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C. J. RUNDBERG.

INCANDESCENT ELECTRIC LAMP REMOVER, REPLACER, AND CLEANER.

APPLICATION FILED JULY 24, 1905.

Fig. 1.

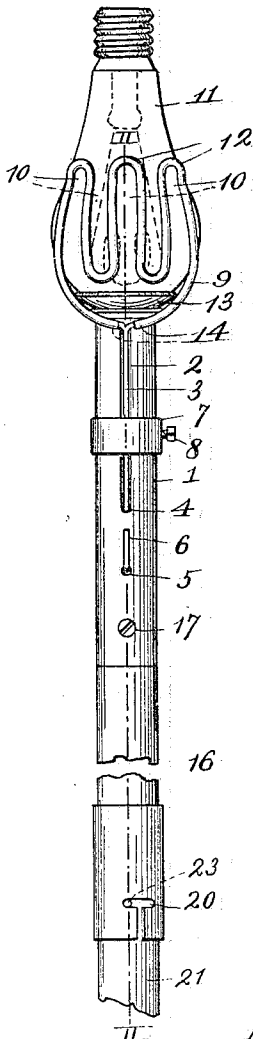


Fig. 2.

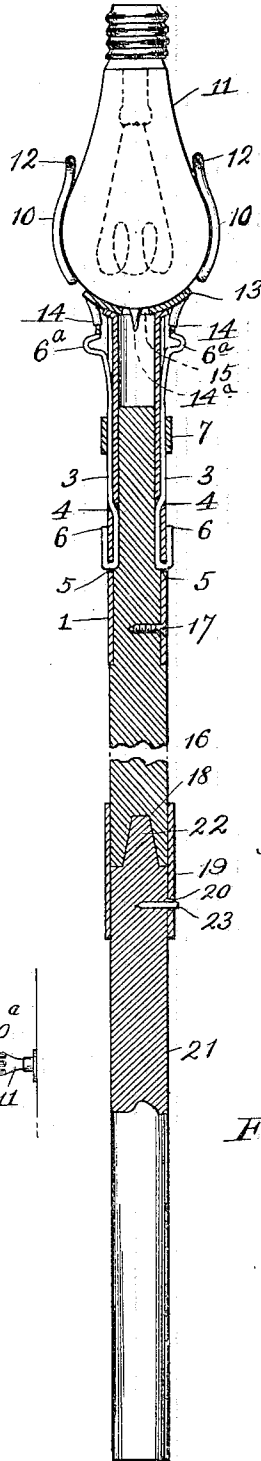


Fig. 4.

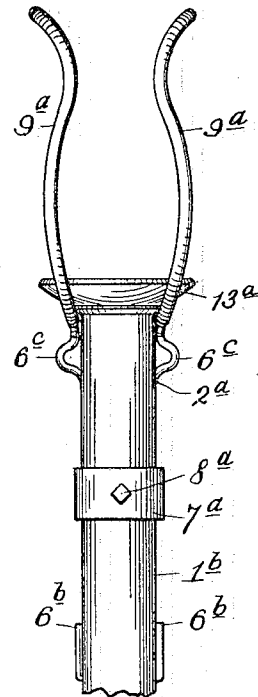


Fig. 5.

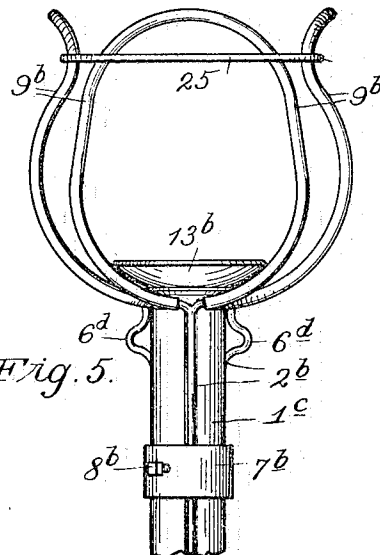
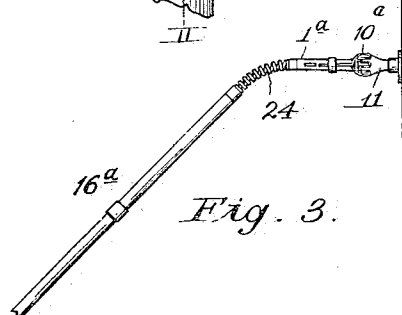


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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INCANDESCENT-ELECTRIC-LAMP REMOVER, REPLACER, AND CLEANER.

No. 809,985.

Specification of Letters Patent.

Patented Jan. 16, 1906.

Application filed July 24, 1905. Serial No. 271,126.

To all whom it may concern:

Be it known that I, CHARLES J. RUNDBERG, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Incandescent-Electric-Lamp Removers, Replacers, and Cleaners, of which the following is a specification.

My invention relates to an incandescent-electric-lamp remover, replacer, and cleaner; and my object is to provide a simple device with which a person may readily remove overhead incandescent electric lamps from their sockets and replace and clean said lamps without climbing a ladder or leaving the floor of the apartment containing the lamps.

In order that the invention may be fully understood, reference will now be made to the accompanying drawings, in which—

Figure 1 represents a front elevation of the device grasping an incandescent electric lamp. Fig. 2 is a central vertical section of same, taken on line II II of Fig. 1 with the lamp in elevation. Fig. 3 is a front elevation of same with a modified form of handle for use in grasping lamps arranged in a horizontal position. Fig. 4 is a modified form of the upper portion of the device for grasping large lamps. Fig. 5 is another modified form of the upper portion of the device.

In carrying out the invention I employ a tubular metallic member 1, provided at its opposite sides with longitudinal grooves 2 for the reception of a pair of resilient arms 3, the lower portions of which extend into the tube through openings 4, thence downwardly a short distance and outwardly through openings 5, arranged vertically beneath openings 4, thence upwardly, and terminate at 6 a short distance beneath openings 4. By thus arranging the resilient arms in grooves 2 and bending their lower portions as described and shown in Fig. 2 it will be seen that said arms will be caused to rotate with the sleeve.

The upper portion of arms 3 are bent to form shoulders 6^a, which, in conjunction with their terminals 6, limit the movement of a sleeve 7, slidingly embracing member 1 in order to regulate the tension of the arms, which have a tendency to spring outwardly. In addition to the sleeve regulating the tension of the arms it also holds them in the grooves, which latter protect said arms from undue torsional strain when the handle is ro-

tated to remove or replace a lamp. Sleeve 7 is held at any point of its adjustment by a set-screw 8, extending therethrough and adapted to abut at its inner end against member 1. The upper ends of arms 3 communicate with the lower portions of main loops 9, which latter communicate at their upper portions with finger-like supplemental loops 10 of such length and shape in longitudinal section as to snugly embrace the incandescent electric lamp 11, as shown in Fig. 2. The upper ends 12 of the loops flare outwardly, so that when placed in contact with the lower portion of the lamp and pushed outwardly they will be pressed outwardly by said lamp, so the latter may be properly seated in a guide-cup 13, secured to the upper terminal of member 1.

In order to prevent the spring-wire forming the loops from coming into contact with the glass bulb of the lamp, and thus marring the same, I cover the entire surface of said loops with rubber tubing 14 or other soft resilient material which will grasp the lamp with sufficient pressure to unscrew it from its socket when member 1 is rotated in one direction or screw the lamp into its socket when said member is rotated in the opposite direction.

When applying the device to the lamp, it is guided into longitudinal alinement with the latter by guide-cup 13, which engages and slides upon tip 14^a as the device is pushed upwardly until said tip enters the central opening 15 in the guide-cup. After the latter operation takes place the device will be held in longitudinal alinement with the lamp while the latter is being removed from or applied to its socket.

16 designates a handle which is preferably made in detachable sections, so that its length may be readily increased or diminished by adding or removing one or more sections to reach lamps at various elevations. In the present instance I have shown but two sections, the upper one of which is secured at its upper end in member 1 by screw 17 and provided at its lower end with an internal tapering socket 18 and an external socket 19, having a T-shaped slot 20 at its lower end.

The lower section 21 has a reduced upper terminal 22, which snugly fits socket 18, and a pin 23 for engaging slot 20 for the purpose of locking the two sections together, so that the lower section cannot be accidentally withdrawn from the upper section when pull-

ing downwardly to disengage the device from a lamp. When the handle is rotated in one direction to unscrew the lamp, pin 23 will engage one end of the upper portion of slot 20, and when the handle is rotated in the opposite direction it will engage the opposite end of the upper portion of said slot. Consequently it will be impossible for the lower section to become accidentally disengaged from the upper section.

Should the loops 10 fail to grasp the lamp with sufficient pressure to rotate it with the device, the tension of arms 3 is increased by adjusting sleeve 7 upwardly to the desired point.

In the modified form Fig. 3 handle 16^a is connected to member 1^a by a flexible shaft 24, so that the loops 10^a may engage a lamp arranged in a horizontal position. When this style of handle is employed, the guide-cup 13 is of especial importance, as it contacts with the tip on the lamp and guides and holds member 1^a in horizontal alinement with said lamp, so the latter may be readily removed from or replaced in its socket.

In the modified form Fig. 4, 1^b designates a tube; 2^a, the resilient arms having upturned lower terminals 6^b and shoulders 6^c to limit the movement of sleeve 7^a, provided with a set-screw 8^a. Each loop 9^a is formed without the supplemental loops shown in the preferred form, and consequently may be produced at lower cost than the latter; otherwise this device is like the preferred form.

The modified form Fig. 5 is similar to the modified form shown in Fig. 4 except that it has four loops 9^b instead of but two. This device consists of member 1^c, resilient arms 2^b, provided with shoulders 6^d, a sleeve 7^b, provided with a set-screw 8^b, a guide-cup 13^b, the loops 9^b, and an elastic band 25, embracing the upper ends of the loops, which adds to the grasping force of the latter.

By placing a cloth between the loops and the lamp the latter may be quickly cleaned and polished without removing it from its socket by rotating the device several times.

From the above description it is apparent that I have produced a simple device which will prove effective in removing, replacing, and cleaning overhead incandescent electric lamps and will be exceedingly convenient for use in theaters, churches, stores, &c., where the lamps are placed at a considerable height above the floor.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device of the character described, a handle provided at its upper portion with longitudinal grooves and openings, resilient arms arranged in said grooves and having their lower portions extending through the openings, the lower terminals of said arms being bent upwardly against the outer sur-

face of the handle, shoulders on the upper portions of said arms, a sleeve slidably embracing the handle and the arms to regulate the tension of the latter, the movement of said sleeve being limited by the lower terminals of the arms and the shoulders, and resilient loops carried by the upper portions of the arms, substantially as described.

2. In a device of the character described, a handle provided at its upper portion with longitudinal grooves and openings, resilient arms arranged in said grooves and having their lower portions extending through the openings, the lower terminals of said arms being bent upwardly against the outer surface of the handle, shoulders on the upper portions of said arms, a sleeve slidably embracing the handle and the arms to regulate the tension of the latter, the movement of said sleeve being limited by the lower terminals of the arms and the shoulders, means for reliably securing the sleeve at any point of its adjustment, and resilient loops carried by the upper portions of the arms.

3. In a device of the character described, a handle provided at its upper portion with longitudinal grooves and openings, resilient arms arranged in said grooves and having their lower portions extending through the openings, the lower terminals of said arms being bent upwardly against the outer surface of the handle, shoulders on the upper portions of said arms, a sleeve slidably embracing the handle and the arms to regulate the tension of the latter, the movement of said sleeve being limited by the lower terminals of the arms and the shoulders, resilient loops carried by the upper portions of the arms, and a guide-cup arranged between the lower portions of the loops and provided with a centrally-disposed opening, for the purpose set forth and described.

4. In a device of the character described, a handle provided at its upper portion with longitudinal grooves and openings, resilient arms arranged in said grooves and having their lower portions extending through the openings, the lower terminals of said arms being bent upwardly against the outer surface of the handle, shoulders on the upper portions of said arms, a sleeve slidably embracing the handle and the arms to regulate the tension of the latter, the movement of said sleeve being limited by the lower terminals of the arms and the shoulders, resilient loops carried by the upper portions of the arms, and flexible tubing covering the entire surface of the loops, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES J. RUNDBERG.

Witnesses:

J. W. BOLING,
J. MOORE.