

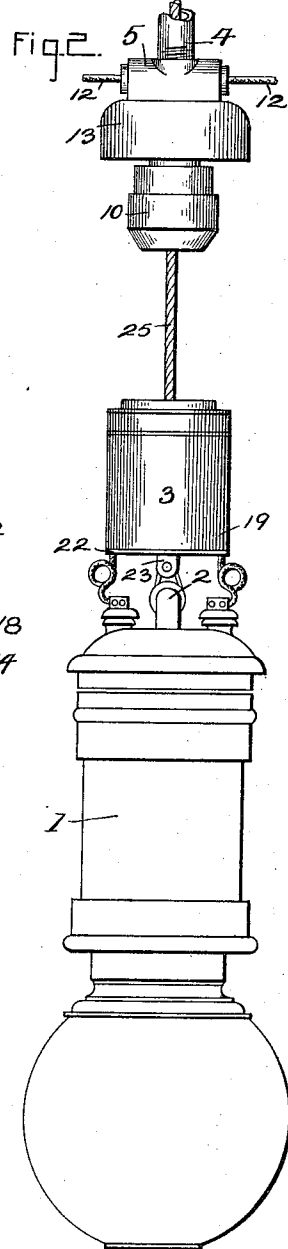
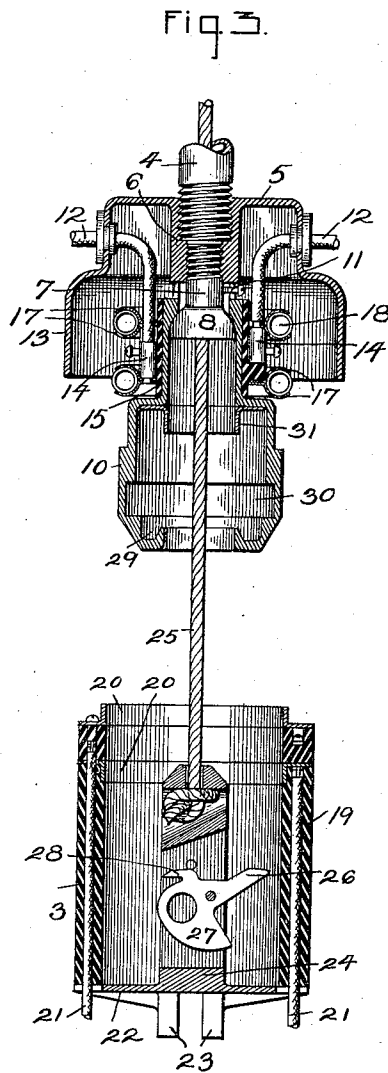
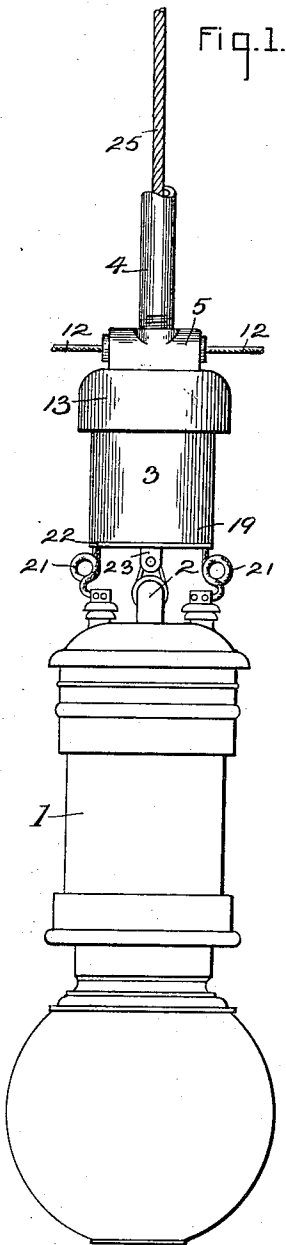
J. T. BEECHLYN.
ARC LAMP HANGER.

APPLICATION FILED FEB. 19, 1909.

1,022,527.

Patented Apr. 9, 1912.

2 SHEETS-SHEET 1.



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2 SHEETS-SHEET 2.

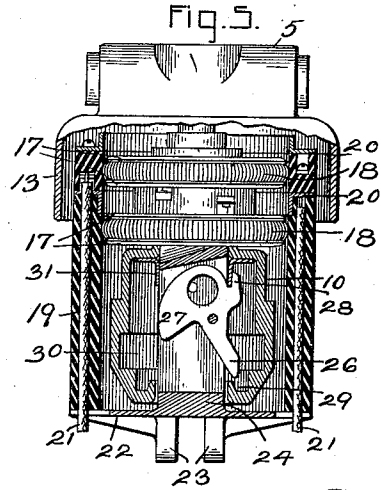
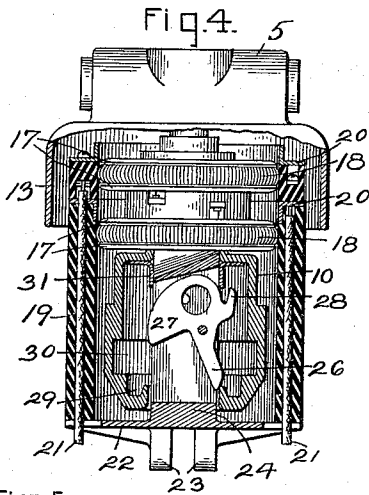


Fig. 6.

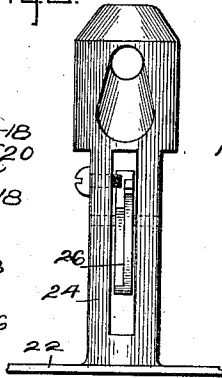
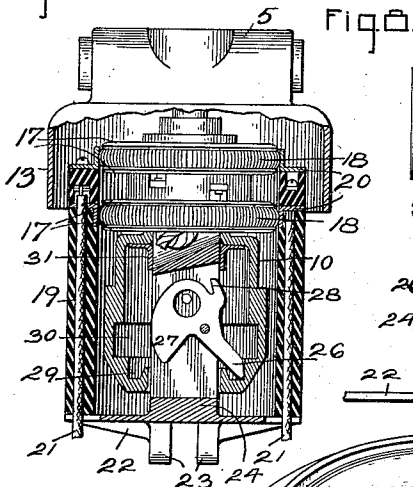


Fig. 7.

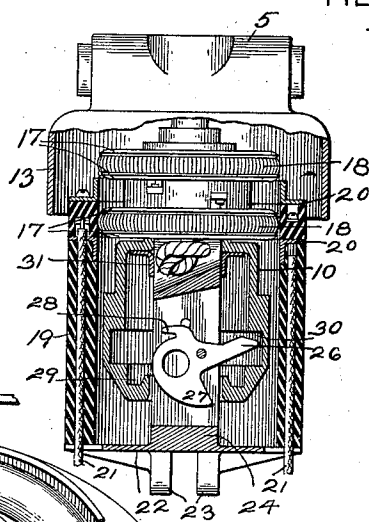
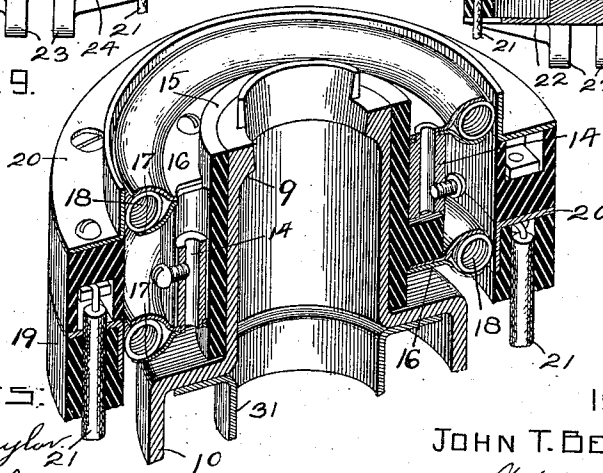


Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN T. BEECHLYN, OF LYNN, MASSACHUSETTS, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

ARC-LAMP HANGER.

1,022,527.

Specification of Letters Patent.

Patented Apr. 9, 1912.

Application filed February 19, 1909. Serial No. 478,871.

To all whom it may concern:

Be it known that I, JOHN T. BEECHLYN, a subject of the King of Denmark, residing at Lynn, county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Arc-Lamp Hangers, of which the following is a specification.

This invention relates to electric lighting and its object is to provide a suspension cut-out or hanger for arc lamps comprising a stationary part suitably supported and a movable part attached to the lamp and adapted to be connected with the stationary part by an upward movement of the lamp, and to be disconnected therefrom by a subsequent upward movement of said lamp; whereby the lamp can be locked and unlocked by successive upward pulls on the rope by which it is raised and lowered for trimming purposes.

To this end the invention consists of certain new and improved circuit-closing and locking devices, hereinafter set forth and particularly pointed out in the claims. In brief, the lock comprises a pawl on the movable part which is positively caused to engage with a shoulder in the stationary part of the hanger, and is also positively tilted to a disengaging position by a subsequent pull on the suspending rope.

In the accompanying drawings, Figure 1 is a side elevation of an arc lamp hanger embodying my invention. Fig. 2 is a similar view showing the lamp unlocked and partly lowered. Fig. 3 is a section of the locking devices and cut-out on a larger scale, and separated as in Fig. 2. Figs. 4, 5, 6 and 7 show successive positions of the parts in locking and unlocking. Fig. 8 is a side elevation of the pawl-carrying plug, and Fig. 9 is a perspective view partly cut away, showing the contacts on the movable and stationary parts of the cut-out.

The arc lamp 1 may be of any suitable construction. It is suspended by an eye 2 from the bottom of the movable part 3 of my improved hanger, the stationary part of which is suitably supported, as by means of the pipe 4 screwed into the upper end of a support 5 and preferably in axial alignment with the hub 6 thereof. A tubular stud 7 is screwed into the lower end of said hub, and is provided with a semispherical head 8 which engages with a similar shoulder 9 at the upper end of a tubular socket 10, said

socket being thus connected with the hub 6 by a ball joint which permits it to rock freely in all directions. A set screw 11 is tapped into said stud through a slot in the upper end of the socket, and prevents said socket from rotating on said stud. This prevents also the disarrangement of the leads 12 which enter through holes in the canopy 13 extending outwardly and downwardly from said hub. The ends of said leads are received in binding posts 14 mounted on the socket and suitably connected respectively with two annular contact members concentric with said socket, but insulated therefrom by an interposed sleeve or jacket 15 of insulating material. Each contact member is preferably composed of two annular plates 16 having diverging flanges 17 between which is confined a resilient contact, such as a garter spring 18, whose convolutions project beyond the edges of said flanges. These garter springs are substantially of the same diameter and are arranged one above the other, as shown.

The movable portion of the cut-out comprises a body 19 of insulating material, cylindrical in shape and adapted to pass easily up over the socket and the garter springs until the latter make contact respectively with two rings 20 attached to the body 19 at such distance one above the other that their inner surfaces contact properly with said springs. Connected with each ring is an insulated lead 21 running to one of the lamp terminals, so that when the two portions of the cut-out are brought into engagement as shown in Figs. 1 and 9 the lamp will be in circuit with the line.

The locking devices which hold the parts in this position will now be described. The body 19 is mounted on a plate 22 which has lugs 23 on its under side from which the lamp is suspended. On its upper side and in the center is an upright plug 24 having at its upper end central and transverse holes to enable the supporting rope 25 to be secured thereto, said rope running up through the tubular socket 10, the tubular stud 7 and the pipe 4, and thence to proper pulleys and fastening devices (not shown), for raising and lowering the lamp. The plug 24 is slotted longitudinally, and in said slot is pivotally mounted a pawl 26, which is overbalanced by a heavy end 27 so that it tends to assume the position shown in Fig. 3. On

the heavy end of the pawl is a finger 28 extending in a direction opposite to that of the pawl, for a purpose hereinafter set forth. The socket 10 has in its lower end a central hole large enough to permit the plug 24 to pass through it, and surrounding this hole is a ledge in the form of a shallow annular groove 29. Above said groove is an annular recess 30 formed in the inside wall of the socket and of greater diameter than said groove. In the upper portion of the socket is a shoulder in the form of a downwardly projecting annular flange 31, into which the upper conical end of the plug 24 is adapted to enter.

The operation is as follow:—Assume the lamp to be lowered, with the parts standing in the positions shown in Fig. 3. An upward pull on the rope 25 will cause the body 19 to slide up over the socket 10, and at the same time the plug 24 enters the socket. The lower edge of the central hole in the socket strikes the pawl 26 and tips it down, as shown in Fig. 4. Before the pawl passes above the edge of said hole, the flange 31 engages between the pawl and the finger 28 so that after the pawl is lifted above the lower end of the socket, it cannot tilt back to its original position, but is held in the position shown in Fig. 5, with its end above the groove 29. The rope is now slacked away, permitting the lamp to drop slightly, and thus enables the end of the pawl to enter the groove 29 and be thereby locked in the position shown in Fig. 6; securely supporting the lamp with the contact rings 20 in electrical connection with the garter spring contacts. The outward radial movement of the end of the pawl in entering the groove carries the finger inwardly and out of line with the flange 31. To disengage the lamp for lowering, it is simply necessary to pull on the rope, lifting the lamp until the pawl rises out of the groove into the plane of the recess 30, when said pawl will tilt into the position shown in Fig. 7, where it offers no obstruction to the downward movement of the lamp when the rope is slacked off.

I do not desire to restrict myself to the particular form or arrangement of parts herein shown and described since it is apparent that they may be changed and modified without departing from my invention.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. An arc lamp hanger comprising a part

containing an internal groove, a second part having a pawl, and means for causing said pawl positively to engage with said groove when the pawl-carrying part is caused to enter the grooved part to a certain extent and permitted to retract slightly.

2. An arc lamp hanger comprising a stationary part having a ledge, a movable part adapted to be drawn up into said stationary part and provided with a pawl, means to positively hold said pawl in position to engage said ledge during the time the movable part is first raised and slackened off and freeing said pawl upon a second raising of said movable part.

3. An arc lamp hanger comprising a stationary tubular part having an internal groove, a movable part adapted to enter said stationary part, an overbalanced pawl on the movable part, and means for holding said pawl in position to engage with said groove when said movable part is thrust into said stationary part.

4. An arc lamp hanger comprising a stationary tubular part having an internal groove, a movable part adapted to enter said stationary part, an overbalanced pawl on the movable part, and means for holding said pawl in position to engage with said groove when said movable part is thrust into said stationary part, said means comprising a finger on the pawl and a shoulder on said stationary part to coöperate with said finger.

5. An arc lamp hanger comprising a stationary tubular part having an internal groove and an annular recess of larger diameter above said groove, a movable part having a slotted plug, an overbalanced pawl pivoted in the slot, a finger on said pawl, and a shoulder inside said stationary part to coöperate with said finger.

6. An arc lamp hanger comprising a support provided with a canopy, two separable parts, a ball joint protected by said canopy and connecting one of said parts to the said support, and a rope passageway extending through said canopy, said ball joint and the supported part.

In witness whereof, I have hereunto set my hand this fifteenth day of February 1909.

JOHN T. BEECHLYN.

Witnesses:

JOHN A. McMANUS, Jr.,
CHARLES A. BARNARD.