April 28, 1931. E. W. BRADY 1,802,965

INSULATOR SUPPORT

Filed Feb. 6, 1929 2 Sheets-Sheet 1

Fig. 1.

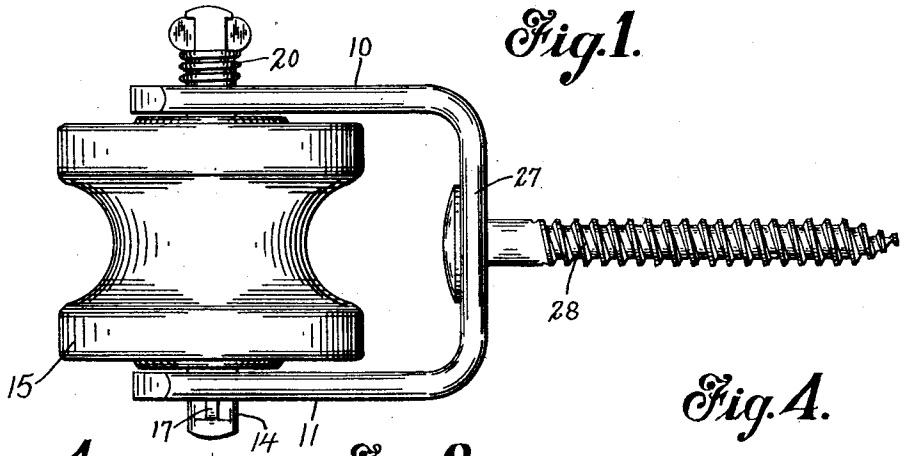



Fig. 2.

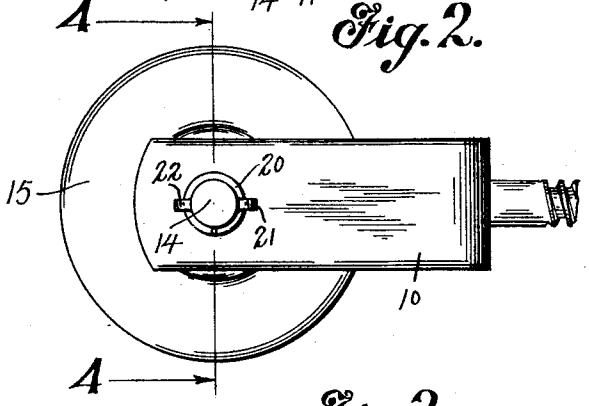



Fig. 3.

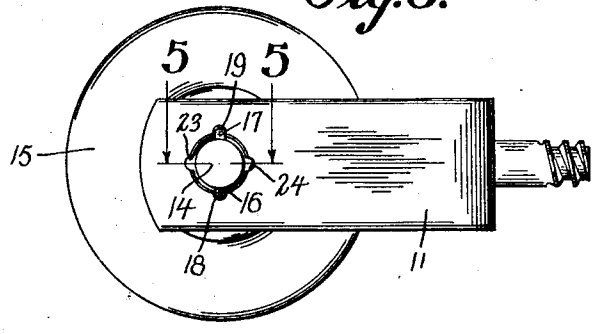



Fig. 4.

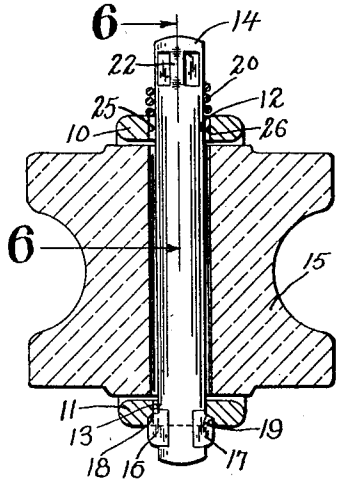



Fig. 5.

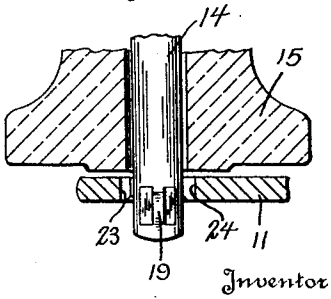
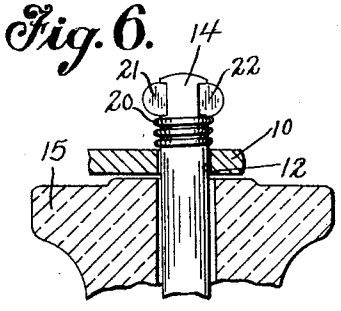



Fig. 6.




Inventor

Edmund W. Brady

By Rockwell & Bartlow

Attorneys

April 28, 1931. E. W. BRADY 1,802,965

INSULATOR SUPPORT

Filed Feb. 6, 1929 2 Sheets-Sheet 2

Fig. 7.

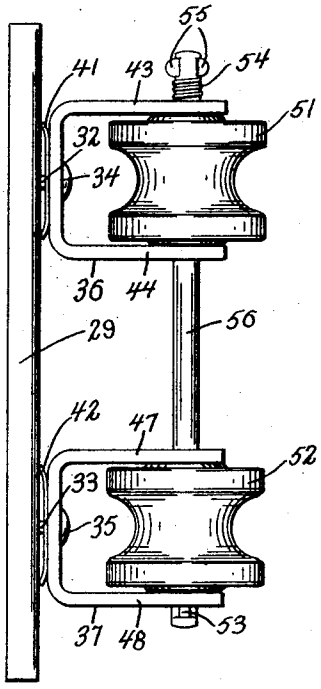



Fig. 8.

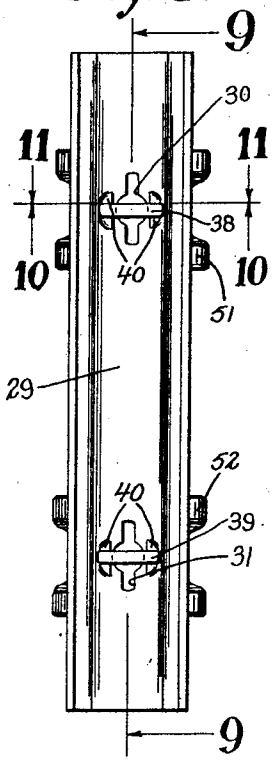



Fig. 9.

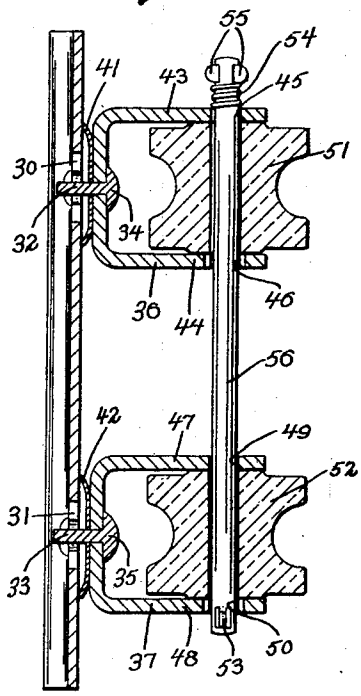



Fig. 10.

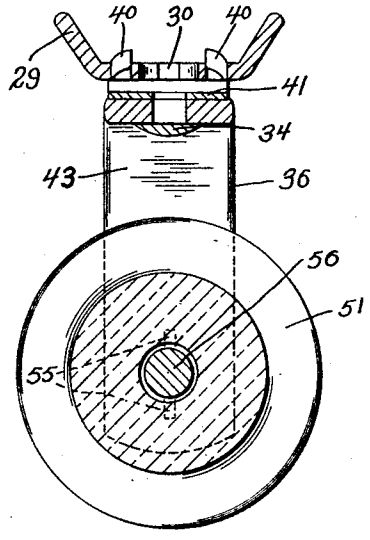
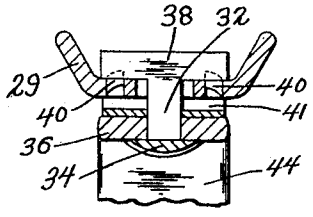



Fig. 11.




Inventor

Edmund W. Brady

By Rockwell & Barcholow

Attorneys

Patented Apr. 28, 1931 1,802,965

# UNITED STATES PATENT OFFICE

EDMUND W. BRADY, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE BRADY ELECTRIC & MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT

## INSULATOR SUPPORT

Application filed February 6, 1929. Serial No. 337,974.

My invention relates to an insulator support and more especially to a support which may be shipped in a knock-down condition and readily and quickly assembled when it is to be used.

It is well known to provide brackets, racks, etc., for supporting insulators in which the insulators are mounted on rods threaded through suitable openings in parts of the brackets or racks, the rods being generally held against displacement by cotter pins. This means for supporting insulators presents the disadvantage of requiring the lineman to thread the cotter pins through openings in the insulator supporting rods and to spread the ends of the cotter pins to prevent them from subsequently moving out of the openings. These are both somewhat difficult operations to perform in the usual installation and result in considerable inconvenience and loss of time.

An object of the present invention is to provide an insulator support which may be more readily assembled than those heretofore known.

Another object of the invention is to provide, in an insulator support having an insulator supporting rod or similar element, a self-contained means for locking the rod in the support against displacement.

A further object of the invention is to provide an insulator support which may be readily and quickly assembled and disassembled without the use of tools.

To these and other ends, the invention consists in the novel features and combination of parts to be hereinafter described and claimed.

In the drawings,

Fig. 1 is a plan view of an insulator and insulator support according to my invention;

Fig. 2 is an end view of the same;

Fig. 3 is a view similar to Fig. 2, but showing the opposite end of the insulator and insulator support;

Fig. 4 is a sectional view along line 4—4 of Fig. 2;

Fig. 5 is a sectional view along line 5—5 of Fig. 3;

Fig. 6 is a sectional view along line 6—6 of Fig. 4;

Fig. 7 is a side elevation of a modification embodying additional features of the invention;

Fig. 8 is a rear view of the modification shown in Fig. 7;

Fig. 9 is a sectional view along line 9—9 of Fig. 8;

Fig. 10 is a sectional view along line 10—10 of Fig. 8; and

Fig. 11 is a sectional view along line 11—11 of Fig. 8.

Referring then to the drawings in which I have illustrated my invention by showing a preferred embodiment of the same and with particular reference to Figs. 1–6 inclusive, the reference numerals 10 and 11 indicate a pair of spaced insulator supporting elements provided with aligned openings 12 and 13 in which is received an insulator supporting pin or rod 14, having mounted thereon insulator 15, the latter, in this instance, being received between elements 10 and 11, which prevent endwise or axial movement of the insulator.

One end of insulator supporting rod 14 is provided with a pair of oppositely disposed lugs 16 and 17, which may be formed by pinching rod 14 at opposite points, or in any other preferred manner, lugs 16 and 17 being received in radially disposed openings or sockets 18 and 19 formed at opposite sides of opening 13, lugs 16 and 17 being held in openings 18 and 19, when the rod is supported in elements 10 and 11, by means of spring 20, received on the opposite end of rod 14 and bearing against the support, in this instance element 10, spring 20 being held against outward movement on rod 14 by suitable means, as for example lugs 21 and 22.

Opening into opening 13 in element 11 are oppositely disposed axial extending slots 23 and 24, which provided clearance for lugs 16 and 17 when rod 14 is threaded into or withdrawn through opening 13. Rod 14 may be withdrawn from opening 13 by pressing on the end of the rod adjacent spring 20 and compressing spring 20 sufficiently to disengage lugs 16 and 17 from sockets 18 and 19, and then rotating rod 14 until lugs 16 and 17 are opposite slots 23 and 24, whereupon the rod 14 may be withdrawn through opening 13,

through insulator 15 and through opening 12 in element 10, element 10 being provided with oppositely disposed axially directed radial slots 25 and 26 which open into opening 12 and provide clearance for lugs 16 and 17.

In assembling the insulator 15 on rod 14, the end of rod 14 is inserted into opening 12 with lugs 16 and 17 disposed in slots 25 and 26, rod 14 being threaded through the opening in insulator 15 and then through opening 13 in member 11, the openings 23 and 24 providing clearance for lugs 16 and 17. After rod 14 has been threaded through opening 13, sufficient pressure is brought to bear upon the opposite end of the rod to compress spring 20 to permit rod 14 to be rotated to bring lugs 16 and 17 opposite openings or sockets 18 and 19, whereupon the rod 14 may be released to permit lugs 16 and 17 to seat in sockets 18 and 19. It is to be noted that sockets 18 and 19 do not extend entirely through member 11 but extend inwardly a sufficient distance to provide seats for lugs 16 and 17.

Elements 10 and 11 in the preferred embodiment illustrated in Figs. 1 to 6, inclusive, form the arms of a clevis 27 in which is mounted a lag screw 28, by means of which the clevis may be mounted on a telegraph pole or other suitable support.

In Figs. 7 to 11, inclusive, I have shown a modification which embodies several additional features of the invention, herein the reference numeral 29 indicating an elongated strap of channeled cross-section provided adjacent its ends with keyhole openings 30 and 31 in which are received stems 32 and 33 of studs 34 and 35, stud 34 being mounted in a clevis 36, while stud 35 is mounted in clevis 37. Studs 34 and 35 have laterally extending substantially T-shaped heads 38 and 39, which may be passed through keyhole openings 30 and 31 and rotated to be received between lugs 40, which are disposed in pairs on either side of keyholes 30 and 31, as shown particularly in Fig. 8 of the drawings. These lugs may be formed by displacing the metal of the strap inwardly, as shown in Fig. 10, or in any other preferred manner.

Between the clevis 36 and strap 29 and mounted on stud 34 is a spring 41 which urges the clevis 36 outwardly from the strap 39 and thus the T-head 38 of the stud into tight engagement with the strap 29 between the spaced lugs 40. A similar spring 42 is mounted on stud 35, between clevis 37 and strap 29, which urges the T-head 39 into tight engagement with the strap 29, between the cooperating lugs 40. Clevis 36 is provided with oppositely disposed arms 43 and 44 which are provided with aligned openings 45 and 46, while clevis 37 is provided with oppositely disposed arms 47 and 48, which are provided with aligned openings 49 and 50, the openings in clevises 36 and 37 being in alignment when the clevises are mounted on the strap 29, whereby a rod 56, which is quite similar in form to rod 14, may be threaded through the openings, and through the insulators 51 and 52, to support the latter on the clevises between the respective arms thereof. On opposite sides of the lower end of rod 56 are lugs 53, which are quite similar to the lugs 16 and 17 on rod 14, clevis arm 48 being provided with sockets similar to sockets 18 and 19 in arm 11 for the reception of lugs 53, while on the upper end of rod 56 is a spring 54, one end of which bears against clevis arm 43, while the opposite end bears against lugs 55 on rod 56. Opening 49, in arm 47 of clevis 37, is provided with oppositely disposed slots, to permit the threading of the rod therethrough, while the opening 50 in arm 48 is provided with oppositely disposed slots to permit the threading of the rod therethrough, these slots being arranged at right angles to the slots in arm 49, in a similar manner to the slots in arms 10 and 11 of the form shown in Figs. 1 to 6, inclusive. Openings 45 and 46 in arms 43 and 44, may be slotted in a similar manner, whereby it is necessary to rotate the rod 56 a quarter of a turn between adjacent clevis arms before the rod may be inserted or withdrawn through the openings.

In the form shown in Figs. 7 to 11, inclusive, the clevises may be readily assembled on the strap by inserting the studs through the openings therein and rotating them until the T-shaped heads are locked between the lugs, whereupon the openings in the clevises are in alignment and will permit the insertion of the rod. The rod 56 is inserted through the clevises and rotated into locked engagement therewith in a manner similar to that shown in Figs. 1 to 6, inclusive. When the rod 56 is mounted in the clevises it locks the latter against turning movement on the strap and thus prevents the clevises from becoming disengaged from the strap.

While I have shown a preferred embodiment of my invention, it is to be understood that the same is not to be limited to all the details shown but is capable of modification and variation within the spirit of the invention and the scope of the appended claims.

What I claim is:

1. In an insulator support, a pair of spaced insulator supporting elements, stems one on each of said elements, means on said stems for attaching them to a common supporting member by rotational movement relatively thereto, and a rod-like element passing through both supporting elements and securing them against rotational movement on the supporting member when attached thereto.

2. In an insulator support, a pair of spaced insulator supporting elements, stems one on each of said elements, said stems being provided with T-shaped heads, a supporting

member provided with spaced openings therein through which the T-shaped heads of the stems may be thrust and rotated into locking engagement with the member, and a rod-like element passing through said supporting elements and securing the stems against rotational movement when locked to said member.

3. In an insulator support, a rod-like element on which the insulator may be threaded and a plurality of spaced means for supporting said rod, said means being provided with openings through which said rod may be threaded, said rod being pinched at diametrically opposite points near one end to form radially projecting arms adapted to engage one of the rod supporting means to prevent withdrawal of the rod through the openings, the openings in the rod supporting means being provided with radially disposed slots providing clearance for the radially projecting arms, said radially projecting arms being adapted to engage one of the rod supporting means on the side thereof remote from the insulator upon being threaded through the openings and rotated to hold the rod against return movement through the openings, means for preventing rotation of the rod when so supported, said last-named means comprising grooves cut in the remote face of the supporting means in which the radially extending arms on the rod are received, and means for holding said arms in said grooves, comprising a coiled spring mounted on the rod on the opposite end thereof from the radially extending arms, one end of the spring bearing against one of the supporting means and the adjacent end of the rod being pinched to provide arms for supporting the end of the spring.

4. In an insulator support, a pair of spaced insulator supporting elements, stems one on each of said elements, means on said stems for attaching them to a common supporting member by rotational movement relatively thereto, a rod-like element passing through both supporting elements and securing them against rotational movement on the supporting member when attached thereto, and cooperating means on the rod-like element and the supporting elements for preventing withdrawal of the rod-like element from the supporting elements.

5. In an insulator support, a pair of spaced insulator supporting elements, stems one on each of said elements, means on said stems for attaching them to a common supporting member by rotational movement relatively thereto, and a rod-like element passing through both supporting elements and securing them against rotational movement on the supporting member when attached thereto, cooperating means on the rod-like element and the supporting elements operable upon insertion and rotation of the rod-like element in the supporting elements to prevent withdrawal of the rod-like element from the supporting elements.

In witness whereof, I have hereunto set my hand this 30th day of January, 1929.

EDMUND W. BRADY.