A. J. THOMPSON.

LAMP HANGER.

APPLICATION FILED JAN. 3, 1916.

1,223,532.

Patented Apr. 24, 1917.

2 SHEETS—SHEET 1.

FIG. 1.

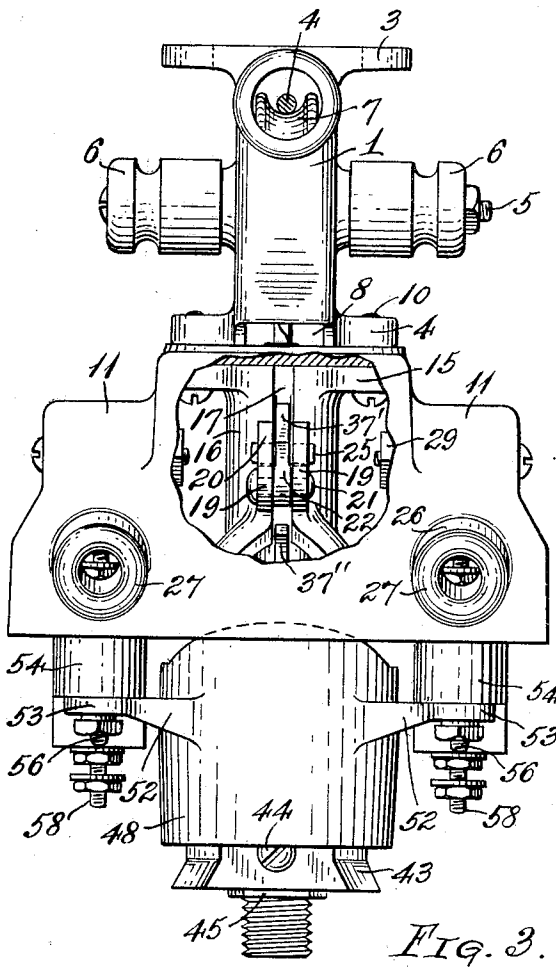


FIG. 2.

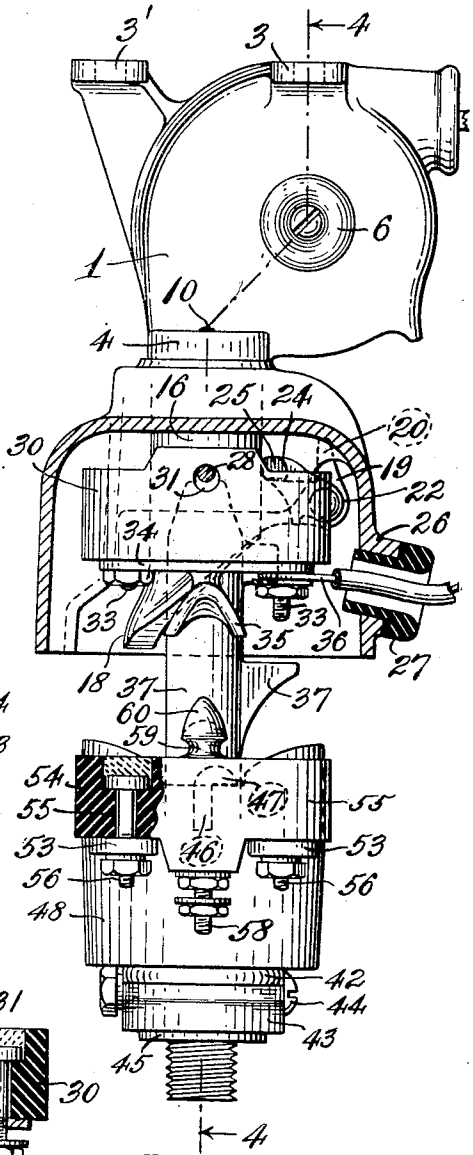
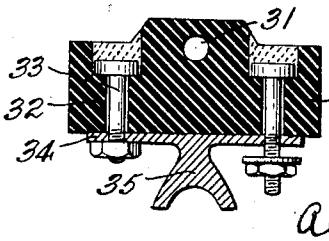


FIG. 3.



Witnesses:

A. L. Lord.

D. Barr

Inventor.

Allison J. Thompson

by B. W. Brockett

Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

A. J. THOMPSON.

LAMP HANGER.

APPLICATION FILED JAN. 3, 1916.

1,223,532.

Patented Apr. 24, 1917.

2 SHEETS—SHEET 2.

FIG. 4.

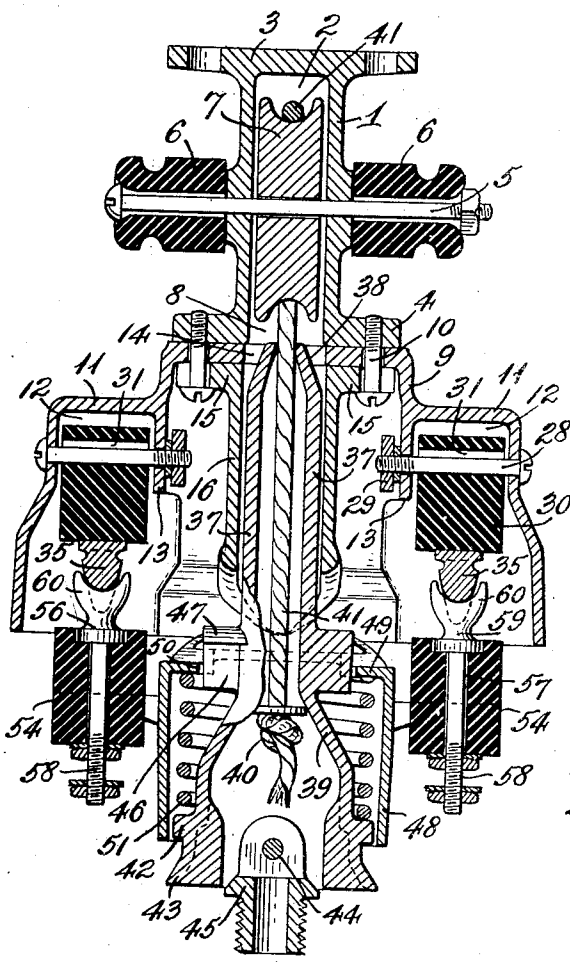
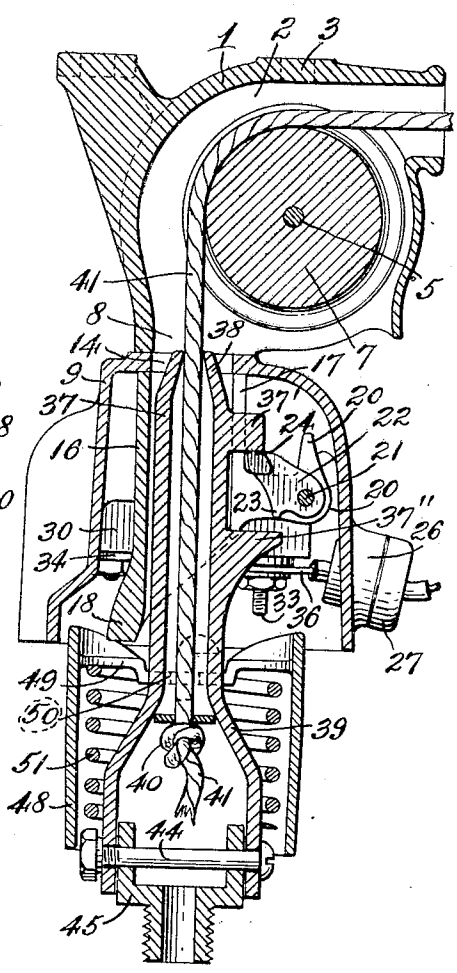


FIG. 5.



Witnesses:

A. L. Lord.

D. Tozer.

Inventor.

Allison J. Thompson

by B. W. Brockett

Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALLISON J. THOMPSON, OF CLEVELAND, OHIO.

LAMP-HANGER.

1,223,532. Specification of Letters Patent. Patented Apr. 24, 1917.

Application filed January 3, 1916. Serial No. 69,955.

To all whom it may concern:

Be it known that I, ALLISON J. THOMPSON, citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Lamp-Hangers, of which the following is a specification.

This invention generally speaking relates to lamp hangers and particularly to certain features of a device of this character whereby the lamp hanger member is properly centered and located with respect to the main hanger member and the contact mechanism between the members is arranged in a manner such that a more perfect contact is established between the contact devices irrespective of any slight variations in the relationship of the two members when they are coming into engagement and when they are in engagement.

The invention also relates to certain other features hereinafter set forth in the following description, drawings and claims.

Referring to the drawings Figure 1 is a rear elevation of the device with the parts broken away; Fig. 2 is a side view partly in elevation and section; Fig. 3 is a detail sectional view of one of the swinging contact carriers of the main hanger member; Fig. 4 is a vertical section taken upon the line 4—4 of Fig. 2; and Fig. 5 is a vertical section taken at 90° to the view shown in Fig. 4.

In the embodiment of the device shown in the drawings 1 represents a sheave housing provided with a sheave chamber 2 and upper supporting brackets 3 and 3′ which may be secured to a spanner wire or any other suitable device. This sheave housing is also provided with a lower main housing flange 4 of suitable configuration. Extending transversely through the sheave housing and directly below the supporting bracket 3, is a pin or bolt 5 provided on its projected ends with insulators 6, which may be located here or at any other point on the hanger. Within the housing the pin or screw 5 is provided with a sheave 7 having its periphery in alinement with a suitable rope opening 8 in the bottom of the sheave housing. This opening and the periphery of the sheave are in a vertical line which is mid-way between the two brackets 3 and 3′ so that the pull on the elevating rope produces a resultant pull on a line drawn from the center of the sheave to the bracket 3′. Secured to the sheave housing flange 4 is a main hanger member housing consisting of a central portion 9 secured to the flange 4 by screws 10 and diametrically opposed lateral extensions 11 forming on the inside of the housing contact carrier sockets 12 each having an inside partition 13 for a purpose to be described. The bottom of this housing is open for the entrance of the lamp hanger member as will appear. At the top and at the center the main hanger member housing is provided with an opening 14 in alinement with the opening 8. Secured under the screws 10 is a guiding sleeve flange 15 having integral therewith a downwardly extending guiding sleeve 16 provided with a vertically disposed slot 17 extending the length of one side and a downwardly extending projection 18 at a point diametrically opposed to the slot 17. The end of this sleeve inclines upward from the projection 18 to the slot and forms opposed camming edges from the projection 18 to the lower end of the slot for a purpose to be described. Extending outwardly from the guiding sleeve 16 and arranged one on either side of the slot 17 are a pair of ears 19 each of which is provided with an upwardly extending latch stop 20 as shown in Fig. 5. Extending between these two lugs is a latch pin 21 supporting pivotally a latch 22 having a downwardly extending tail portion 23, a latching nose 24, and laterally extending lugs 25 adapted to engage on either side of the slot 17 and limit the movement of the latch toward this slot 17 and to engage the stops 20 and limit the outward swing of the latch. This latch is so constructed and arranged that its normal tendency is to swing by gravity toward the sleeve even when the lugs 25 are in engagement with the stops 20, so that the lugs 25 normally engage the walls of the guiding sleeve adjacent to the slot 17, or in other words it normally tends to swing toward the full line position shown in Fig. 5.

The main hanger member housing is further provided with bosses 26 bored out to receive insulators 27 for the incoming wires.

There is a complete main hanger member contact device arranged in each of the sockets 12 and a description of one of these devices and its mounting will suffice for both.

Extending through the outer wall of the housing and through the corresponding par-

tition is a bolt or pin 28 held in place by a nut 29. Mounted upon this bolt is a contact carrier block 30 of insulating material and having an opening 31 extending transversely through the same and larger than the bolt or pin 28, so that the block may swing freely in a radial plane with respect to the pin and may also have a slight movement in a transverse direction, the two movements permitting a slight universal movement of the block. Each of these contact carrier blocks is provided with a pair of vertically disposed openings 32 one arranged on each side of the center for receiving bolts 33, which pass through a contact supporting plate 34 adapted to be clamped against the under side of the block. This plate is provided with a saddle shaped contact 35. The term saddle shaped is used in this instance to define a configuration wherein the contact device is concave in one plane cutting the device and convex in the other, or in other words the surface is convex transverse to the concavity of the member. An incoming wire 36 is attached under the nut to one of each of the bolts 33.

The lamp hanger member comprises a main guiding shank 37 of tubular construction provided with a tapered upper end 38 adapted to form a centering guide on the outside. This shank 37 is provided near its upper end with a supporting lug 37′ and below it a trip lug 37″ for purposes which will appear. The main guiding shank 37 is enlarged at 39 to form an inclined shoulder for receiving a knot 40 of a rope 41. This enlargement is provided with an annular flange 42 for a purpose to be described. Extending downwardly from the flange 42 is a bell shaped skirt 43 supporting a pin 44 upon which the lamp connection 45 is mounted. The main guiding shank 37 is still further provided with diametrically extending fins 46 provided at their upper ends with laterally extending lugs 47 for a purpose to be described.

Surrounding the lower portion of the lamp hanger member is a lamp hanger contact carrier in the form of a cylindrical casing 48 extending outside of the flange 42 and provided with an inwardly extending flange 49 having notches 50 for receiving the fins 46. Between the flange 49 and the flange 42 is a coil spring 51 which normally tends to force the casing 48 so that the flange 49 engages the lugs 47 in an obvious manner, the engagement of the fins 46 in the notches 50 preventing relative rotative movement between the main guiding shank and the casing 48. The casing 48 is provided with laterally extending brackets 52 each provided with an eye 53 at its outer end and these brackets are arranged in diametrically opposed pairs and each pair on each side of the casing 48 supports a contact block 54 of any suitable insulating material such as porcelain. Each of these contact brackets 54 is provided with suitable bolt openings 55 for receiving bolts 56 extending through the corresponding eyes 53 and with a centrally disposed opening 57 for receiving a shank 58 of a lamp hanger member contact device 59 on the upper side of the block. Each of these contact members is provided with a saddle shaped contact 60 of a shape similar to the saddle shaped contact 35, but arranged with the plane of the concave arc at right angles to the plane of the concave arc of the contact 35, so that the two saddle contacts will nest into each other and provide a contact device having good contacting surfaces and also having universal movement with respect to each other.

Assuming that the members are in engagement as shown in Figs. 1, 4 and 5 and that the lamp is to be released the operator pulls upon the rope and elevates the lamp hanger member until the trip lug 37″ engages the tail portion 23 and moves the latch 22 in a clockwise direction as shown in Fig. 5 with the result that its nose 24 is moved out of the path of the supporting lug 37′, when upon a quick release of the rope the lamp hanger member will pass down freely. When the lamp hanger member is to be restored to supported position the operator pulls upon the rope when the main guiding shank 37 will enter the guiding sleeve, and the main supporting lug 37′ will engage the inclined camming faces of the sleeve until it passes into the slot 17 and raises the latch. The operator then continues the upward movement until the trip lug 37″ by its engagement with the tail 23 causes the latch to be rocked in a clockwise direction until the lugs 25 of the latch engage their stops 20 when the further upward movement of the lamp hanger member is prevented. A slow release of the rope at this time will permit the latch to move back into a position to engage under the supporting lug 37′ and support the lamp hanger member. This supported position of the lamp hanger member places the spring of the lamp hanger member contact carrier under tension with the result that the contacts are forced into engagement. The spring 51 being located in the center brings about an equalization of the pressure on the contacts.

In my pending application, Serial No. 817,418, filed Feb. 9, 1914, for lamp hangers, a construction is disclosed wherein the contacts of the main hanger member are pivotally mounted upon bolts with the bolts substantially fitting the contact blocks, so that there is only a pivotal movement permitted to the block at a right angle to the longitudinal axis of the bolts. The contacts carried by the lamp hanger member are rigidly mounted upon this member. The

contacts themselves in this structure are metal so shaped that as they approach engagement there is a centering of one contact with respect to the other in a circumferential direction.

In the present case the contact blocks of the main hanger member are loose upon the bolts so that they may move not only in a direction to swing about the pins but may also be rocked slightly at right angles to the longitudinal axis of the bolts. Furthermore, the contacting surfaces of the contacts themselves are saddle shaped and when they meet these surfaces nest one against the other permitting slight universal movement without interfering with the engagement of the contacting surfaces in any way.

It might be stated, therefore, that the line of demarcation between the present case and its claims, as they now stand, and my former application is that there is a universal movement and give to the contacts and their supports as they approach engagement and during engagement so that the nesting of the contacting surfaces is not interfered with by any slight twisting or any undue effect upon the parts of the hanger.

The advantages of the present construction were brought about by the failure of my former device to contain such features.

I claim—

1. In a lamp hanger, a main hanger member comprising a housing with an opening in the bottom thereof, a guiding sleeve supported in said housing, said sleeve being provided with a vertically disposed slot in one side, opposed upwardly inclined camming edges extending to the slot, ears extending radially from the sleeve one on each side and each adjacent to the slot, a latch stop supported by said ears, a latch pivoted in said ears and adapted to swing in a plane radial to the sleeve, said latch being pivoted to swing against the sleeve at the slot by normal tendency and to be limited in its opposite movement by said stop, an inwardly and downwardly extending tail portion carried by said latch, a lamp hanger member, an upwardly extending centering portion adapted to pass into the guiding sleeve to center the two hanger members, a pair of spaced lugs extending radially from one side of the centering member, said lugs being spaced vertically with the lower lug longer than the upper one, the upper lug being adapted to engage the cam edges of the guiding sleeve and swing the lamp hanger member into proper relationship with the main hanger member and to pass into the slot and engage the latch and move it upward and pass above it, and the lower lug being adapted to engage the tail portion of the latch and form a stop on the upward movement and at the same time forming a means for throwing the latch out of latching position on the release of the lamp hanger member, an elevating device secured in the guiding member of the lamp hanger member and passing up through the guiding sleeve, and suitable contact devices arranged between the hanger members.

2. In a lamp hanger, a main hanger member, a lamp hanger member, raising and lowering means between said members, means for centering the lamp hanger member with respect to the main hanger member and for insuring the proper relationship of such members, and suitable contact mechanism between the members comprising contact devices supported for movement in all directions to provide universal movement of the contacts with respect to each other, said contacts also having contacting surfaces permitting such movement.

3. In a lamp hanger, a main hanger member, a lamp hanger member, raising and lowering means between said members, means for centering the lamp hanger member with respect to the main hanger member and for insuring the proper relationship of such members, and suitable contact mechanism between the members comprising contacts having coöperating saddle shaped nesting contacting surfaces adapted to permit of universal movement between contacts when in contact.

4. In a lamp hanger, a main hanger member, a lamp hanger member, raising and lowering means between said members, means for centering the lamp hanger member with respect to the main hanger member and for insuring the proper relationship of such members, and suitable contact mechanism between the members comprising contact devices supported for movement so as to permit them to center themselves universally when approaching engagement and when in engagement.

5. In a lamp hanger, a main hanger member, a lamp hanger member, raising and lowering means between said members, means for centering the lamp hanger member with respect to the main hanger member and for insuring the proper relationship of such members, and suitable contact mechanism between the members comprising coöperating contacts each having a concave arc shaped together with an intersecting convex arc shape whereby the two contact devices will nest and center themselves and will permit of a universal movement when in contact.

6. In a lamp hanger, a main hanger member, a lamp hanger member, raising and lowering means between said members, means for centering the lamp hanger with respect to the main hanger member and for insuring the proper relationship of such members, and suitable contact mechanism between the members comprising a pair of main hanger contact members each consisting of a carrier

of suitable insulating material, having a transverse opening therethrough, a supporting rod less in diameter than the opening through said carrier whereby it may swing upon the rod in two directions thereby permitting a limited universal movement, a contact carried by said carrier having saddle shaped contact devices and contact mechanism carried by the lamp hanger member and comprising an insulating block, and saddle shaped contacts carried by said blocks and coöperating with the saddle shaped contacts of the main hanger member.

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

ALLISON J. THOMPSON.

Witnesses:
ALTON H. BEMIS,
D. TOZER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."