

No. 774,391.

PATENTED NOV. 8, 1904.

P. KLEBER.

HOLDER FOR ELECTRIC INCANDESCENT LAMPS.

APPLICATION FILED JULY 9, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

FIG.1.

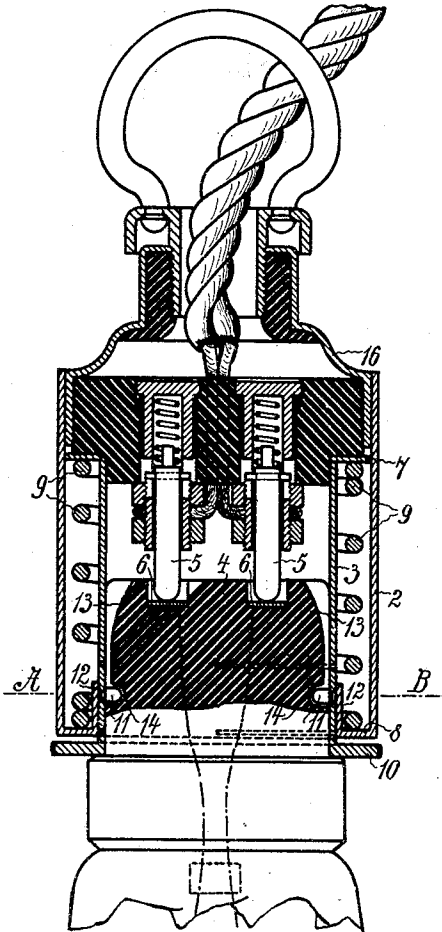
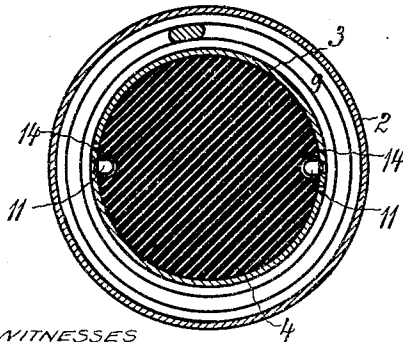


FIG.3.



WITNESSES

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FIG.2.

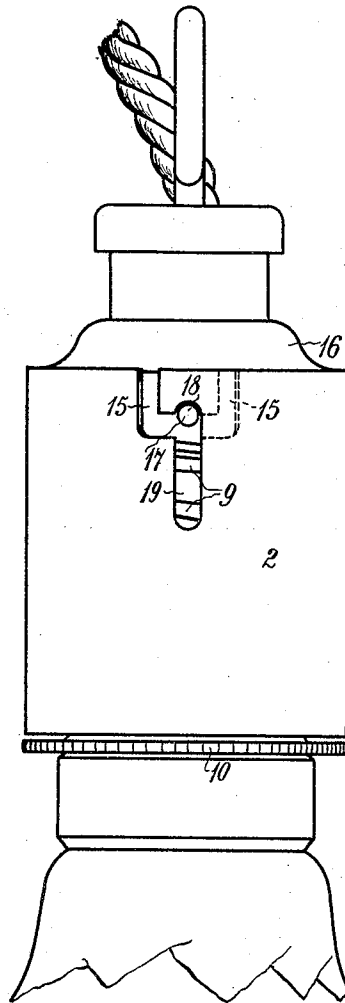


FIG.4.



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3 SHEETS—SHEET 2.

FIG. 5.

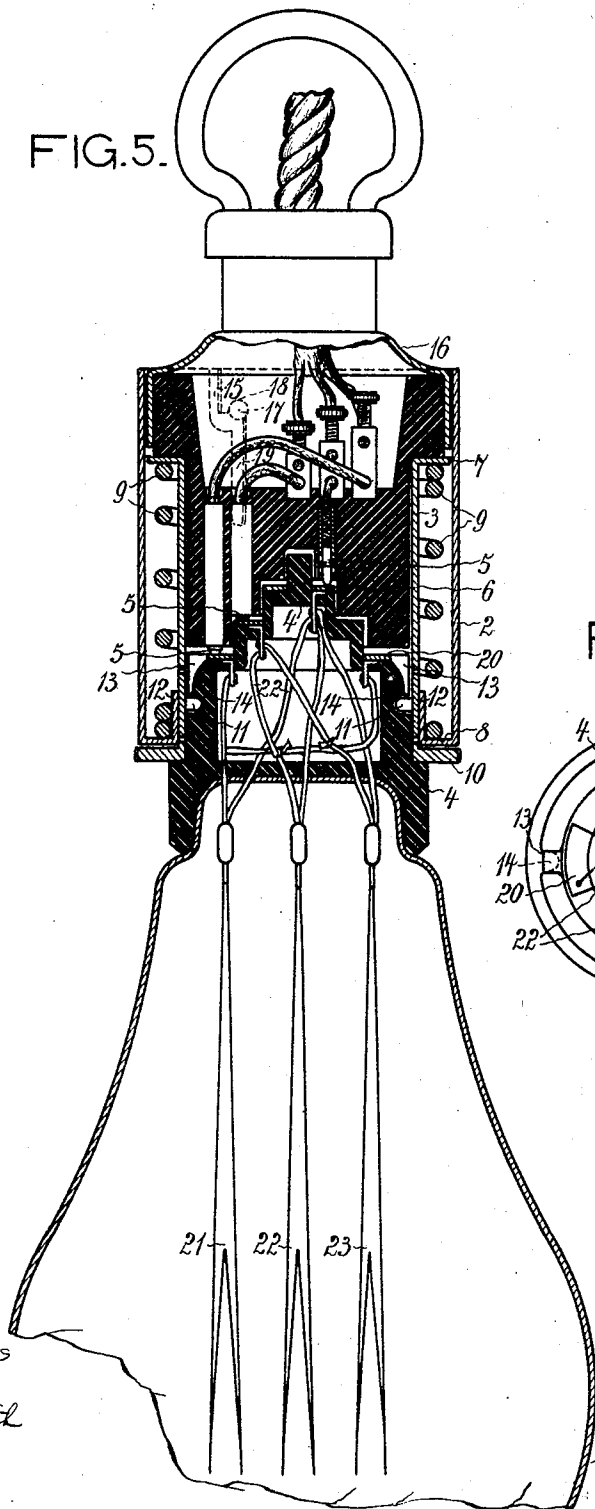
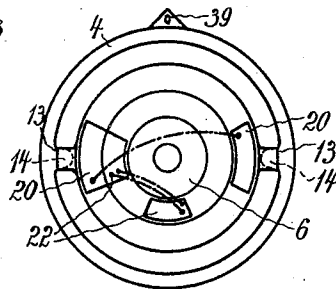


FIG. 6.



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3 SHEETS—SHEET 3.

FIG. 7.

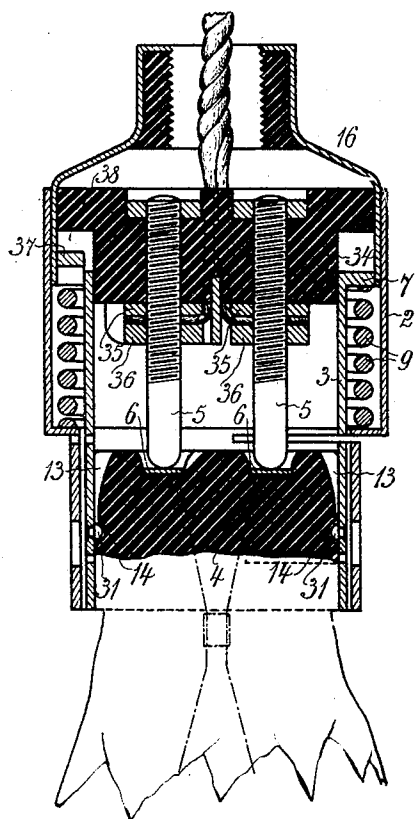


FIG. 8.

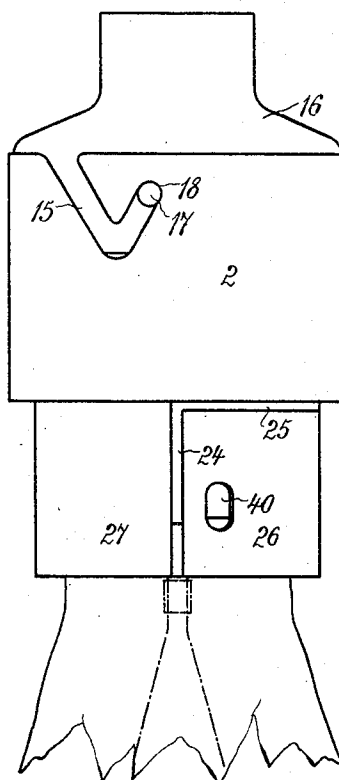


FIG. 9.

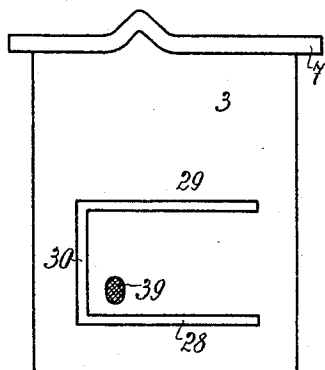
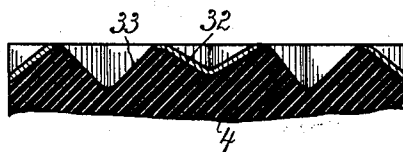


FIG. 10.



WITNESSES

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PETER KLEBER, OF WIESBADEN, GERMANY.

HOLDER FOR ELECTRIC INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 774,391, dated November 8, 1904.

Application filed July 9, 1903. Serial No. 164,917. (No model.)

To all whom it may concern:

Be it known that I, PETER KLEBER, a subject of the Emperor of Germany, residing at 60 Kaiser Friedrichsring, Wiesbaden, in the Kingdom of Prussia and Empire of Germany, have invented new and useful Improvements in Holders for Electric Incandescent Lamps, of which the following is a specification.

My invention relates to holders for electric incandescent lamps, and has for its object to enable the lamp to be removably fixed by its socket in a special sleeve inserted into the outer casing and held by a spring the tension of which must be overcome for severing the connection, thereby obviating any slackening through trepidations without diminishing the facility with which such connection may be severed.

In carrying my said invention into effect I may arrange the constitutive parts of the holder in such a manner that when the lamp occupies its operative position it shall be secure against removal from the holder and shall be removable only when it is switched off. For this purpose the neck of the casing is slotted, so as to provide an elastic and a non-elastic part, the sleeve which receives the lamp-socket being furnished with holding parts which are adapted to engage alternately with the said elastic and non-elastic parts of the casing. When the elastic part of the casing acts together with the holding parts of the sleeve, the lamp, which is then switched off, may be removed. By a partial turning movement of the lamp—for instance, through an angle of ninety degrees—the lamp is switched on, the holding parts of the sleeve passing into the non-elastic part of the casing and being clamped thereby, so that the withdrawal of the lamp will no longer be possible. The position of the lamp may be known by signs indicating whether the lamp is switched on or off.

In the accompanying drawings I have represented several constructional forms of my said invention. Figure 1 is a vertical section of one of these forms. Fig. 2 is a side elevation of the same. Fig. 3 is a horizontal section on the line A B of Fig. 1. Fig. 4 is a diagram showing the arrangement of the con-

tact-surfaces. Fig. 5 is a vertical section of a modified holder for a lamp having several filaments. Fig. 6 is a plan showing the arrangement of the contact-pieces on a stepped socket. Fig. 7 is a vertical section of another constructional form of the holder. Fig. 8 is a side elevation of the same. Fig. 9 is a side elevation of the sleeve. Fig. 10 is a diagram showing the arrangement of the contact-sur-

faces. In the holder illustrated in Figs. 1 to 4 the casing 2, consisting either of metal or insulating material, is of cylindrical shape. A cylindrical sleeve 3, provided in the interior of the casing 2, is connected therewith, so that it may be turned. This interior sleeve 3 receives the lamp-socket 4, into which the contact-pieces 5 of the holder extend from above and make contact with corresponding contact-pieces 6 on the socket, as in the Swan holder. Between an outer flange 7 at the top of the sleeve 3 and an inner flange 8 at the bottom of the casing 2 is arranged a spring 9, tending to force the sleeve 3 into the casing 2. The sleeve 3 has at its lower end an outer flange 10, which limits the movement due to the action of the spring 9. This sleeve 3 is moreover furnished with two inwardly-projecting spring-nipples 11, arranged at diametrically opposite points, these nipples when they are in their normal position—that is to say, when the sleeve 3 is forced into the casing 2—being prevented from moving outward by a retreating seam 12 of the casing 2 fitting closely over the same. The nipples are, however, released on the sleeve 3 being drawn out against the action of the spring 9. In this position the socket 4 of the lamp is inserted, and the nipples 11, guided by grooves 13 in the socket 4, enter corresponding depressions 14, formed in the said socket. If the sleeve 3 is then left to the action of the spring 9, it will be forced, together with the lamp-socket inserted therein, into the casing 2, thus securing the attachment of the lamp to the sleeve 3. In this constructional form of the holder it is not necessary that the contact-pieces 5 should be subjected to the action of springs. The contact of the contact-pieces 5 and 6 is insured by the spring 9. For the

purpose of securing the lamp in the holder when switched on or off the contact-surface of the socket 4 is shown to be made of zigzag shape, Fig. 4. The contact-pieces 5 enter the recesses of the zigzag-shaped surfaces both at the contact parts 6 and at the insulating parts, the respective positions being insured without preventing the turning movement of the socket 4 in either direction, if desired. The zigzag-shaped contact-surfaces of the socket are formed similarly to ratchet-teeth, thus allowing the socket to be turned only in one direction with regard to the contact-pins of the working circuit. The casing 2 has two diametrically opposite slots 15 for a bayonet-joint, and on the cap 16 of the same are two studs 17, occupying corresponding positions. At the end of the slot 15 there is an upwardly-extending recess 18, into which when the parts of the holder are put together the studs 17 on the cap 16 are forced by the spring 9, thereby insuring the locking action of the bayonet-joint. A vertical slot 19 terminates in each of the slots 15, so that on the sleeve 3 being withdrawn the stud 17 will enter the said vertical slot, the length of which limits the withdrawal of the aforesaid sleeve.

The constructional form illustrated in Figs. 5 and 6 shows the improved holder in connection with an incandescent lamp having a plurality of filaments adapted to be switched on either singly or several at the same time. By way of example I have shown three filaments, one end of these filaments being joined to a common contact-piece 6, forming a ring on the stepped socket 4. Upon the lowest step of the socket I fix two connected contact-pieces 20 for the second end of a single filament 21, while the second step carries two connected contact-pieces 22 for the second ends of the remaining two filaments 23. On the two lower steps the contact-pieces 5 of the holder are adapted to slide, and a third contact-piece 5 of the holder bears continually upon the contact-ring 6. The former contact-pieces conduct current to the filaments, and the latter contact-pieces conduct it from the same. The arrangement of the contact-pieces 20 and 22 upon the socket is such that according to the position of the latter in the holder either the filament 21 or only the filaments 23 or else all of them simultaneously are switched on. In a fourth position all the filaments are switched off. I may provide on the turning sleeve 3 and the casing 2 signs or pointers 39, Fig. 6, corresponding to each other and indicating the respective position of the lamp-socket forming the switch with respect to the contact-pieces of the holder. The locking in the several positions may also be effected by projections on the sleeve 3 entering notches in the casing under the action of the spring 9. For the same purpose use may also be made of special catch-springs or the like.

In the constructional form shown in Figs. 7 to 10 the neck of the outer casing 2 is provided with two longitudinal slots 24 at diametrically opposite points. At the upper end of this neck a transverse slot 25 extends from each longitudinal slot 24 and forms an arc through an angle of about ninety degrees. By the slots 24 and 25 I form elastic parts 26, while the parts 27 of the neck of the casing are not elastic. The neck of the sleeve 3 receiving the lamp-socket 4 is furnished with slots 28 29 30, enabling it to be spread, Fig. 9, and carries upon its interior surface stud-shaped projections 31, which on the insertion of the lamp-socket 4 take into depressions 14 at the lower end of the guide-grooves 13 in the socket 4. Upon its elevated parts 32 the contact-surface of the lamp-socket, Fig. 10, is provided with a conducting layer, while its receding parts 33 are insulated. The parts of the holder are held together in the working position by the spring 9. The outer casing 2 is closed by a cap 16, furnished with a pin 17, which, in conjunction with the slot 15 in the casing 2, forms a bayonet-joint. The contact-pins 5 are screwed into the support 34, and the conductors are clamped between nuts and counter-nuts 35 36. At the upper end of the sleeve 3 I provide a pawl 37, in the path of which there is a recess 38 in the support 34. On the spreading parts of the sleeve 3 are signs 39, rendered visible through apertures 40 in the elastic parts 26 of the outer casing 2.

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

1. In a holder of the character described, the combination, with a lamp-socket, of a casing, a sleeve having elastic parts adapted to engage with the socket and fitted to slide in the casing, and a spring adapted to force the sleeve into such casing, substantially as and for the purpose herein set forth.

2. In a holder of the character described, the combination, with a lamp-socket, of a casing having a flange, a sleeve fitted to slide therein and also provided with a flange, a spring placed between the said two flanges, and serving to force the sleeve into such casing, a cap, contact-pins carried by this cap, and a bayonet-joint for connecting the cap with the said casing, substantially as and for the purpose herein set forth.

3. In a holder of the class described, the combination with a lamp-socket provided with longitudinal grooves, and with depressions at the ends of said grooves, of a casing, a sleeve having elastic parts adapted to engage with the socket and fitted to slide in the casing, a spring adapted to force the sleeve into said casing and spring projections carried by said sleeve adapted to engage said depressions and to be released therefrom when the sleeve is partly withdrawn from the casing, substantially as described.

4. In a holder of the character described, the combination, with a lamp-socket, of a casing having a neck divided by slots into an elastic part and a non-elastic part, and a sleeve embraced with a certain amount of tension by the said elastic part of such neck and having holding parts adapted to enter the non-elastic part of the same, substantially as and for the purpose herein set forth.
- 10 5. In a holder of the character described, the combination, with a lamp-socket, of a sleeve provided with pawls and a cap having recesses

therein, the said pawls being adapted to engage with these recesses, on the removal of the lamp-socket, substantially as and for the purpose set forth.

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

PETER KLEBER.

Witnesses:

HENRY HOLLMANN,
CARL ERNST.