March 19, 1935. R. H. McCAFFERTY 1,994,916

CONDUCTOR SUPPORT

Filed Sept. 22, 1931

Fig. 1.

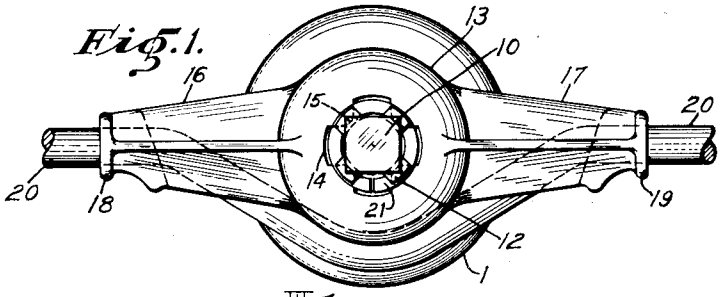


Fig. 2.

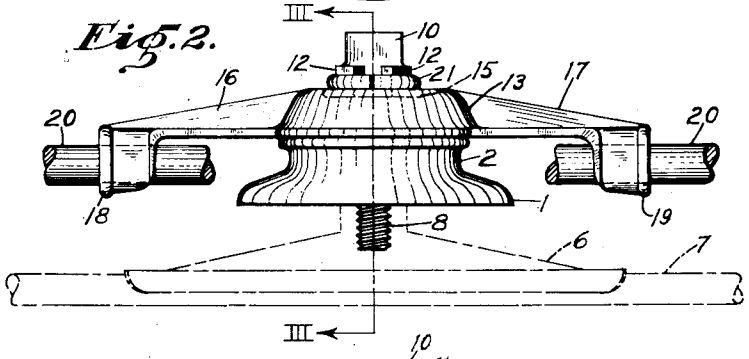


Fig. 3.

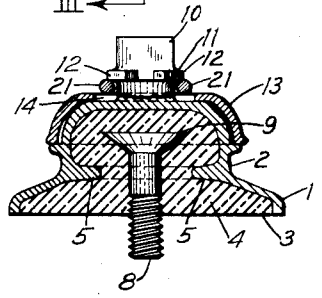


Fig. 4.

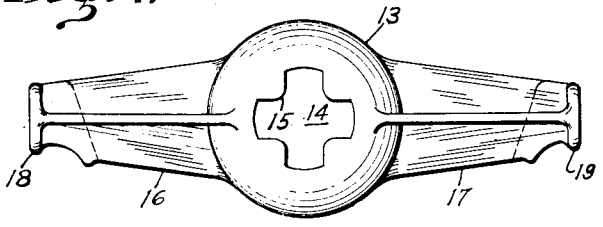


Fig. 5.



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CONDUCTOR SUPPORT

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4 Claims. (Cl. 173—28)

My invention relates generally to supporting devices, and more particularly to aligning hangers for overhead trolley conductors.

The object of my invention, generally stated, is to provide a satisfactory aligning conductor support that shall be readily and economically manufactured and quickly and easily installed.

A more specific object of my invention is to efficiently and inexpensively provide for supporting trolley conductors in alignment.

It is also an object of my invention to provide for assembling an aligning conductor support as a virtually inseparable unitary article of manufacture.

Other objects of my invention will, in part, be obvious and, in part, appear hereinafter.

My invention, accordingly, is disclosed in the embodiment hereof shown in the accompanying drawing, and comprises the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the appended claims.

For a more complete understanding of the nature and objects of my invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a top plan view of a trolley hanger constructed in accordance with this invention and attached to a supporting wire;

Fig. 2 is a view, in side elevation, of the hanger illustrated in Fig. 1, part of the supporting wire being broken away to more clearly show the construction, and a trolley conductor and ear being shown by broken lines to illustrate the application of the invention;

Fig. 3 is a sectional view, taken along the line III—III of Fig. 2, showing details of construction;

Fig. 4 is a top plan view of the yoke, illustrated separately; and

Fig. 5 is a view, in end elevation, of one end of the yoke showing the supporting cable in position.

Referring to the drawing, the aligning trolley hanger illustrated comprises a main body member 1 provided with an outer circumferential groove 2 and an inner cavity 3 within which any suitable electrical insulation 4 may be molded under heat and pressure. In order to insure that the insulation 4 will be retained within the main body member 1, an inwardly extending circumferential flange 5 is provided and cast integrally with the main body member and within the cavity 3, as shown, around which the insulation 4 may be molded.

With a view to supporting a trolley ear 6, of any standard construction, to which a trolley conductor 7 may be secured, a threaded bolt 8, provided with an enlarged head 9, is rigidly embedded in the insulation as shown in Fig. 3; care being taken to maintain the bolt 8 and the head 9 electrically separated from the main body member 1.

The main body member 1 may be supported in a variety of ways. In this embodiment of the invention, a flat-topped boss 10, of rectangular cross-section, is cast integrally with the main body member 1. The boss 10 is provided with a circumferential groove 11 at its base and with spaced projections or serrations 12 along the upper edge thereof; the distance between serrations being slightly greater than the length of the serrations themselves, for a purpose to be hereinafter set forth.

It will be noted that the cross-section of the boss 10 is rectangular in shape in order to provide for the application of a wrench for holding the main body member 1 while the trolley ear 6 is being screwed onto the threaded bolt 8. However, it will be apparent that the cross-section of the boss 10 may be of any suitable shape such as will permit the application of a wrench thereto.

In order to support the main body member 1, a yoke 13 is provided with an aperture 14, having the general shape of a Maltese cross, which is centrally located, as shown. The edge 15 of the aperture 14 is serrated to correspond to the serrations or projections 12 located on the boss 10; the minimum diameter of the serrated edge 15 being slightly greater than the minimum distance across the top of the boss 10. Further, in this embodiment of the invention, the serrations that are located on the edge 15 are of the same number and the same spacing as the serrations 12 located on the boss 10.

It will be apparent that the yoke 13 may be mounted on the main body member 1 as illustrated in Figs. 1 and 2, with the serrated edge 15 interfitting with the serrations 12 of the boss 10. It will be further observed that the serrated edge may be positioned below the serrations 12 and in the groove 11, as is more clearly shown in Fig. 3. The main body member 1 may then be turned slightly in either direction, thereby causing interlocking engagement between the serrated edge 15 and the projections 12 of the boss 10, which engagement serves to maintain the yoke 13 in

supporting relationship with respect to the main body member 1.

In order to support the hanger above the trolley conductor 7, the yoke 13 is provided with a pair of laterally extending arms 16 and 17 which are provided with a pair of curved depending end lugs 18 and 19 cast integral therewith. A supporting wire 20 is passed through the lugs 18 and 19 and around a portion of the main body member 1 in the circumferential groove 2. As will be readily observed, the supporting wire 20 may extend parallel to the trolley conductor 7, as illustrated, and may be supported at its ends, or otherwise, in any suitable manner. The supporting wire 20 may also extend at right angles to the position shown in the drawing or along any intermediate position, in which cases it would be secured at either end to poles alongside the track.

When the hanger is positioned above the trolley conductor 7, as hereinbefore described, the supporting wire 20 serves to maintain the main body member 1 and the yoke 13 together as a single supporting unit. This result is obtained because of the interaction between the supporting wire 20, the lugs 18 and 19 and the circumferential groove 2 located on the main body member 1. It will also be noted that, with the above described arrangement of parts, the main body member 1 is substantially free to rotate with respect to the yoke 13 to properly align itself as may be necessary.

From a manufacturing point of view, it is desirable to construct the hanger in two separable parts; i. e. the main body member 1 and the yoke 13. However, it is also desirable to assemble them together as a virtually inseparable unit for purposes of shipment and installation.

Therefore, a split retaining ring 21 is provided, of any suitable material such as soft iron, which may be positioned between the serrated edge 15 of the yoke 13 and the projections 12 on the boss 10 and in the circumferential groove 11 located at the base of the boss 10. It will be readily seen that the main body member 1 and the yoke 13 will be maintained as an inseparable unit when the ring 21 is located in this position. It will also be observed that the aligning feature of the hanger is still retained, since the groove 11, in which the ring 21 and the serrated edge 15 of the yoke 13 are located, is sufficiently wide to permit the free movement of the yoke 13 with respect to the main body member 1.

Since certain further changes may be made in the above construction and different embodiments of the invention may be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim as my invention:

1. An aligning conductor support comprising, in combination, a main body member provided with means for securing a conductor thereto, said body member also being provided with a boss having a circumferential groove provided with a plurality of serrations along one edge thereof, a yoke for supporting the main body member, said yoke being provided with a centrally located aperture having a serrated edge, said serrated edge being disposed to be located around the groove of the boss, and a retaining ring, also located around said groove in engagement with the serrated edge of the yoke and the serrations of the boss, for maintaining the main body member and the yoke inseparable while permitting relative rotation thereof.

2. An aligning conductor support comprising, in combination, a main body member provided with means for securing a conductor thereto, a flat-topped boss, provided with a rectangular portion and a circumferential groove, secured to the main body member, a plurality of spaced projections carried by the boss along one edge of the groove, a yoke for supporting the main body member, said yoke being provided with a centrally located aperture having a plurality of inwardly extending spaced projections, the ends of which lie on a circle whose diameter is slightly greater than the minimum distance across the top of boss, and a retaining ring disposed to engage the projections on said boss and on said yoke for maintaining the main body member and the yoke inseparable while permitting relative rotation thereof.

3. An aligning hanger for supporting a trolley conductor comprising, in combination, a main body member provided with a cavity, electrical insulation provided within the cavity, a threaded bolt having an enlarged head embedded in the insulation but electrically separated from the main body member, a boss mounted on the main body member and provided with a plurality of serrations, a yoke for supporting the main body member, said yoke being provided with a centrally located aperture having a serrated edge, said serrated edge being disposed to interfit with the serrations provided on the boss, and a retaining ring disposed to cooperate with the serrated edge of the aperture of the yoke and the serrations on the boss for maintaining the yoke and the main body member inseparable while permitting relative rotation thereof.

4. An aligning conductor support, comprising, in combination, a bell-shaped main body member provided with a rectangular head having a plurality of outwardly extending spaced projections, a flange formed integrally with the main body member and projecting inwardly from the inner surface thereof, electrical insulation disposed within the main body member and secured therein by means of said flange, a threaded bolt provided with an enlarged head and embedded in the insulation but electrically separated from the main body member, a yoke for supporting the main body member, said yoke being provided with a centrally located aperture having a plurality of spaced projections extending inwardly, a pair of laterally extending arms secured to the yoke, a pair of depending curved lugs secured to the arms for engaging a supporting wire, and a retaining ring disposed to cooperate with the projections on the head and on the yoke for maintaining the main body member and the yoke inseparable while permitting relative rotation thereof.

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