No. 897,457. PATENTED SEPT. 1, 1908.

G. CUTTER.

HANGER FOR ELECTRIC LAMPS.

APPLICATION FILED JUNE 6, 1906.

Fig. 1.

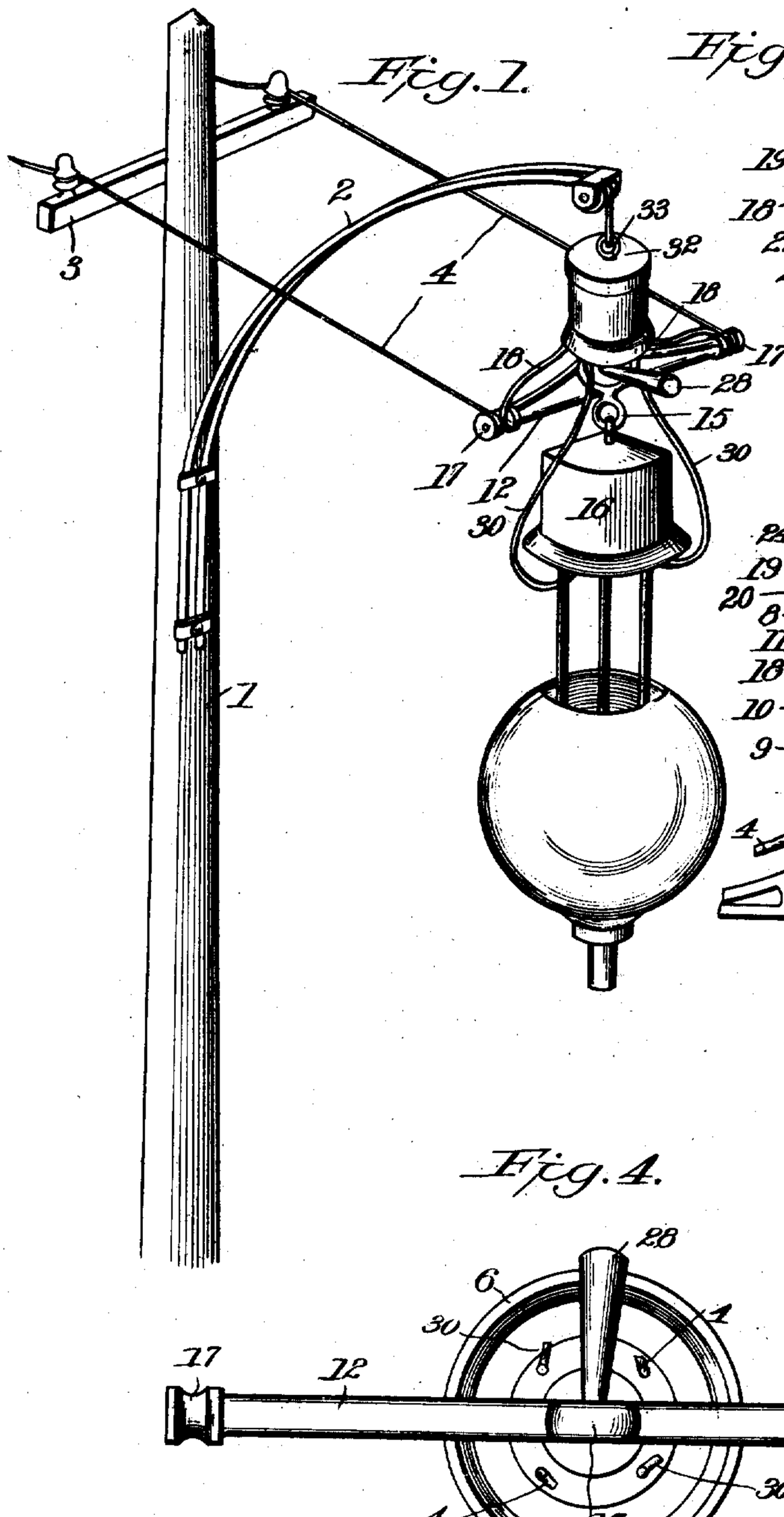
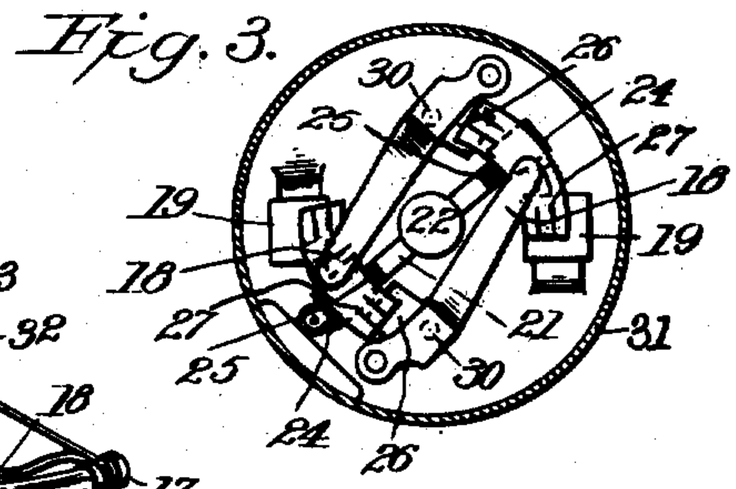


Fig. 3.



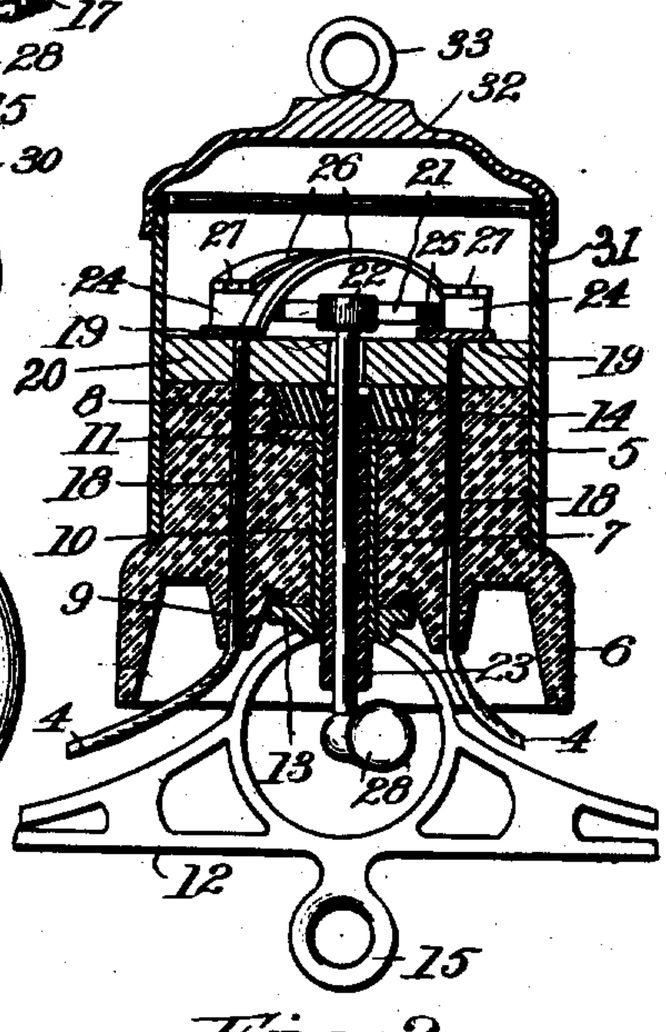


Fig. 2.

Fig. 4.

Witnesses

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HANGER FOR ELECTRIC LAMPS.

No. 897,457. Specification of Letters Patent. Patented Sept. 1, 1908.

Application filed June 6, 1906. Serial No. 320,448.

To all whom it may concern:

Be it known that I, GEORGE CUTTER, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented new and useful Improvements in Hangers for Electric Lamps, of which the following is a specification.

This invention relates to electric lamp hangers and more particularly to a hanger provided with a switch for cutting the lamp out of the circuit, so that the lamp can be handled by the trimmer with safety, while the current is on the line. In devices of this kind no attempt has been made, heretofore, to provide insulation between the hanger and the overhead supporting bracket or other suspending means that will be in keeping with the high voltages now in common use. The prevailing practice is to carry the line wires upon the insulators mounted directly upon the metal casing of the switch, thus making the insulation between the line wire supporting bracket and the overhead supporting means depend solely upon the insulating knobs on the bracket, which cannot be protected from the weather. Attempts have been made to cure this objection by providing additional insulating means between the hanger and the overhead supporting means, but owing to the multiplicity of parts these constructions have not come into general use.

It is an object of my invention to provide a single insulating means for adequately insulating high voltage wires, when attached to the hanger, from the overhead bracket or other supports from which the hanger is suspended, and also insulating the lamp from the switch, and these various elements from each other.

Other and further objects will appear in the following description and will be more particularly pointed out in the appended claims.

In the drawings:—Figure 1 is a perspective view of a lamp supported by my invention. Fig. 2 is a vertical section through the invention. Fig. 3 is a horizontal section through the casing surrounding the switch, and Fig. 4 is an inverted plan view of the device with the wires and lamp removed.

Referring more particularly to the drawings, 1 indicates a post provided with any suitable supporting means such as arm 2 with a cross arm 3 for the line wires 4. Depending from the arm is the device which forms my invention. On this device, 5 indicates an insulating member having a depending annular flange 6, a central bore 7, annular depressions 8 and 9 respectively at the top and the bottom of the bore 7 and four conductor bores 18. Fitted within the bore 7 is a tubular member 10 which is held within the bore by a nut 11 engaging screw threads upon the upper end of the said tube and positioned within the depressions 8. The lower end of the tube is also screw threaded to provide for its engagement by a cross arm 12.

Cross arm 12 is provided with a disk 13 which engages the lower screw threaded end of the tube 10 and rests within the depressions 9 at the lower end of the bore 7, said disk holding a backing 14 against the insulating member 5 to prevent the entrance of moisture to the tube 10. The disk being mounted in a depression and the depending flange 6 surrounding the disk assists in preventing moisture entering the central bore. Depending from the cross arm 12 is the lamp securing means 15 which supports the lamp 16 of any suitable construction.

The line wires 4 lead from cross arm 3 on the post to insulators 17 on the ends of cross arm 12 of the device, and from the insulators through two of the conductor bores 18 in the insulating member 5, to the line wire contacts 19 of a switch located, for the convenience in manufacture, upon a separate porcelain plate 20 above the insulator 5. The construction of this switch is not claimed herein, but is fully described and claimed in my Patent No. 881,306, dated March 10, 1908.

The switch blade 21 is mounted on a rotary shaft 22, which extends through the tubular member 10, being separated therefrom by insulation 23. Blade 21 is provided at each end with a contact 24 insulated at 25 from the shaft 22. Also mounted on the plate 20 is a pair of lamp contacts or terminals 26, the blade 21 being movable to connect the two line wire contacts or terminals 19, or to connect each line wire terminal with a lamp ter-

minal, each line wire terminal for this latter purpose being formed with a portion 27 which overhangs one of the lamp terminals and the other line wire terminal. It will thus be apparent that when the switch blade 21 is in one position it will cut out the lamp and when in the other position it will establish a circuit through the lamp. The switch blade 21 is operated by a handle 28 on the lower end of the shaft 22 and within an open portion 29 in the cross arm 12. From the lamp terminals 26, the lamp wires 30 lead through the two remaining bores 18 of the insulator 5 to the lamp 16.

Surrounding the upper end of the insulator 5 is a cylindrical casing 31 which incloses the switch and which is itself closed by a removable cap 32 having an eye 33 by which the device is suspended from the support 2.

It will thus be seen that I have provided a unitary device consisting of a hanger, switch and a combined cross arm and lamp suspending means so arranged and constructed that these various elements are insulated from one another and that the current cannot by any possibility pass from the cross arm up through the hanger to the overhead supporting means.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. The combination with the insulator having a depression in its under face, of a cross arm having a projecting portion fitted in said depression, a switch, and a switch operating shaft extending through the insulator and insulated from the cross arm, said shaft terminating short of the lower edge of the cross-arm and lamp suspending means carried by the cross arm.

2. The combination with the insulator having a depression in its under face, of a cross arm provided with a projecting portion extending into said depression, the projecting portion of the arm having an opening, a switch, and a switch operating shaft extending through the insulator and terminating at one end in the opening of the projecting portion of the cross arm.

3. The combination of an insulator having a central bore and a plurality of conductor bores, a cross arm secured to one side of the insulator, a switch mounted at the opposite side of the insulator and a switch operating shaft extending through the central bore.

4. The combination with an insulator having a depression in its top and in its bottom and also having a bore communicating with said depressions, of a tubular member disposed in said bore, means in said top depression to sustain said tubular member, a cross-arm provided with a projecting portion extending into said bottom depression and secured to said tubular member, a switch mounted upon the insulator, and a switch operating shaft extending through the tubular member and insulated therefrom.

5. The combination with the insulator having a central bore, of a tubular member mounted in said bore, a cross arm secured to the lower end of the tubular member, a switch mounted above the insulator, and a switch operating shaft extending through the tubular member and insulated therefrom.

6. The combination of an insulator provided with a central bore and four conductor bores, a cross arm secured to one side of the insulator, a switch secured to the opposite side of the insulator, a switch operating shaft extending through the central bore, and lamp suspending means on the cross arm.

7. The combination with the insulator having a central bore and upper and lower depressions communicating through said bore, of a tubular member disposed in said bore, means disposed in the upper depression to secure the tubular member against displacement, packing arranged in the upper depression above said means, a cross arm secured to the lower end of the tubular member and having a portion fitting in said lower depression, a switch mounted above the insulator, a switch operating shaft extending through the tubular member and insulated therefrom, and lamp suspending means on the cross arm.

8. The combination with the insulator having a central bore, a switch arranged at one side of the insulator, a cross arm secured at the opposite side of the insulator, and a switch operating member extending through said bore.

9. The combination with the insulator having a central bore, a switch arranged at one side of the insulator, a cross arm secured at the opposite side of the in ulator, a switch operating member extending through said bore, and lamp suspending means on the cross arm.

10. The combination with the insulator having a central bore, a switch arranged at one side of the insulator, a cross arm secured at the opposite side of the insulator and provided with an opening, and a switch operating member extending through said bore provided with a handle end located in the opening of the cross arm.

11. The combination with an insulator having a central bore and a series of conductor bores, a switch arranged at one side of the insulator, a cross-arm arranged at the opposite side of the insulator and provided with an opening, a switch operating member extending through said bore and terminating at one end in said opening of the cross-arm, and lamp suspending means carried by the cross-arm.

12. The combination with an insulator having a central bore and a series of conduc-

tor bores, a switch arranged at one side of the insulator, a cross-arm arranged at the opposite side of the insulator and provided with an opening, a switch operating member extending through said bore and terminating at one end in said opening of the cross-arm, and a housing for the insulator and switch.

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

GEORGE CUTTER.

Witnesses:
GEORGE OLTSCH,
A. D. HACK.