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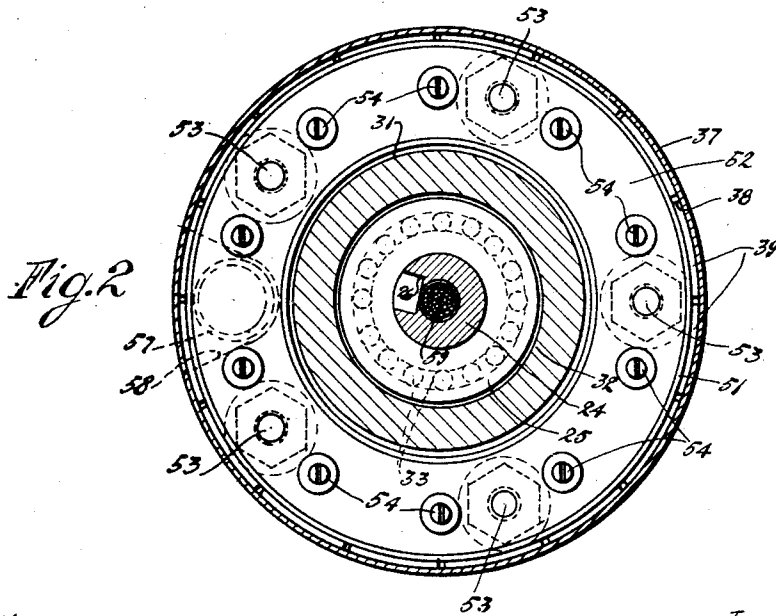
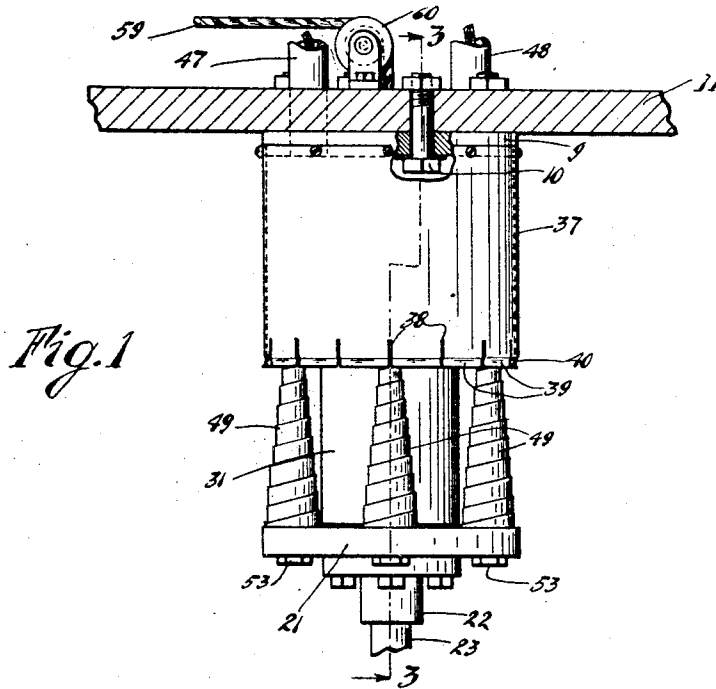
1,559,669

H. M. BROWN

LIGHTING FIXTURE HOLDER

Filed Sept. 26, 1924

3 Sheets-Sheet 1



Witnesses:

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[Signature]

Inventor:

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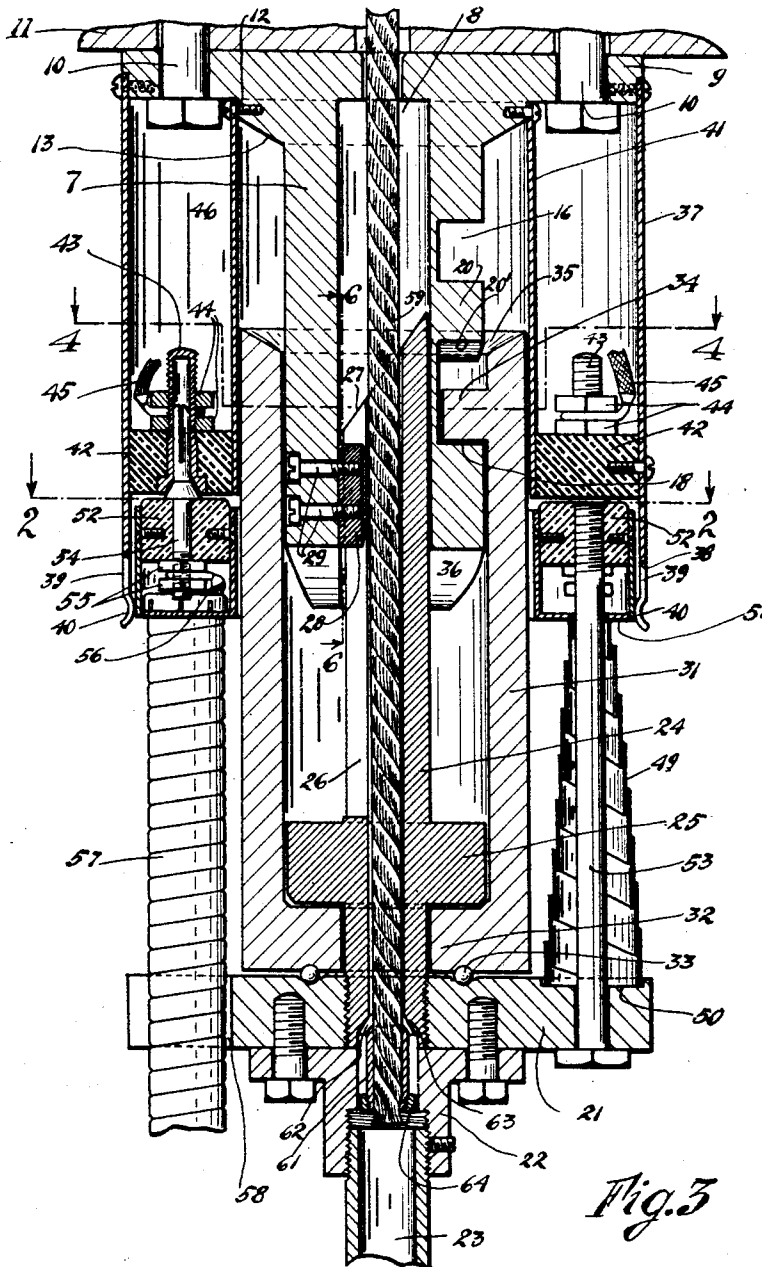
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LIGHTING FIXTURE HOLDER

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3 Sheets-Sheet 2



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LIGHTING FIXTURE HOLDER

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3 Sheets-Sheet 3

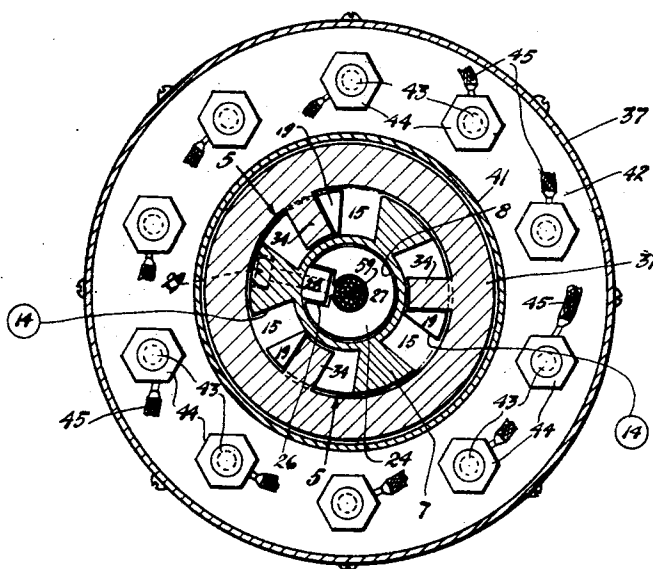


Fig. 4

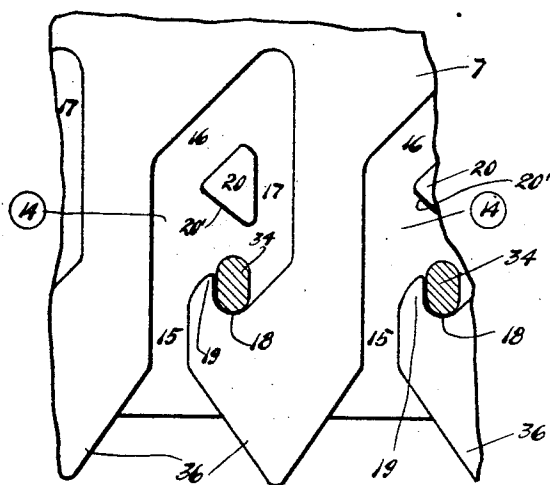


Fig. 5

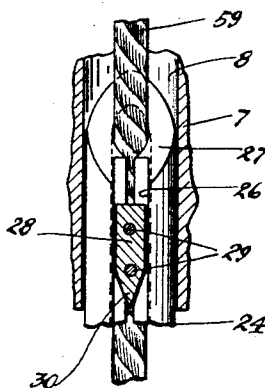


Fig. 6

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UNITED STATES PATENT OFFICE.

HAROLD M. BROWN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO OSCAR E. FUCHS, OF CHICAGO, ILLINOIS.

LIGHTING-FIXTURE HOLDER.

Application filed September 26, 1924. Serial No. 740,002.

To all whom it may concern:

Be it known that I, HAROLD M. BROWN, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Lighting-Fixture Holders, of which the following is a specification.

My invention relates to lighting-fixture holders, and has for its main object the provision of a new and useful construction of this character which will be highly efficient in use.

One of the principal objects of my invention is the provision of a device of the class described, so designed and constructed that chandeliers and lighting units may be elevated to and lowered from their overhead lighting positions and so designed and constructed that such chandeliers and lighting units may be locked with a fixed support on being elevated to their lighting positions and may also be unlocked therefrom preparatory to being lowered from their lighting positions, it being a further object of the invention to accomplish these various operations from the floor of the room or place furnished with the chandeliers and lighting units.

A further object of my invention is the provision of a device of this character for use in auditoriums, theatres, churches, assembly halls, and in other edifices and places furnished with massive lighting units or structures which are supported at high elevations where they are inaccessible or practically inaccessible for cleaning and repairs, and where in the interest of safety it is essential, nevertheless, that such lighting units and structures be securely supported on strong permanent bodies other than the cables, or means otherwise employed as equipment by means of which to effect the elevating and lowering operations.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is an elevational view of my improved construction;

Fig. 2 is a cross section taken on the line 2—2 of Fig. 3;

Fig. 3 is a central longitudinal section taken approximately on the line 3—3 of Fig. 1;

Fig. 4 is a cross section taken on the line 4—4 of Fig. 3;

Fig. 5 shows an enlarged detail of the lug-paths and lug-seats provided on the tubular body; and

Fig. 6 is a sectional detail taken on the line 6—6 of Fig. 3.

In auditoriums, theatres, churches and other edifices and places where large spaces are required to be illuminated and where the lighting fixtures and structures are required to be placed at a high elevation, much difficulty is experienced in providing an equipment by means of which the lighting units or structures may be lowered to the floor for cleaning and repairs and at the same time providing an equipment whereby such lighting units or structures will be securely maintained at all times in their lighting positions. It is a common practice to elevate and lower the lighting units and structures by means of cables or similar equipment and also to employ the cables or similar equipment as the means or as a link in the chain of means supporting the lighting units or structures in their over-head positions. Owing to the danger of supporting such units or structures by means other than rigid and permanent supports, the authorities in some places now require all massive lighting fixtures, units and structures to be supported upon staunch, strong and permanent supports. The aim of the present invention, therefore, is to provide a permanent over-head holder and to provide in cooperation therewith means whereby the base for the lighting unit or structure may be readily mounted or demounted on said permanent support and further to provide means by which these operations together with the elevating and lowering operations may be accomplished by an attendant or attendants from the floor of the room.

In carrying out my invention I provide a supporting body 7, made in the form of a tube, the same having a central longitudinal bore 8. At its upper end this tubular body is made with a projecting annular flange 9 by means of which it may be se-

cured through bolts 10 or otherwise to a fixed structural element 11 which may consist of a beam or other over-head structural feature of the building. Spaced from the annular flange 9, the tubular body is also provided with an annular shoulder 12 adjacent to which is an outwardly and upwardly inclined region 13. The tubular body has also formed on its periphery spaced apart lug-paths which are referred to generally by the numerals 14 and each of which consist of an entrance path 15, an ascending path 16 a portion of which is inclined at an angle, a descending path 17 a portion of which is inclined at an angle and terminates in a lug-seat 18 adjacent an end hook 19. In the present embodiment there are three of these lug-paths, and it will be noted from an inspection of Fig. 5 that each of these paths surrounds an integral cam 20 which is located immediately above the lug-seat 18 and has an upwardly inclined surface 20' thereabove.

21 denotes a base member, here shown to be of circular form. This base member is employed for the purpose of supporting the lighting fixture or unit; and in the construction illustrated there is centrally secured thereto a depending hub member 22 into which is threaded the stem or shank 23 of the lighting fixture or unit to be supported. This base member is centrally threaded upon a tubular stud member 24 which is formed at a point above the base member with an annular flange 25 and also above said flange with a longitudinal slot 26, the upper extremity of this lug member being inclined at 27 upwardly from the position of said slot 26. 28 is a key which is secured by bolts 29 on the interior wall of the tubular member for the purpose of engaging the lug member in the slot, whereby, when the lug member is entered in the tubular body, to prevent it from turning. The lower end of the key 28 is formed with a V-shaped point 30 (Fig. 6), designed to serve as a guide or pilot to engage on the inclined surface 27 of the lug member and to lead into the slot 26 thereof, when said lug member is entered in said tubular body.

The lug member is supported upon a sleeve 31 which is formed at its lower end with an inwardly projecting annular flange 32 designed to cooperate with the flange 25 of said lug member and having anti-frictional mounting upon the base member 21 by means of the anti-frictional members 33. Near its upper end this sleeve member is formed with integral inwardly projecting lugs 34 of oval shaped cross section (Fig. 5) designed to cooperate with the lug-paths 14 and to be seated in the lug-seats 18 over the end hooks 19. The upper extremity of the sleeve member is inwardly bevelled at 35 in order to cooperate with the V-shaped bev-

elled portions 36 formed on the lower end of the tubular body. By forming these parts in this manner, the lugs 34 are guided into their paths and the sleeve is guided upon the tubular body when the sleeve is applied thereto. In practice, when the sleeve is applied to the tubular body, the lugs 34 enter the lug-paths through the neck 15 proceed upwardly through the ascending paths 16 thence downwardly through the descending paths 17 and thence are seated in the seats 18 provided therefor. When the sleeve member is to be demounted, it is raised or elevated and the lugs 34 engage with the inclined surface 20' of the cams 20 are directed outwardly into the paths 16, whence they may be drawn downwardly and readily removed from the neck opening 15. In this connection, herein it will be readily understood that in applying the sleeve to the tubular body the lugs 34 in following the lug-paths will readily turn or give rotative movement to the sleeve upon the base member in accordance with the engagement of the lugs 34 with the deflections of the walls of the lug-paths. By this arrangement, therefore, the stud member which supports the base member and which is supported by the sleeve member is held against turning by the key 28 upon entrance into the tubular body while the sleeve member is mounted for free turning movement in response to the engagement of its lugs with the walls of the lug-paths.

Depending from the annular flange 9 of the tubular body is a cylindrical casing 37 which has its lower end portion provided with slits as 38 to produce spring fingers 39 made with inward deformations 40. Depending from the annular shoulder 12 of the tubular body is a concentric cylindrical casing 41. Between the casings 37 and 41 is supported an insulating ring 42 which consists preferably of bakelite. Threaded in spaced apart vertical positions through this ring are receiving terminal contacts 43 on which are engaged by the pairs of securing nuts as 44 the extremities of the electrical conducting wires 45 which are led through the chamber 46, formed between the casings 37 and 41, and thence through the flexible conduits 47 and 48 (Fig. 1) to effect connection with an electrical circuit in a manner that will be readily understood.

49 represents spiral telescopic springs which are mounted in seats 50 provided in the base member 21 in spaced apart circular relation, the said springs at the top ends thereof being engaged with an annular ring of U-shaped form in cross section and within which at the top thereof is mounted an insulating ring 52 consisting preferably of bakelite. Passing through the base member 21, in which they have free sliding movement, and also through the telescopic springs

49 and extending into the U-shaped member 51 to the insulating ring 52 therein with which they have threaded engagement, are headed pins 53, designed in view of the mounting herein to support in a yielding manner the insulating ring 52 against the upper insulating ring 42. Said insulating ring 52 is provided with male contact terminals 54 which are designed to enter the receiving contact terminals 43 in order to connect the lighting elements of the unit supported by the stem 23 in circuit with an outside source of electrical supply. For this purpose the male contact terminals 54 have secured thereto by means of the securing nuts 55 the extremities of the wire conductors 56 which are led through a flexible conduit 57, supported on the U-shaped link 51 and guided in an opening 58 in the base plate, the said wires 56 thence being led to their respective lighting elements.

According to an important feature of my invention the telescopic spring construction normally urges the ring 52 into such position as to maintain the cooperating terminal contacts in proper engagement, and said springs also by exerting a spreading tendency between the ring 52 and the base member 21 serve to effect a tension that draws the sleeve member into that position whereat the lugs 34 are maintained over the end hooks 19 against any danger of being accidentally disconnected therewith. Additionally, it will be noted that the spring construction is adapted to yield in order to permit the lug members to be advanced to the high points of the lug-paths on the application on the sleeve upon the tubular member, and further that the spring construction also readily yields to allow the disengagement of the lugs with the end hooks when the sleeve member is to be dismounted.

As clearly illustrated in Figs. 1, 3 and 6, a cable 59 is trained over a pulley 60 upon the beam 11 and thence is passed through the tubular body and also the stud member, within the lower portion of which the cable is firmly gripped by a two-part gripping device 61 whose upper end is tapered at 62 for engagement in a seat 63 and on whose lower end is threadably secured an adjusting nut 64. From the pulley 60, this cable may be led along the ceiling (not shown) of the room in any suitable manner and thence along the side walls to the floor of the room, the same being thus led in any secret or concealed course and being trained over suitable pulleys. When, in practice, it is desired to lower the lighting unit or structure supported by the base member 21, the cable is drawn in a direction to lift the sleeve member, which is caused to rotate by the lugs 34 engaging the cams 20 so as to bring the lugs into the lug-paths leading

to the lug openings 15. Thereupon the cable is payed out permitting the sleeve member and subjoined superstructure to be lowered to the floor. The structure is elevated again by drawing upon the cable in an obvious manner until the inclined extremity 27 enters the tubular member and the lugs enter the lug-paths being directed thereto by the V-shaped portions 36 as herein before described. The stud member held by the key 28 against turning serves as a guide to aline the male terminal contacts with the receiving terminal contacts for their proper engagement on the further raising of the sleeve member to bring the lugs thereof to the high points of the lug-paths. Thereupon the cable is payed out permitting the structure to be lowered until the lugs enter the lug-seats.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. In a device of the character described, the combination with a supporting body having a retaining seat, a stud member having means affording a guide in said supporting body, a base member fixed to the stud member, and a sleeve rotatably secured to the stud member and having means to rest in said seat.

2. In a device of the character described, the combination with a supporting body having a retaining seat, a stud member having means affording a guide in said supporting body, a base member fixed to the stud member, a sleeve rotatively secured to the stud member and having means adapted to rest in said seat, and antifriction devices between said sleeve and said base member.

3. In a device of the character described, the combination with a supporting body having a retaining seat, a rotatable sleeve having means adapted to rest in said seat, a stud member extending into the sleeve and having means affording a guide in the supporting body, means whereby to support the stud member on the rotatable sleeve, a base member secured to the stud member, and cooperative terminal contacts carried by said supporting body and said base member, respectively.

4. In a device of the character described, the combination with a tubular supporting body having a retaining seat, a rotatable sleeve having means adapted to rest in said

seat, a stud member extending into and flanged to rest upon the sleeve and having means affording a guide in said supporting body, a base member secured to said stud member; and a hoisting cable leading through the supporting body and having connection with the stud member.

5. In a device of the character described, the combination with a supporting body having a retaining seat, a rotatable sleeve having means adapted to rest in said seat, a stud member extending into the sleeve and having means affording a guide in the supporting body, cooperating flange parts for supporting the stud member on said rotatable sleeve, a base member secured to said stud member, and means for elevating and lowering said stud member.

6. In a device of the character described, the combination with a tubular supporting body, a stud member adapted to slide in the supporting body, there being a groove in the side of the stud member, a key within the supporting body adapted to cooperate with said groove, an inclined guiding end across the stud member to direct said key into said groove, and means for raising and lowering the stud member.

7. In a device of the character described, the combination with a tubular supporting body having a retaining seat, a rotatable sleeve having means adapted to rest in said seat, a stud member extending into and flanged to rest upon the sleeve and adapted to slide in the supporting body, there being a groove in the side of the stud member, a key on the supporting body adapted to cooperate with said groove, an inclined guiding end on the stud member to direct said key into said groove, a base member on which the sleeve is rotatable secured to the stud member, and means for raising and lowering the stud member.

8. In a device of the character described, the combination with a tubular supporting body having exterior lug paths and retaining seats, a sleeve having lugs adapted to traverse said paths and rest in said seats, means consisting of cam faces provided on the supporting body to direct said lugs into said paths on the application of the sleeve, a stud member extending into and flanged to rest on the sleeve and having means affording a guide in the supporting body, a base secured to the stud member, and means for raising and lowering said stud member.

9. In a device of the character described, the combination with a tubular supporting body having exterior lug paths and retaining seats, a sleeve having lugs adapted to traverse said paths and rest in said seats, means comprising cam faces on the supporting body to direct said lugs into said paths on the application of the sleeve, a tubular

stud member extending into the sleeve and adapted to slide in the supporting body and having a groove, a key in the supporting body, means for directing the key into said groove on the application of the stud member, cooperating flanges for supporting the stud member on the sleeve, a base member fixed to the stud member, and a cable leading through the supporting body and stud member for raising and lowering the stud member.

10. In a device of the character described, the combination with a tubular body having retaining means, a stud member entering the tubular body, a key in the tubular body engaging the stud member, a base member supported on the stud member, a sleeve receiving and adapted to uphold the stud member, said sleeve having anti-frictional engagement with the base member and having demountable connection with said body retaining means, and sets of cooperative terminal contacts yieldable with respect to each other supported on said tubular body and on said base member, respectively.

11. In a device of the character described, the combination with a tubular body having retaining means, a base member, a sleeve having antifrictional mounting on the base member demountably connected with said tubular body retaining means, and an element on which the base member is supported, and having support in said sleeve and keyed within the tubular body.

12. In a device of the character described, the combination with a tubular body having retaining means, a base member, a sleeve having anti-frictional mounting on the base member demountably connected with said tubular body retaining means, an element on which the base member is supported, having support in said sleeve and keyed within the tubular body, and sets of cooperative terminal contacts yieldable with respect to each other on said tubular body and said base member, respectively.

13. In a device of the character described, the combination with a tubular body having exterior retaining means, of a tubular stud member and a base member supported thereon, said stud member being keyed within the tubular body, a cable passing through the tubular body and stud member for elevating and lowering the stud member, a rotatable sleeve holding the stud member and detachably engaged with the tubular body retaining means, and cooperative sets of terminal contacts carried by said tubular body and said base member, respectively, the members of one of said sets being yieldably mounted with respect to the members of the other set.

14. In a device of the character described, the combination with a tubular body having

retaining means, a base member, a sleeve having anti-frictional mounting on said base member and having demountable connection with said tubular body retaining means, means on which the base member is supported, having support in said sleeve and keyed within the tubular body, a cable passing through the tubular body and attached to the supporting means for said base member, and cooperative sets of terminal contacts carried by said tubular body and said base member, respectively, the members of one of said sets being yieldably mounted with respect to the members of the other set.

15 15. A device of the character described including a supporting body having lug seats and cam parts, there being lug paths surrounding said cam parts and leading to said seats, a sleeve having lugs adapted to traverse said paths and to rest in said seats, a base member and means for holding said base for relative movement to and supporting it from said sleeve.

20 16. A device of the character described including a supporting body having lug seats and cam parts, there being lug paths surrounding said cam parts and leading to said seats, a sleeve having lugs adapted to traverse said paths and to rest in said seats and flanged, and means for supporting a lighting unit extending into said sleeve and embracing said sleeve flange.

25 17. A device of the character described including a supporting body having lug seats and cam parts, there being lug paths surrounding said cam parts and leading to said seats, a sleeve having lugs adapted to traverse said paths and to rest in said seats, a stud member fitting into said sleeve and flanged, a base member carried by the stud and a flange on the sleeve fitting between the base member and said stud flange.

30 18. A device of the character described including a tubular body having means for attachment to a support and having lug-paths and lug-seats, a sleeve having lugs adapted to traverse said paths and to rest in said seats, a base member on which said sleeve has anti-frictional mounting, and means

comprising a stud member carried in the tubular body and supporting the base member from said sleeve.

19. A device of the character described including a tubular body having means for attachment to a support and having lug-paths and lug-seats, a sleeve having lugs adapted to pass through said paths and to rest in said seats and flanged, a base member, a stud member carried in the tubular body supporting the base member and having a flanged portion cooperative with the sleeve flange whereby to be supported by said sleeve, anti-frictional means between said sleeve flange and the base member, and means elevating and lowering said stud member.

20. A device of the character described including a tubular body having means for attachment to a support and having lug-paths and lug-seats, a sleeve having lugs adapted to pass through said paths and to rest in said seats, a base member on which said sleeve has anti-frictional mounting, means comprising a stud member keyed in the tubular body and supporting the base member from said sleeve, and a cable passing through the tubular body and attached to the stud member for elevating and lowering the same.

21. A device of the character described including a tubular body having means for attachment to a support and having lug-paths and lug-seats, a sleeve having lugs adapted to traverse said paths and to rest in said seats, a base member on which said sleeve has anti-frictional mounting, means comprising a stud member keyed in the tubular body and supporting the base member from said sleeve, a cable passing through the tubular body and attached to the stud member for elevating and lowering the same, and cooperative sets of terminal contacts carried by said tubular body and said base member, respectively the members of one of said sets being yieldably mounted with respect to the members of the other set.

In testimony whereof I have signed my name to this specification.

HAROLD M. BROWN.