W. J. LEISER.

PLUG REMOVER.

APPLICATION FILED MAR. 10, 1916.

1,189,142.

Patented June 27, 1916

2 SHEETS—SHEET 1.

Fig. 1.

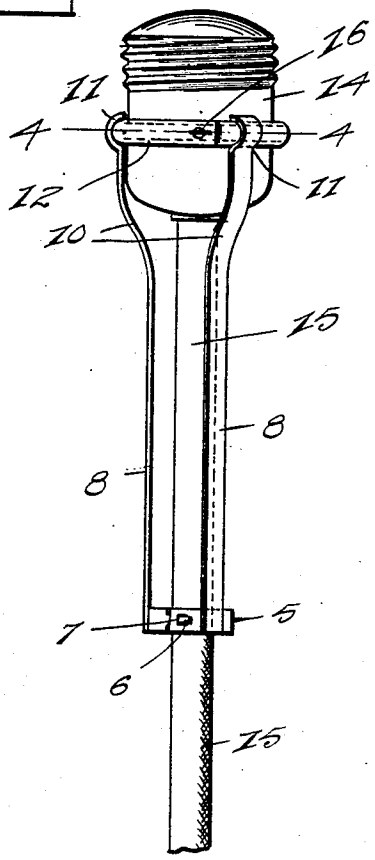


Fig. 2.

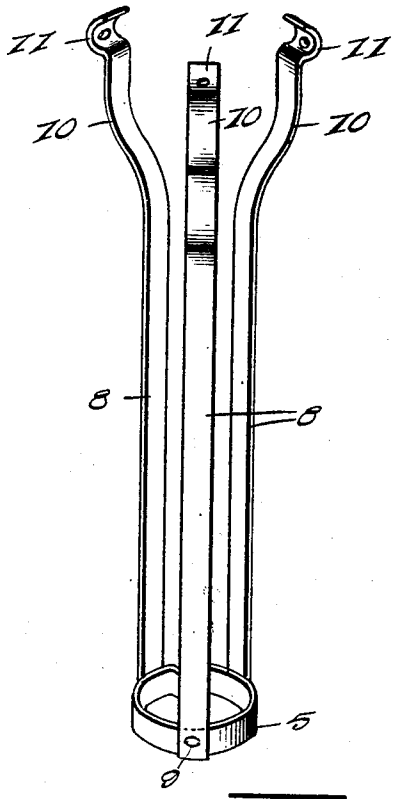


Fig. 3.

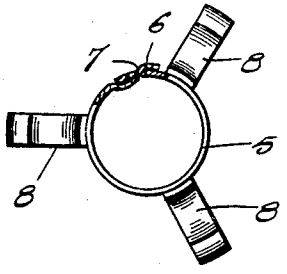
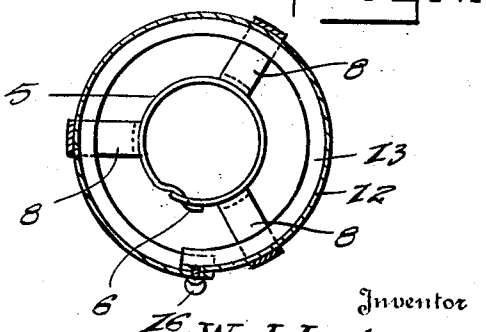


Fig. 4.



Witnesses

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PLUG REMOVER.

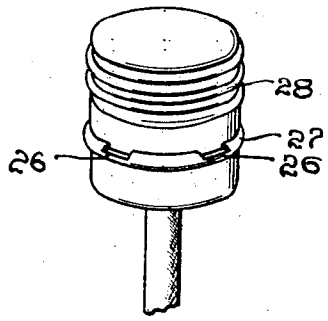
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2 SHEETS—SHEET 2.

FIG 5



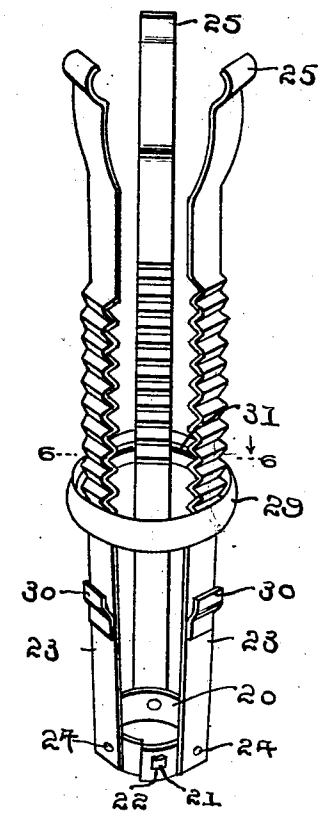


FIG 6

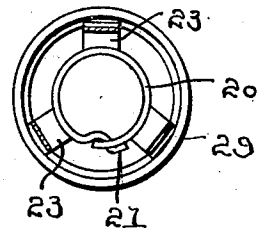
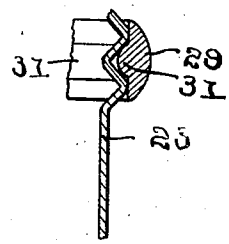


FIG 7



Witnesses

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UNITED STATES PATENT OFFICE.

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PLUG-REMOVER.

1,189,142. Specification of Letters Patent. Patented June 27, 1916.

Application filed March 10, 1916. Serial No. 83,329.

To all whom it may concern:

Be it known that I, WILLIAM J. LEISER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Plug-Removers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its primary object to provide a simple and efficient device for facilitating the removal and attachment of plugs from and to electric lamp sockets.

It is a well known fact that it is difficult to remove or attach a plug to an electric incandescent lamp socket to which is attached a shade or reflector, and it is, therefore, the object of this invention to provide a device for facilitating attachment and removal of the plug from a lamp socket, which on account of a shade or reflector or for any other reason is rendered inaccessible.

With these and other objects in view, the invention consists in the novel construction, combination and arrangement of parts as will be hereinafter specifically described, claimed and illustrated in the accompanying drawing, in which:

Figure 1 represents a side elevation of the improved plug remover applied to use, Fig. 2 represents a perspective view thereof, the split plug-engaging ring being removed, Fig. 3 represents a bottom plan view of the remover, Fig. 4 represents a transverse sectional view on the line 4—4 of Fig. 1, Fig. 5 represents a perspective view of a modified type of the plug remover and plug removed therefrom, the latter having a recessed bead particularly designed for use in connection with a plug remover of this type, Fig. 6 represents a transverse sectional view on the line 6—6 of Fig. 5, and Fig. 7 represents a fragmental longitudinal sectional view through one of the spring arms and the slidable ring associated therewith.

Referring to the drawing in detail, wherein similar reference numerals designate corresponding parts throughout the several views, the numeral 5 indicates a ring preferably formed from sheet metal and having one end reduced and curved to define a hook 6 adapted to be received within an aperture 7 formed in the other end, whereby the ends of the ring are detachably connected.

A plurality of spring arms 8 are connected at one end by means of rivets 9, or equivalent means, to the ring 5, extend in spaced parallel relation and the opposite or free ends thereof are directed outwardly, as indicated at 10, and crimped to define a plurality of terminal U-shaped retaining members 11. A split and contractible spring ring 12 is engaged in the U-shaped members 11 carried by the spring arms 8, and is concavo convex in cross section, the concave surface 13 thereof being disposed inwardly and adapted for engagement with the usual circumferential bead or enlargement formed upon the usual types of socket plugs 14, carrying the usual extension wire 15. The parallel portions of the arms 8 constitute handles adapted to be gripped in the hand of the operator to facilitate use of the plug remover.

In applying the invention to use the free ends of the ring 5 are separated and the extension wire 15 of the plug 14 is inserted in the ring. The spring arms 8 are subsequently spread apart so as to expand the plug-engaging ring 12, which latter is slipped over the circumferential bead of the plug 14 and the handles or arms 8 subsequently moved together so as to contract the band 12 and frictionally grip the socket 14. With the socket 14 thus held against rotary movement with relation to the free ends of the arms 8 the device is rotated, thereby unscrewing or attaching the plug as desired. If preferred, the free ends of the ring 12 may be apertured and formed with internal screw threads to receive a thumb screw 16, whereby the ring may be permanently attached to the lamp plug.

Referring to the modification of the invention illustrated in Figs. 5 to 7, wherein is illustrated a modification of the plug remover, the numeral 20 indicates a split ring having one end reduced and curved to provide a connecting hook 21 adapted for engagement in an aperture 22 in the opposite end to detachably connect the ends of the ring. A plurality of spring arms 23 are rigidly connected at one end by rivets or equivalent means 24 in spaced relation to the ring 20, extend outwardly from the latter in diverging planes and are curved at their free ends to define terminal U-shaped

clamping members 25 adapted for engagement in recesses 26 formed in the external bead 27 of the socket plugs 28. The free ends of the spring arms 23 carrying the members 25 are adapted to be moved inwardly against their tension so as to firmly engage the recessed bead 27 by a ring 29, slidably mounted over the arms. The movement of the ring 29 longitudinally of the spring arms 23 and in the direction of the ring 20 is limited by angular stop members 30 fastened to the spring arms adjacent the ring 20. The portions of the spring arms 23 intermediate the stops 30 and the clamping members 25 are crimped or corrugated and adapted to receive in the grooves defined by the corrugations an internal bead 31 formed in the ring 29, whereby the latter is yieldably retained in adjusted position with relation to the arms and the clamping members 25 may be thus retained in permanent engagement with the bead 27.

What I claim is:

1. A plug remover including a ring, means for detachably connecting the adjacent ends of said ring, a plurality of spring arms carried by said ring and a contractible spring plug-engaging ring engaged with the ends of said arms opposite the first-mentioned ring.

2. A plug remover including a ring, a plurality of spring plug-engaging arms connected at one end with said ring and having transverse corrugations, and means movable over the corrugated portions of said arms for drawing the free ends of the latter into frictional engagement with a plug.

3. A plug remover including a ring, a plurality of spring arms connected at one end with said ring and having transverse corrugations and a ring movable over the corrugated portions of said arms for drawing the free ends of the latter together.

4. A plug remover including a ring, a plurality of spring arms connected at one end with said ring, plug-engaging members at the free ends of said arms, a ring slidably engaged about said arms and movable longitudinally of the latter to draw the free ends of the arms together, the medial portions of said arms having transverse corrugations or crimps, and an internal bead formed in said ring adapted to co-act with said corrugations to resiliently retain the ring in adjusted position.

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

WILLIAM J. LEISER.

Witnesses:
EDW. J. HENLE,
FRANCIS MCLEO.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."