Oct. 1, 1935. M. E. DEMYTTENAERE 2,016,078

LAMP WRENCH

Filed Nov. 14, 1934

Fig. 1.

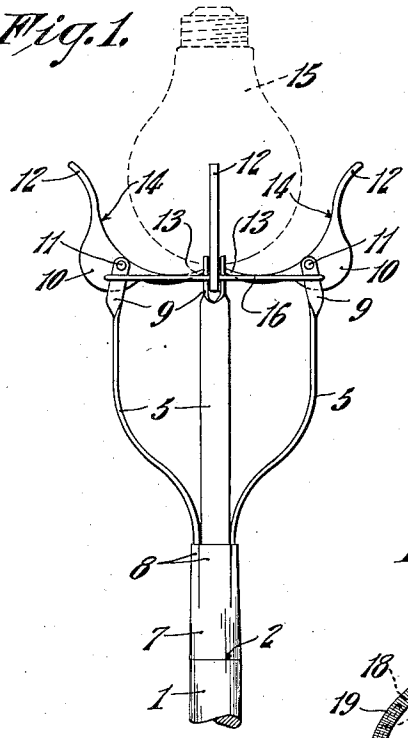


Fig. 2.

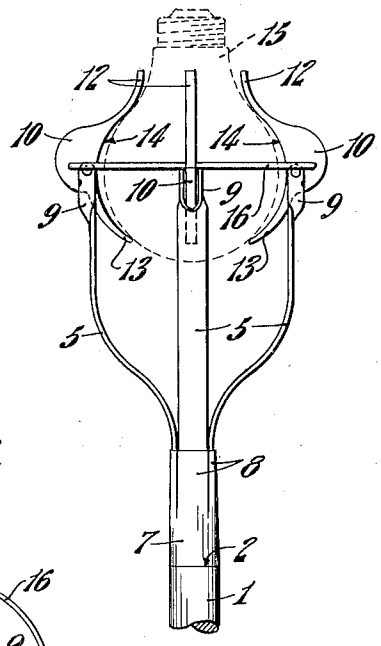


Fig. 3.

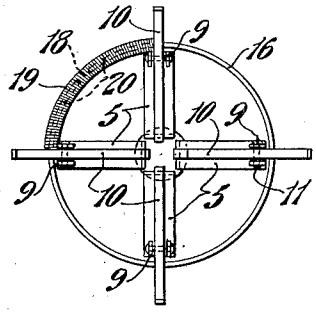


Fig. 4.

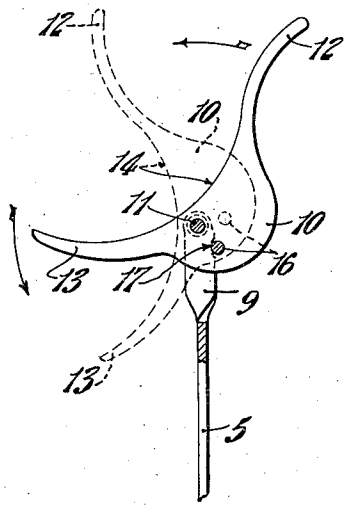


Fig. 5.

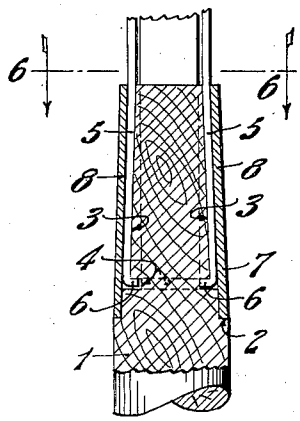
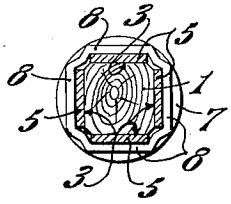


Fig. 6.



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LAMP WRENCH

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Application November 14, 1934, Serial No. 752,953

2 Claims. (Cl. 294—20)

My invention relates to improvements in lamp wrenches.

An object of my invention is to provide a lamp wrench, or tool, for removing and replacing electric lamp bulbs which are located at a height ordinarily inaccessible from the floor, without the use of a step ladder.

A further object of my invention is to provide, in such a device, means for automatically gripping and releasing the lamp, as the device is pushed toward, or pulled away from, the socket in which the lamp is located.

A still further object of my invention is to provide a lamp wrench having a plurality of gripping fingers and means for providing cooperation between the fingers, so that they operate together, both in the opening and closing operations.

These, and other objects and advantages of my invention, will be more completely described and disclosed in the specification, the accompanying drawing, and the appended claims.

Broadly, my invention comprises a handle or pole, a plurality of spring arms secured on the handle and provided with bearing clevises, gripping or finger members pivotally secured in the bearing clevises, and connecting means between the gripping or finger members for synchronizing their movements.

A preferred embodiment of my invention is illustrated in the accompanying drawing, in which:—

Fig. 1 is an elevational view of my device, showing the finger members in open position.

Fig. 2 is a similar view, showing the finger members in closed, or gripping position.

Fig. 3 is a plan view of the device, with the fingers in open position, similar to Fig. 1.

Fig. 4 is a detail view of one of the finger members.

Fig. 5 is a sectional view, illustrating the connection of the spring arms to the handle, and

Fig. 6 is a cross, sectional view on the line 6—6 of Fig. 5.

Referring now to the drawing in detail, in which like numerals refer to like parts throughout:—

A handle, or pole 1, is formed with a shoulder 2, and, above the shoulder 2, with flat sides 3 and an annular groove 4. A plurality of arm, or bearing members 5, each formed with an inwardly projecting flange 6, are secured on the handle 1, by engagement of the flanges 6 in the groove 4 and a ferrule 7, which is pressed on over the members 5 and against the shoulder 2. The ferrule 7 is formed with sockets 8 for holding the arms 5 against the flat surfaces 3 and in the form of a square, as indicated in Fig. 6, so that the arms 5 are firmly secured on the handle 1 and equally spaced, one from the other. The upper, or free ends of the arms 5 are split and bent to form bearing clevises 9, in which are pivotally supported gripping members 10, by means of studs, or rivets 11. Each of the members 10 is formed with an upper contact, or finger portion 12 and a lower contact, or finger portion 13, and the inner edge, or surface 14, of the member 10, which connects these finger portions is concave in shape, conforming approximately to the outline of a standard lamp bulb 15, as indicated in Figs. 1 and 2. A ring 16 of spring wire, slidably secured in openings in the gripping members 10, is engaged in notches 17, in the clevises 9, when the members 10 are in open position, as indicated in Fig. 1, and in full lines in Fig. 4. The ring 16 is cut, or parted, at 18, (see Fig. 3), to permit expansion, and continuity of action of the ring 16 is provided by a coil spring 19 located on the ends 20 of the ring 16 adjacent the cut 18. The normal tendency of the ring 16 is to force the bearing clevises 9 inwardly, toward each other, as indicated in Fig. 1, and, as the clevises 9 are forced apart by an object engaging the gripping members 10, as indicated in Fig. 2, the pressure on the object engaged by the gripping members 10, as indicated in Fig. 2, is increased in proportion to its diameter. The open and closed positions of the wire spring ring 16 are on opposite sides of a horizontal plane, passing through the pivot centers 11, as indicated in Fig. 4, thus providing a toggle action which results in a snap action of the gripping members 10, as they approach either open, or closed position. This toggle action also provides an efficient means for holding, or maintaining the gripping members 10 in either open, or closed position.

In operation, the lamp wrench is placed in position with the members 10 in open position, as indicated in Fig. 1, and in full lines in Fig. 2, against a lamp bulb, with the finger portions 13 engaging the bottom of the bulb. As the wrench is forced upwardly against the bulb, the finger portions 13 are moved downwardly, revolving around their pivots 11, and the upper finger contacts 12 are at the same time, moved inwardly around the pivots 11, until the lamp is engaged by both members 12 and 13, as indicated in Fig. 2. Pressure is provided to assist the members 10 in gripping the lamp 15 by the spring

ring 16, and by turning the handle 1 about its vertical axis, the lamp 15 may be disengaged from its supporting socket, (not shown). To install a lamp bulb, the operation is reversed. A lamp bulb is placed in the lamp wrench in the position indicated in Fig. 2, and screwed into its supporting socket. A pull on the handle 1 will then release the bulb from the gripping members 10. The spring ring 16 forces the members 10 to move in unison, either to open, or closed position.

What I claim is:—

1. In a device for the purpose described, a handle, a plurality of arm members rigidly secured on said handle and bent outwardly away from the vertical axis of said handle, the free ends of said arm members being split and bent to form clevises, arm gripping members pivotally secured in said clevises, and a spring ring member slidably secured in said gripping members and spaced from their pivot points, whereby when the gripping members are moved from open to closed position, the ring member will be moved from one side to the other of a plane passing through the pivot centers.

2. In combination, in a lamp wrench, a handle member, arms attached thereto, a plurality of two-arm lamp-engaging members having reversed, curved surfaces, engaging the lamp that are pivotally connected to the arms, a split ring slidably interconnecting all of the two arm members and located above the pivotal points of the said members when in lamp-gripping position, and below the pivoted points, when not in lamp-gripping position, a spring on the split ends of the ring, the location of said ring operating as a toggle effect when the lamp-engaging arms are operated, and whereby all of the two arm members will operate in unison, in either of their opening or closing positions.

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