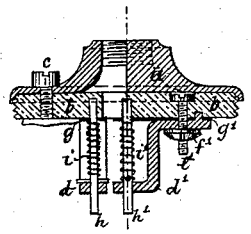


Fig: 1a

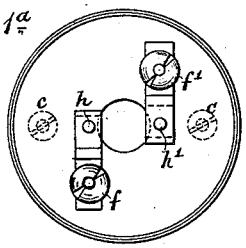


Fig: 2

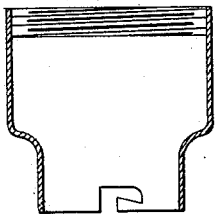


Fig: 3

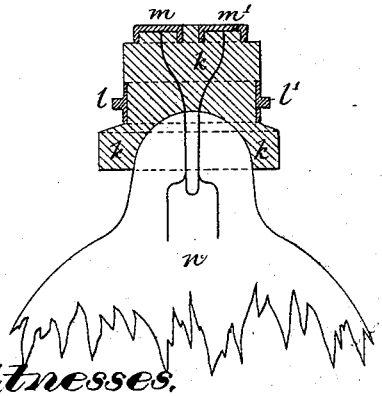


Fig: 4

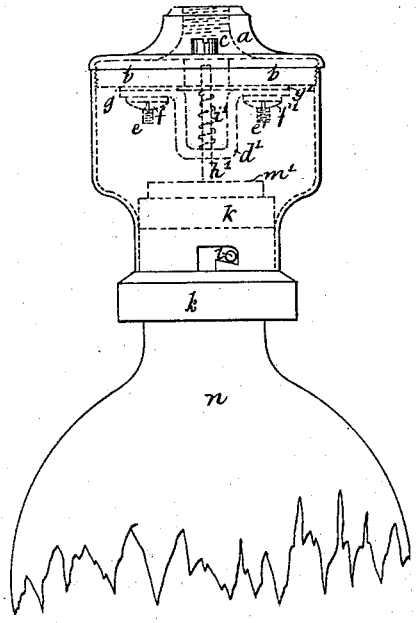
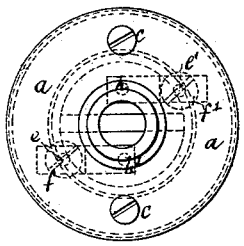


Fig 4a



Witnesses.

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(No Model.) 2 Sheets—Sheet 2.

C. DORNFELD.

HOLDER FOR INCANDESCENT ELECTRIC LAMPS.

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Fig: 5

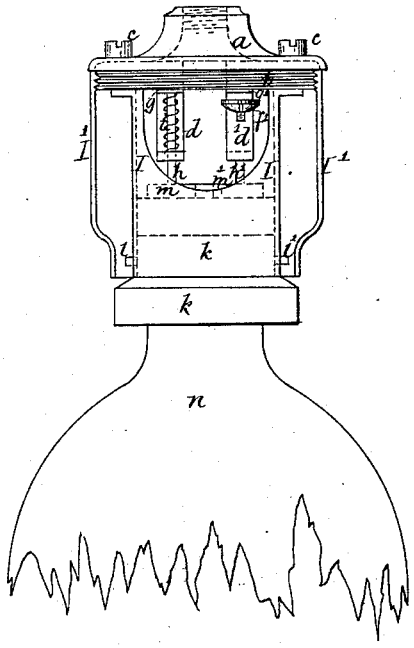
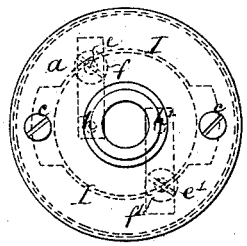


Fig: 5a



Witnesses,
J. A. Rutherford
Robert Everett.

Inventor:
Carl Dornfeld,
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

CARL DORNFELD, OF COLOGNE, GERMANY.

HOLDER FOR INCANDESCENT ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 307,270, dated October 28, 1884.

Application filed February 25, 1884. (No model.) Patented in England January 28, 1884, No. 2,285.

To all whom it may concern:

Be it known that I, CARL DORNFELD, a citizen of Prussia, residing at Cologne, in the German Empire, electrician, have invented new and useful Improvements in Holders for Incandescent Electric Lamps, of which the following is a specification.

This invention consists in a new construction of holders or so-called "settings" for incandescent electric lamps. The object of the construction is to enable the lamp-holders to be conveniently screwed onto gasaliers, chandeliers, &c., to fit the conducting-wires in the lamp-holder in a commodious way, to protect the same from contact or any external disturbance, as well as to fix the lamp itself into the holder in the simplest way, and thereby to insure its contact with the conductors. For the attainment of these objects the lamp-holder is constructed of two easily-separable parts, and the neck of the lamp provided with a particular contrivance.

The lamp-holder consists, as stated, of two easily-separable parts which can be screwed to one another. The upper portion forms a metal plate with socket-shaped shoulder, the latter having a screw-thread made in its center for union of the whole holder with gas-pipes, chandeliers, bracket-lamps, &c. On the other side of the plate a disk of insulating material is fixed by two screws, which disk has a screw-thread formed on its periphery. This disk carries two Z-shaped—that is to say, biangular—brackets of metal, which are screwed onto the same, and whose screws project into the interior of the lamp-holder, and are each provided with a nut. These nuts are for the purpose of fastening the conducting-wires to the Z-shaped metal brackets. On the insulating-disk are placed, underneath the Z-shaped brackets, small metal plates projecting toward the center. These small metal plates, as also the opposite ends of the Z-brackets, are drilled through in a vertical direction, and serve as guides for a vertically-arranged pin. Each of the Z-brackets has a pin of this description. These pins are surrounded by spiral springs, which, on one side rest on the metal plates, and on the other side are so attached to the pins that they tend to press these downward to a certain limit. This construction is illustrated in the drawings, in which—

Figure 1 is a vertical section of the holder with its casing removed; Fig. 1ª, a plan or top view thereof; Fig. 2, a section of the casing therefor; Fig. 3, a section of the base of the lamp; Fig. 4, a section of the lamp and socket or holder in position; Fig. 4ª, a plan view thereof; Figs. 5 and 5ª, sections and plans, respectively, of a modification.

Figs. 1 and 1ª of the accompanying drawings show, respectively, a vertical section and plan of this upper part of the lamp-holder. *a* is the metal plate provided with socket-shoulder; *b*, the disk of insulating material, with screw-thread round its periphery; *c*, the screws binding *a* and *b* together; *d d'*, the Z-shaped metal brackets; *e e'*, binding-screws of the same; *f f'*, their nuts, which serve for attaching the conducting-wires; *g g'*, small metal plates; *h h'*, metal pins vertically arranged; *i i'*, spiral springs.

The lower part of the lamp-holder consists of a cylindrical metal casing, on the inside of the upper end of which is a screw-thread, while the lower end is provided on opposite sides of its diameter with angular-shaped slits the lower edges of the horizontal parts of which are inclined downward slightly. Fig. 2 shows a vertical section of this part of the lamp-holder. The neck of the incandescent lamp—*i. e.*, that end of the lamp from which protrude the platinum wires which are connected to the carbon filament—is provided with a cylyndrical-shaped piece of insulating material, which has on its circumference two diametrically-opposite studs, which may be fixed on a ring, and which has, furthermore, upon its circular surface two small metal plates, preferably of a segmental shape. These plates, which are insulated from one another, each receive one of the wires from the carbon filament and serve in this way as contacts to the lamp. Fig. 3 shows a vertical section of the neck of the lamp in this shape. *k* forms the insulating-piece; *l l'*, both studs; *m m'*, the segmental contact-pieces, and *n* the glass bulb.

Figs. 4 and 4ª show an elevation and plan of the lamp and holder fitted together. This is effected in the following manner: The wires

proceeding from the chandelier are drawn through the central opening of the upper part of the lamp-holder. This then being screwed onto the chandelier the ends of the wires are brought by means of the nuts into contact with the Z-shaped brackets. Then the lower part of the holder is screwed onto the thread of the insulating-disk. On inserting the lamp the studs provided on its neck-piece must catch into the vertical sides of the angular slots of the holder. The lamp is then pressed upward as high as is permitted by the angular slots, whereby the spring-pins in the holder are made to rest upon the contact-pieces of the lamp and tend to push it downward. The lamp being turned slightly in a horizontal direction, the studs on its neck are made to bear, in a similar manner to a bayonet-lock, upon the horizontal part of the slots, and in consequence of the counter-pressure of the spring-pins in the holder it obtains a secure fastening. The electric current flows from the wires through the Z-shaped metal pieces and the spring-pins to the small contact-plates of the lamp.

With the above-described construction it is possible by turning the outer metal casing to put the lamp out of contact. If this is to be avoided, the arrangement of the lamp-holder is, as shown, in part sectional elevation and plan at Figs. 5 and 5*. The metal casing, which has the angular slots in it, is in this case fixed to the insulating-disk by means of two binding-screws, whereby any turning of this piece so as to bring the lamp out of contact is rendered impossible. In order, however, to be able to fasten the conducting-wires conveniently to the Z-shaped brackets, this casing is provided with a corresponding opening, as shown. Over the whole, for guarding against external contact of the wires, is covered another metal case, the same as before, which is screwed to the insulating-disk.

It is obvious that in the second casing the angular slots are omitted.

I do not broadly claim a holder for incandescent lamps having a socketed metal base for attachment to a chandelier or bracket arm, wherein the connections are automatically made to the incandescing-conductor when the lamp is placed in position in the holder, as such, as I am aware, is old.

Having thus described the nature of my invention and the best means I know for carrying the same into practical effect, I claim—

1. A socket or holder for incandescent electric lamps, consisting of the combination of the socketed metal base for attachment to a chandelier or bracket, the insulated bed secured thereto, the Z-shaped conducting-pieces, and the spring-actuated contact-rods, substantially as described.

2. In a socket or holder for incandescent electric lamps, the combination of the socketed metal base, the insulating-disk screw-threaded at its periphery, the Z-shaped metal conductors secured thereon, the spring-actuated contact-rods, and the protecting-case adapted to be secured to the insulating-disk, substantially as described.

3. The combination of the insulating-disk, the Z-shaped conductors secured thereto, the spring-actuated contact-rods, the protecting-case capable of attachment to the disk and provided with the angular slot, and the base K of the lamp provided with segments *m m'*, connected to the leading-in wires and with the pins or lugs Z Z', whereby the lamp is secured in the socket and the proper circuit-connections therefor formed, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 28th day of January, A. D. 1884.

CARL DORNFELD.

Witnesses:
ERNST CRAMER,
FRIEDRICH ALBERT SPIECKER.