

M. W. ROZELLE & G. F. BIRMINGHAM.
 DEVICE FOR PLACING AND REMOVING ELECTRIC LIGHT BULBS.
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1,201,506.

Patented Oct. 17, 1916.

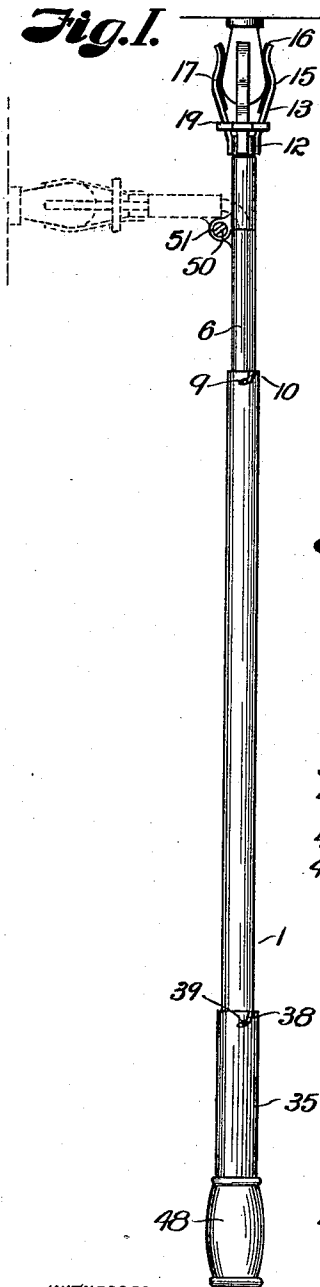
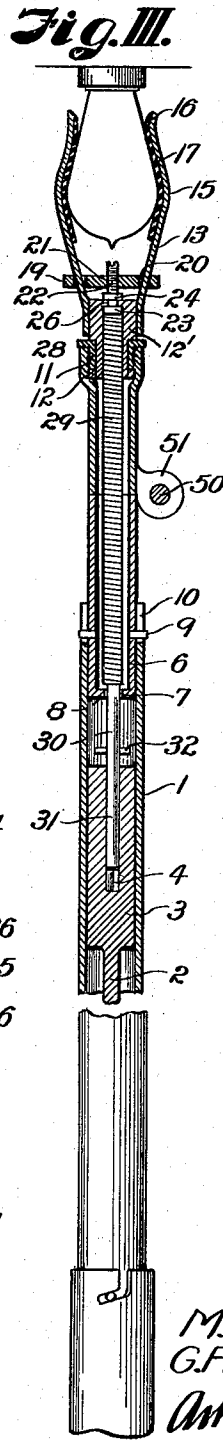
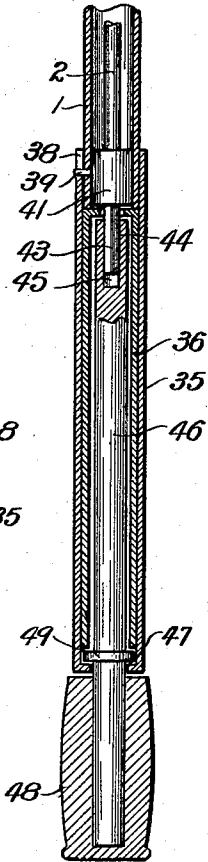


Fig. II.



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DEVICE FOR PLACING AND REMOVING ELECTRIC-LIGHT BULBS.

1,201,506.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, MANSON W. ROZELLE and GEORGE F. BIRMINGHAM, citizens 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 Devices for Placing and Removing Electric-Light Bulbs; and we do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to a device for placing and removing electric light bulbs, and has for its principal object to provide means whereby a bulb may be placed in its socket in a ceiling or in a side wall at an elevation from the floor, and thereby obviate the necessity for the use of a ladder by the person placing or removing the bulb.

In accomplishing this object we have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings, wherein:—

Figure I is an elevation of a device comprising our improvements and indicating its use; the dotted lines showing the arrangement of the device for placing or removing the side wall bulbs. Fig. II is an enlarged longitudinal section on the butt end of the device. Fig. III is an enlarged longitudinal section of the grip end of the same.

Referring more in detail to the parts:—1 designates a tubular shaft having a rod 2 extended therethrough and provided at its outer end with a head 3 which terminates near the outer end of the shaft and is provided with an open-end, square socket 4. Mounted within the shaft, at the outer end thereof, is a barrel 6 having a central aperture 7 in its base 8 and provided with lateral pins 9 which project into the bayonet slots 10 that open from the end of the shaft 1, to removably lock the barrel to the shaft when the parts are assembled, and revolubly mounted in the outer end of the shaft is a plug 12' having its inner end rotatably mounted in a collar 11 that is threaded into a cup shaped enlargement at the outer end of the barrel and seats at its inner end in a seat 12 at the base of said enlargement. The body of the plug 12' is exposed at the end

of the barrel and carries the spring fingers 13 having bowed central portions 15 and flaring mouth ends 16 adapted for projection over a lamp bulb from the end thereof and yieldingly gripping the bulb when the parts are in place; the inner face of the spring fingers being lined with felt, or the like, 17, to afford a grip on the bulb without damaging the latter.

Located adjacent the end of the plug 12 is an adjusting spider 19 having slots 20 through which the spring fingers 13 are projected, and having a central aperture 21 into which is threaded a set screw 22; the head 23 of which is anchored in the end of the plug 12 by means of the spaced collars 24 that lie on opposite sides of the inturned flange 26 on the end of the plug, so that the set screw may be turned to move the spider outwardly or inwardly and thereby adjust the spread of the spring fingers. The plug 12 is provided with a central channel 28, and fixed in said channel is a flexible shaft 29 that extends through the barrel 6 and carries a bearing portion 30 that is revolubly mounted in the aperture 7 in the barrel base and terminates in a squared shank 31 that is adapted for location in the squared socket 4 in the head 3 so that when the parts are assembled and the head is turned by rotation of the rod 2 the shank and flexible shaft are turned therewith to rotate the plug 12 and the flexible gripping fingers that are mounted thereon; the bearing member 30 on the flexible shaft being provided with a stop pin 32 for limiting the movement of the squared shank into its socket in the head 3 and for anchoring the shaft to its barrel.

The inner end of the shaft 1 is projected into the outer end of a tubular handle 35 and is adapted for abutment against the end of a lining member 36 that is fixed within the handle to limit the projection of the shaft, and the said handle having at its outer end a bayonet slot 38 for receiving a pin 39 near the end of the shaft whereby the parts will be removably connected in the same manner that the barrel 6 is connected with the outer end of the shaft.

The inner end of the rod 2 is provided with a round plug 41 that fits snugly within the inner end of the shaft 1 but is adapted for free revoluble movement therein, and the inner end of the plug carries a squared shank 43 which projects through an aperture 44 in the outer closed end of the lining 36, so

that it may seat in a squared socket 45 in the outer end of a handle shaft 46 that is revolvably mounted within the lining; the opposite end of the handle shaft being projected through an aperture 47 in the closed end of the handle 35 and provided with an exterior grip 48 whereby the handle shaft may be turned when the grip is revolved. The handle shaft is also provided with a collar 49 which is located between the end of the lining 36 and the closed end of the handle 35 in order to prevent longitudinal movement of the handle shaft without interfering with the free rotation thereof.

In the preferred construction, the barrel 6 is formed in two sections which are pivotally connected together by a clamp screw 50 which extends through registering apertures in collars 51 on the separate barrel sections so that the outer section of the barrel may be turned to a desired angle relative to the inner section and locked in such adjusted position by tightening of the clamp; the flexible shaft 29 bending at the angle at which the barrel members are turned in order to carry rotation from the handle rod to the gripping fingers and the sliding connection of the shaft with the rod 2 providing for extension of the shaft when the outer member of the barrel is turned at an angle.

In using the device, presuming the parts to be constructed and assembled as described, and with the spring fingers spread to receive a lamp bulb of ordinary size, when the bulbs are to be placed in their sockets each bulb is first seated between the spring fingers, so that the latter grip the sides thereof, so that the plug on the bulb is exposed at the ends of the fingers. The bulb may be carried to the socket so that the plug is projected into the latter and when the plug is in proper position the bulb is turned to screw the plug to place in the socket; the turning movement being effected by the operator grasping the handle 35 in one hand and turning the grip 48 with the other hand, so that the sectional shaft is revolved through the shank and socket connections of the several pieces to revolve the spring fingers and turn the bulb.

Should it be necessary to use the device with a bulb of different size, the fingers may be spread or contracted by manipulation of the set screw to advance or withdraw the spider, whereby the fingers are moved toward or from each other.

When the device is to be used for removing the bulbs, the gripping fingers are moved over the bulb as the latter is held in its socket until the swell of the bulb seats within the concave portions of the fingers, where it is held while the fingers are turned in the direction to unscrew the bulb from its socket,

the fingers holding the bulb after it is removed from the socket and until it is withdrawn by the operator.

When the device is to be used for removing a bulb from a side wall socket, the outer barrel section may be turned to the proper angle to place or take the bulb; the fingers being revolved by manipulation of the grip in the same manner as for placing or removing a bulb from a ceiling socket, as the flexible shaft will turn the angle at the joint of the barrel and will revolve the fingers when the parts are in this position; the loose joint of the flexible shaft with its body member allowing the shaft to be automatically extended when the barrel is turned at the angle.

When the device is to be stored or shipped, the handle and barrel members may be removed from the body at the bayonet joint; the inside shaft sections pulling apart at the squared shank and socket positions so that the several sections may be assembled in short lengths.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters-Patent, is:—

1. The combination with a body member, of flexible fingers on the end of the body member and inclined outwardly therefrom, a spider slidably mounted on the fingers, and a set screw anchored to the body member and having threaded connection with the spider. for the purpose set forth.

2. The combination with a body member, of a shaft rotatably mounted within the body member, a plug on one end of the shaft, gripping members mounted on the plug, a spider connected with the gripping members, a set screw anchored to the plug and engaging the spider, and a grip on the opposite end of the shaft.

3. The combination with a tubular shaft, of a barrel removably mounted in one end of the tubular shaft and comprising sections having pivotal connection, means for fixing the said sections in adjusted position, a plug on one end of the flexible shaft, a gripping device on said plug, a handle adapted for connection with the tubular shaft, a body shaft run through the tubular shaft and said handle and having operative connection with the flexible shaft and a grip on said main shaft, and means for anchoring the sections of the rotatable shaft within their inclosing members.

In testimony whereof we affix our signatures in presence of two witnesses.

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Witnesses:

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