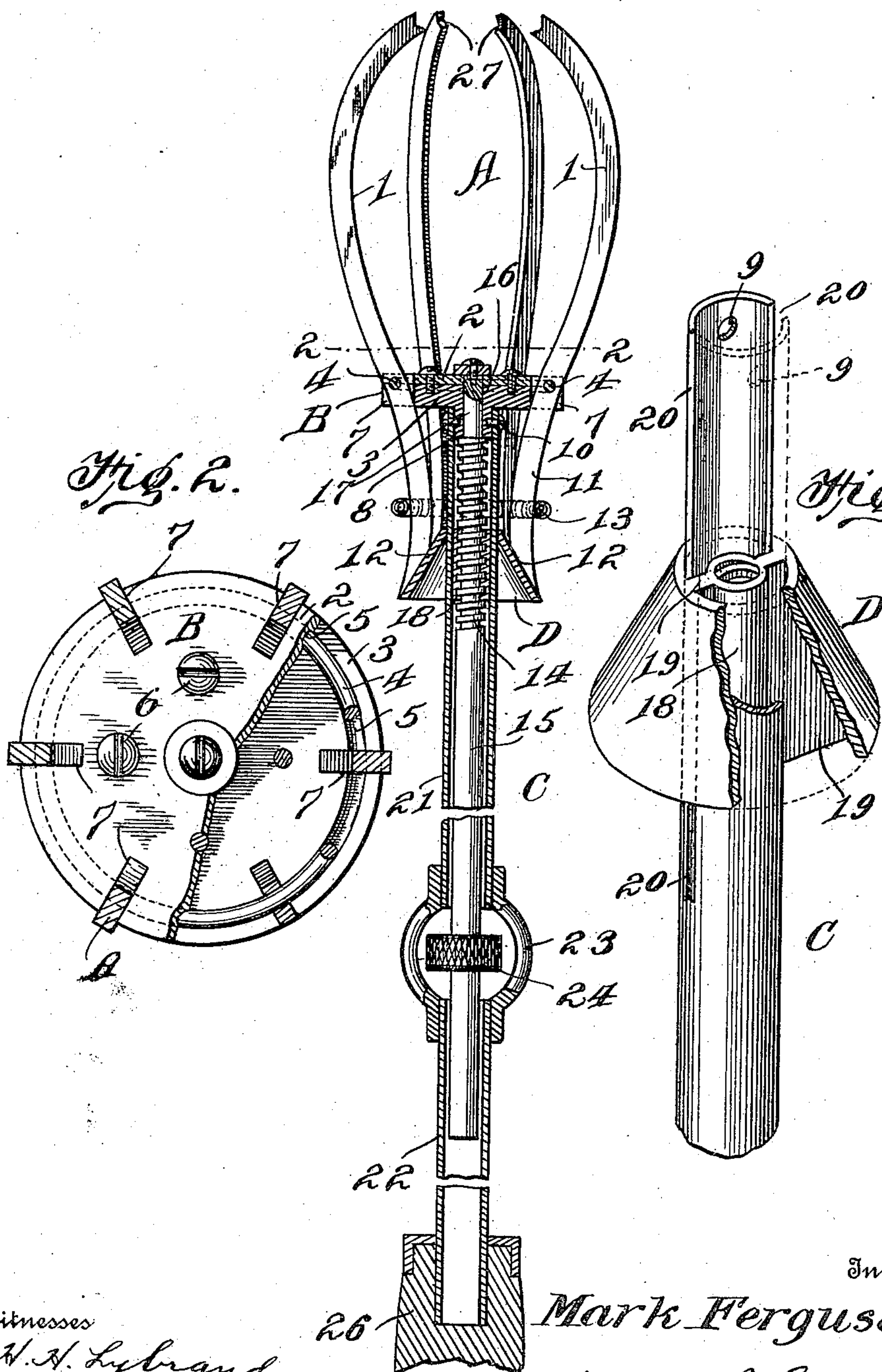


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ELECTRIC LAMP CHANGER.
APPLICATION FILED APR. 29, 1910.

987,562.

Patented Mar. 21, 1911.

Fig. 1.



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ELECTRIC-LAMP CHANGER.

987,562.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed April 29, 1910. Serial No. 558,385.

To all whom it may concern:

Be it known that I, MARK FERGUSON, a citizen of the United States, residing at Pasadena, in the county of Los Angeles and State of California, have invented new and useful Improvements in Electric-Lamp Changers, of which the following is a specification.

This invention relates to an implement or tool which is especially designed for use in changing incandescent lamps located in places where they are beyond the normal reach of the person whose duty it is to renew burned-out or broken lamps.

The invention has for one of its objects to provide an extremely simple, practical and inexpensive device of this character, which is reliable and efficient in use, and readily manipulated for engagement with or disengagement from the lamps.

Another object of the invention is the provision of a device including a plurality of lamp engaging jaws, in combination with a novel means for closing the jaws on the lamp to be removed or inserted, and means for opening the jaws to release the lamp.

With these objects in view, and others as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention:— Figure 1 is a central vertical section of the device with an intermediate portion of the handle rod and screw rod broken away. Fig. 2 is a horizontal section on line 2—2, Fig. 1. Fig. 3 is a perspective view of the jaw operating wedge with portions broken away and showing the same mounted on the handle rod that is partially shown.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, A designates the lamp engaging jaws that are arranged in spaced relation around a common axis and the inner gripping faces 1 of the jaws are concave to fit the contour of the lamp. The implement will be used for lamps of various sizes and shapes and hence different sets of jaws are intended to be used interchangeably and therefore the jaws are detachably connected with a head B mounted

on the tubular handle rod C. This head is in the form of a disk composed of two parts designated 2 and 3, and between these parts is clamped a ring 4 that forms a common pivot element for all the jaws, the meeting faces of the parts 2 and 3 being provided with channels 5 for receiving the ring. The top plate or part 2 of the head is removably secured in place by screws 6. The head B is provided with radial slots 7 extending inwardly from the periphery so as to receive the jaws A and thus hold them in place on the head. The bottom section 3 of the head has a boss 8 for insertion in the end of the handle C, and the head can be removably secured to the handle by screws 10 passing through openings 9 in the latter and screwing into the boss 8.

The jaws are adapted to be positively closed around the lamp by means of a wedge D that is in the form of a cone slidable longitudinally on the handle C at a point under the head, and the jaws are provided with extension members 11 which are, in fact, continuations of the lower ends of the latter, and the extremities of these members 11 are beveled at 12 to have a substantial engagement with the conical surface of the wedge. The members 11 are held in contact with the wedge by an annular extension spring 13 encircling the said member at a point between the wedge and pivot ring 4. The cone or wedge is shifted by means of the screw 14 in the form of a rod 15 extending longitudinally of the handle, and the upper end of this rod is connected with the head B to rotate therein, the head being formed with a central opening 16 in which is arranged the round end 17 of the screw or wedge actuating rod, and this rod is held in the head against longitudinal movement or in other words, so that a swiveled joint is provided between the actuating rod and head. The cone is hollow and provided with a hub 18 which is internally threaded to engage with the screw, and the hub is connected by webs 19 with the body of the cone. Since the cone surrounds the handle rod, the latter is provided at its upper end with oppositely disposed longitudinal slots 20 through which the webs of the cone extends, and by this means the cone can move axially by the turning of the screw but is prevented from rotating with the latter.

The handle rod C may be of any desired length and in the present instance is shown

in two parts 21 and 22 connected together by a coupling 23, this coupling being open at opposite sides to permit of the engagement by the thumb and finger with a knurled wheel 24 secured to the actuating rod 15. On the lower section 22 of the handle rod, a handle or grip 26 may be provided which will be gripped in one hand by the user while the other hand will grip the coupling 23, which constitutes a handle also, but since this handle is open, the knurled wheel 24 can be readily turned by the thumb and first finger of the hand that grips the handle 23.

15 In using the device for removing a lamp, the screw rod is turned in a direction to permit the jaws to open by the spring 13. When the jaws are thus opened, the implement is raised to place the open jaws about the lamp from underneath and while held in this position the screw is turned in a direction to cause the wedge to move upwardly toward the head B, so that the jaws will be closed against the lamp. As soon as the jaws are felt to be gripped to the lamp, the implement is turned in a direction to unscrew the lamp from its socket. After the lamp is thus unscrewed, it can be released from the implement by opening the jaws of the latter through the turning of the screw rod in the direction to move the wedge away from the head B. The new lamp to be substituted is next clamped in the implement and returned to the lamp socket and after being screwed in place, the implement is opened to release the lamp. When the bulb of the lamp is broken, the base thereof can be unscrewed from the socket by engaging the sharp teeth 27 on the tips of the jaw with the base of the lamp and then turning the implement in a direction to unscrew the base.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention relates, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and

that such changes may be made when desired as are within the scope of the claims. 55

What I claim as new and desire to secure by Letters Patent is:—

1. A device of the class described comprising a head, a tubular handle rod connected therewith and provided with longitudinal slots, a wedge movable on the rod and having a portion extending through the slot and disposed within the handle rod, a screw rotatably mounted in the handle rod and engaged with the wedge for shifting the same, a connection between the head and screw for preventing the screw from moving longitudinally, jaws mounted on the head and having portions engaged with the wedge, and yielding means co-acting with the wedge to move the jaws. 60 65 70

2. A device of the class described comprising a head having radial slots in its periphery, jaws pivotally mounted in the slots and extending both above and below the head, a tubular handle rod, a wedge slidably mounted thereon and engaging the ends of the jaws under the head, an annular contractile spring surrounding the jaws at a point between the wedge and the pivots of the jaws, a screw disposed in the handle rod and having a swiveled connection with the head to prevent longitudinal movement of the screw, and means for turning the screw to move the wedge back and forth. 75 80 85

3. A device of the class described including a plurality of lamp engaging jaws, a support, a common pivot element for removably mounting the jaws on the support, and actuating means for the jaws, said jaws and element being removable from the support as a unitary structure. 90

4. A device of the class described comprising a plurality of jaws, a supporting head, a ring detachably secured to the head and forming a common pivot for the jaws, and means for actuating the jaws, said jaws and ring being removable from the head as a unitary structure. 95

In testimony whereof I affix my signature in presence of two witnesses. 100

MARK FERGUSON.

Witnesses:

B. F. D. LAUTY,
HARLEY F. NEWELL.