A. O. CRAIG.

ELECTRIC LAMP POSITIONING AND REMOVING DEVICE.

APPLICATION FILED NOV. 11, 1912.

1,067,899.

Patented July 22, 1913.

2 SHEETS—SHEET 1.

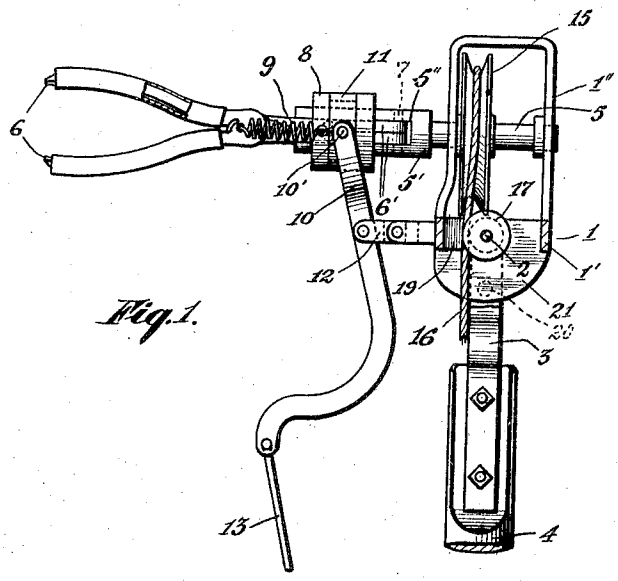


Fig. 1.

Fig. 4.

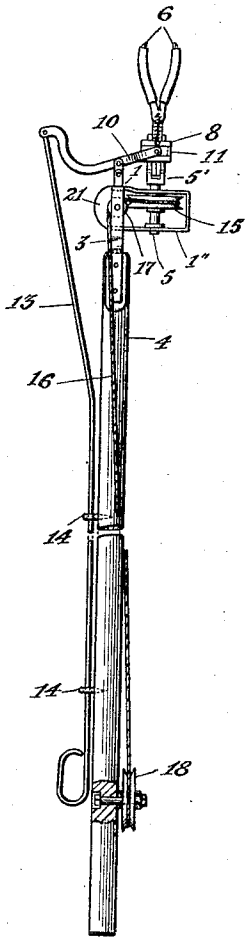


Fig. 2.

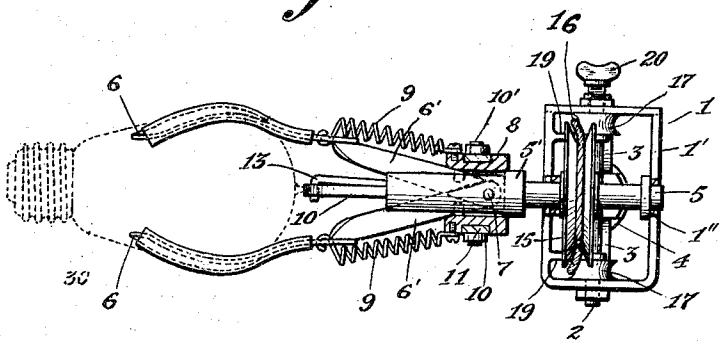
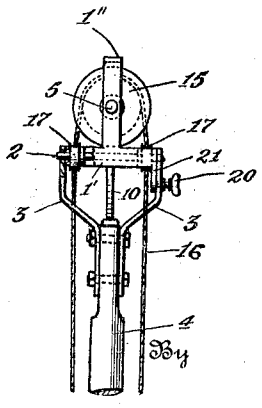


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 5.

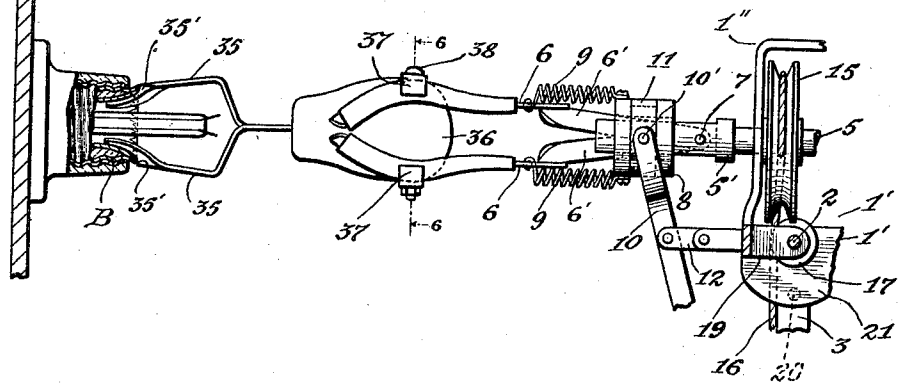


Fig. 6.

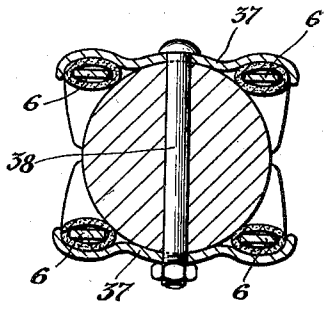
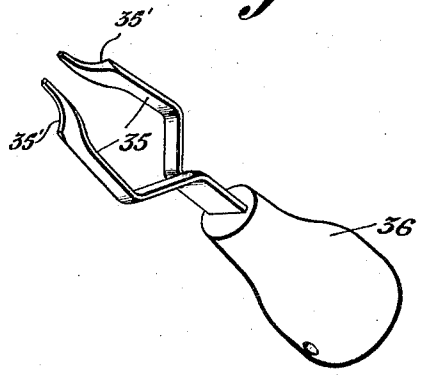


Fig. 7.



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UNITED STATES PATENT OFFICE.

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ELECTRIC-LAMP POSITIONING AND REMOVING DEVICE.

1,067,899. Specification of Letters Patent. Patented July 22, 1913.

Application filed November 11, 1912. Serial No. 730,790.

To all whom it may concern:

Be it known that I, ALFRED O. CRAIG, a citizen of the United States of America, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Electric-Lamp Positioning and Removing Devices, of which the following is a specification.

My invention has particular reference to a device of the above type designed primarily for inserting or removing electric lamps or bulbs, the sockets for which, under ordinary conditions, are at such height or elevation as not to be within convenient reach of the operator, and has for one of its objects the provision of a novel construction for holding and simultaneously revolving the lamp.

A further object resides in the provision of a construction of this character, permitting of the lamp holding or gripping device being angularly adjusted with respect to the handle.

Further the invention includes a provision through the medium of which the bases of broken lamps can be removed from the sockets.

Other objects will be set forth as my description progresses, and those features of construction, arrangements and combinations of parts on which I desire protection, succinctly defined in my annexed claims.

Referring to the accompanying drawings wherein like numerals of reference indicate like parts throughout: Figure 1 is a fragmentary side elevation of the invention, a portion of the adjustable head being broken away. Fig. 2 is a top plan thereof illustrating the jaws as clamping the lamp, a portion of the jaw closing sleeve being broken away. Fig. 3 is a fragmentary rear elevation. Fig. 4 is a side elevation of the invention showing the head adjusted to position the jaws in upright position. Fig. 5 is a fragmentary sectional view illustrating the supplemental attachment engaged in the base of a lamp, as in use. Fig. 6 is a sectional view illustrating more particularly the means for clamping the supplemental jaw attachment to the jaws of the device, and Fig. 7 is a detail of the attachment.

Referring to the drawings by numerals of reference, 1 indicates a head comprising a substantially rectangular base part 1′ through which a shaft 2 extends and has its projecting end portions journaled in bracket arms 3 fixed to a handle 4, which handle can be of any suitable length, as is apparent. Extending upwardly from base part 1′ is an upright 1″ of substantially U-form, and in the arms thereof, I journal a shaft 5, which shaft projects laterally from the head and has its projecting end portion enlarged, as at 5′, and formed with a cutout 5″ in which the shanks 6′ of jaws 6 are pivoted by a pin 7.

Reference numeral 8 indicates a sleeve slidably engaged on the enlarged portion 5′ of shank 5 and connected by springs 9 with jaws 6. These springs tend to hold sleeve 8 well over the shanks 6′, as shown in Fig. 1, whereby the jaws 6 are firmly held in engagement with the lamp. They further serve to transmit opening movement to the jaws when sleeve 8 is shifted toward head 1. This last named movement of the sleeve is effected by a shifting lever 10 fulcrumed by link 12 on head 1 and pivoted at 10′ to a ring 11 engaged in a peripheral groove of said sleeve. The lower end portion of lever 10 is bent outwardly and connected with an actuating slide 13 extending down handle 4 and slidably engaged in suitable guides 14 thereof.

For rotating shaft 5 I provide the mechanisms now to be described. Reference numeral 15 indicates a pulley fixed to shaft 5 over which takes an endless flexible member or cord 16, the latter also extending over direction sheaves 17 and a pulley 18. Pulley 18 is rotatably mounted on handle 4, while sheaves 17 are journaled on shaft 2, by which arrangement angular adjustment of head 1 is permitted without interfering with the proper operation of flexible connection or cord 16, as will be readily understood.

Reference numeral 19 indicates guides for cord 16 the same being in the form of lug extensions of base plate 1′, and projecting crosswise of head 1 at the inner sides of sheaves 17.

Reference numeral 20 indicates a set screw having threaded engagement in one bracket arm 3 and adapted for engagement with a fixed segmental plate 21 of base part 1′ to thereby hold head 1 in a predetermined set position.

Jaws 6 can be of any suitable construc-

tion. As shown, each comprises a pair of curved branches of its shank 6′, and these branches are conveniently faced with rubber.

In Fig. 4 I have shown head 1 adjusted for operation on lamps set vertically, as for example in ceiling fixtures, while in Figs. 1 to 3 inclusive, the said head is adjusted to a position at substantially right angles, in which position jaws 6 can be readily engaged with lamps set in or projecting from vertically disposed supports, as for example sign boards.

Assuming that a lamp, as 30, has been engaged between jaws 6 and the latter closed thereupon through the operator releasing slide 13, shaft 5 is now rotated through a pull on cord 16. To set a lamp in its socket, shaft 5 is obviously rotated in a direction opposite to that in which it will be moved to effect the removal of a lamp.

Reference numeral 35 indicates supplemental jaws tapering in a forward direction for ready insertion into the base of a broken lamp and having laterally projecting teeth 35′ adapted to frictionally engage or bite into the edge of the usual threaded base shell B. Jaws 35 are fixed to a handle or body 36 of insulating material which in practice, is positioned in jaws 6 and clamped thereto by suitable clamping members 37, these being formed with curved seats for reception of the jaw branches and normally engaged by a bolt 38 passing through the handle or body 36, see Fig. 6. By thus clamping the supplemental jaw attachment to jaws 6, the latter will be held closed so that the operator need not apply pressure to slide 13 for such purpose.

To remove the base of a broken lamp, the supplemental jaw attachment is clamped to jaws 6 and then positioned in the lamp base, as shown in Fig. 5. The operator now exerts pressure on handle 4 to hold teeth 35′ firmly against the part to be removed, then rotates shaft 2.

Various changes can be made in the minor details of the construction, as fall within the scope of my annexed claims.

Having thus described my invention what I claim as new, and desire to secure by Letters Patent of the United States of America, is:—

1. A device of the character described comprising a handle, a head pivotally mounted on said handle for swinging at an angle thereto, a shaft journaled on said head and formed with a cut-out, a pair of lamp gripping jaws having shanks pivoted in the cut-out of said shaft, a sleeve slidably mounted on said shaft for engagement with the shanks of said jaws to hold the latter closed, means for rotating said shaft, and means for sliding said sleeve.

2. A device of the character described comprising a handle, a head pivotally mounted on said handle for swinging at an angle thereto, a shaft journaled on said head and formed with a cut-out, a pair of lamp gripping jaws having shanks pivoted in the cut-out of said shaft, a sleeve slidably mounted on said shaft for engagement with the shanks of said jaws to hold the latter closed, a spring connection between said jaws and said sleeve, means for rotating said shaft, and means for sliding said sleeve.

3. A device of the character described comprising a handle, a head pivotally mounted thereon, means for securing the head against movement, a shaft journaled on the head, a pulley on the shaft, cord guides projecting inwardly from the head, direction sheaves interposed between the guides and the adjacent side portions of the head, a flexible member taking over the pulley and sheaves for rotating the shaft, and coöperating lamp gripping jaws on the shaft.

4. A device of the character described comprising a handle, a head pivotally mounted on said handle for swinging at an angle thereto, means for securing said head against swinging, a shaft journaled on said head and provided with a cutout, a pair of jaws pivoted in the cut-out of said shaft, a sleeve slidably mounted on said shaft for closing said jaws, means for rotating said shaft, means for sliding said sleeve comprising a shifter arm pivotally mounted on said head and connected with said sleeve, and an operating member for said shifting arm connected therewith and being guided on said handle.

5. A device of the character described comprising a handle, a rotatably supported shaft carried by said handle, said shaft being formed with a cut-out, a pair of jaws having shanks pivotally supported in the cut-out of said shaft, a sleeve slidably mounted on said shaft for movement over the shanks of said jaws, means for rotating said shaft, and means for sliding said sleeve.

6. A device of the character described comprising a handle, a rotatably supported shaft carried by said handle, said shaft being formed with a cut-out, a pair of jaws having shanks pivotally supported in the cut-out of said shaft, a sleeve slidably mounted on said shaft for movement over the shanks of said jaws, means for rotating said shaft, means for sliding said sleeve, and springs connecting said jaws to said sleeve.

7. In a device of the character described, in combination with lamp bulb gripping jaws, a supplemental jaw attachment adapted for insertion into a broken lamp, and means for securing said attachment to said first named jaws for rotation therewith.

8. In a device of the character described, in combination with lamp bulb gripping jaws, a supplemental jaw attachment adapt-

ed for insertion into a broken lamp, and means for securing said attachment to said first named jaws for rotation therewith, said means locking said first named jaws against movement to and from an open position.

9. In a device of the character described, in combination with lamp bulb gripping jaws, and means for rotating the same, supplemental removable jaws adapted for insertion into the base of a lamp, and means for removably securing said last named jaws to said first named jaws for rotation therewith.

10. In a device of the character described, in combination with a pair of jaws for engagement with a lamp, means for rotating said jaws, and supplemental removable jaws provided with tapered guiding portions adapted for insertion into the base of a lamp, said removable jaws having angularly disposed teeth at the inner ends of the said guiding portions thereof.

11. A device of the character described comprising a handle, rotatably supported means on said handle, a pair of jaws on said means, one of said jaws being pivoted for movement toward and from the other, a sleeve slidably mounted on said means for holding said movable jaw closed, means for rotating said first named means, means for sliding said sleeve, and a spring connecting said movable jaw to said sleeve to open the former.

Signed at Seattle, Washington this 2nd day of November 1912.

ALFRED O. CRAIG.

Witnesses:

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