March 3, 1931. A. WEINBERGER 1,794,998

TRANSMISSION LINE SUPPORT

Filed Dec. 8, 1925

Fig. 1.

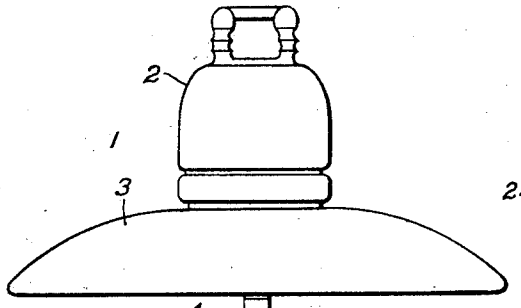
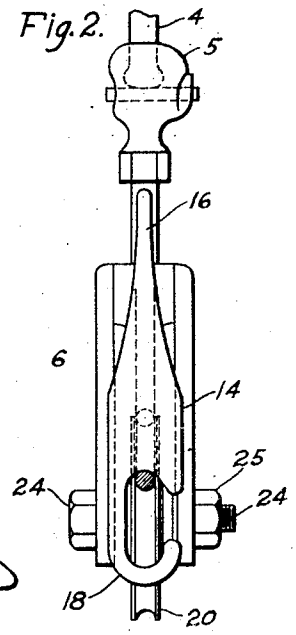


Fig. 2.



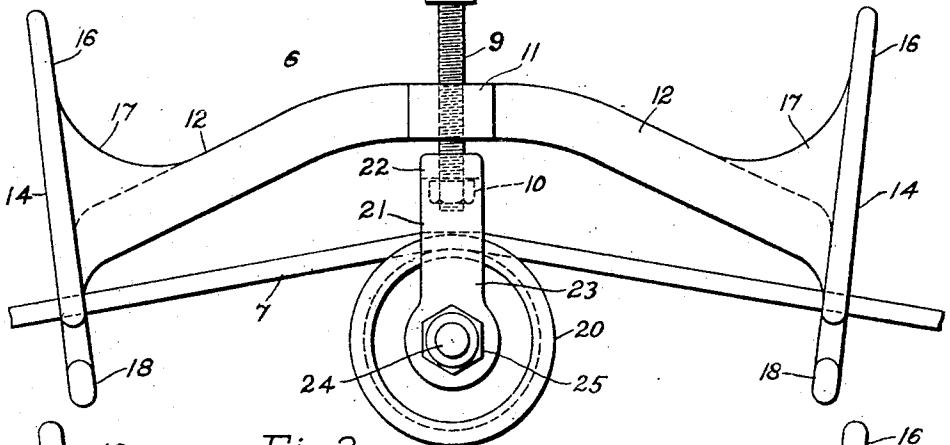
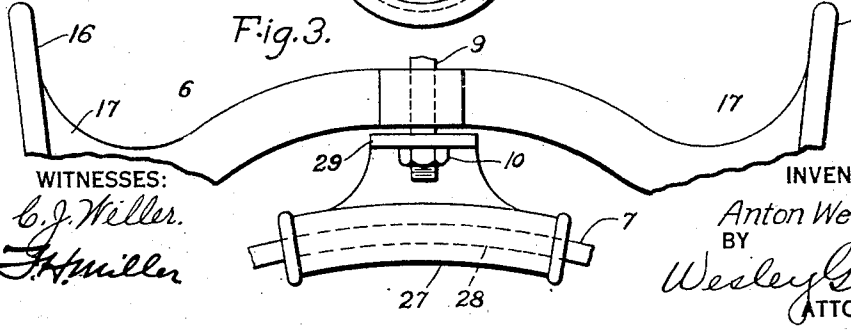


Fig. 3.



WITNESSES:
C. J. Weller.
F. H. Miller

INVENTOR
Anton Weinberger.
BY
Wesley G. Carr
ATTORNEY

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1,794,998

UNITED STATES PATENT OFFICE

ANTON WEINBERGER, OF MUNICH, GERMANY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA

TRANSMISSION-LINE SUPPORT

Application filed December 8, 1925, Serial No. 74,029, and in Germany December 16, 1924.

My invention relates to transmission line supports and particularly to means for attaching transmission conductors to suspension insulators.

One object of my invention is to provide a device of the above-indicated character that shall greatly facilitate the mounting of a transmission-line conductor.

Another object of my invention is to provide a conductor-supporting device that shall comprise a substantially minimum number of parts.

Another object of my invention is to provide a high-voltage conductor-supporting device that shall comprise a novel combined arcing and conductor-positioning means.

Another object of my invention is to provide a conductor-holding device in which the holding or gripping force may be readily adjusted.

A further object of my invention is to provide a conductor-supporting device that shall be simple and durable in construction, economical to manufacture and effective in its operation.

In clamps for securing transmission line conductors to the lower ends of suspension insulators, it has been usual to provide complementary grooved clamping-jaw members that fit the conductors and are held in position by a plurality of bolts.

It has also been usual to provide such clamps with arcing terminals or horns and to employ additional bolts or screws to secure the horns in position, thus requiring a relatively large number of small parts that are difficult to manipulate and which add to the complication and expense of the device.

It is my aim to materially improve transmission-conductor supports by reducing the number of parts, facilitating their assembly and attachment to the conductors and rendering them economical, rugged, durable and effective.

Accordingly, in practicing my invention, I provide a supporting device in which a member extends along the conductor for a considerable distance and the conductor, is so bent between the ends and central portion of the device, and so locked in position, as not to require the use of bolts and other small loose parts. The ends of the member are preferably so shaped as to constitute arcing means, so that an exceedingly simple combined supporting and arcing structure is provided.

Figure 1 of the accompanying drawing is a side elevational view of a suspension insulator and conductor-supporting device illustrating one form of my invention,

Fig. 2 is a view of a portion of the structure of Fig. 1, taken at right angles thereto, and

Fig. 3 is a view similar to a fragmentary portion of Fig. 1, showing a modified form of my invention.

The device comprises, in general, a main supporting or insulator structure comprising a plurality of suspension insulator units 1, of a usual and well-known type and only one of which, comprising a cap terminal member 2, a dielectric body 3 and a pin 4, is shown, a ball-and-socket, connector 5, and a structure 6 of my invention for supporting a conductor 7.

The device 6 comprises a threaded stud or bolt 9 connected, at its upper end, to the socket member of the ball-and-socket connector 5 and provided, adjacent to its lower end with an adjusting-and-supporting nut 10.

A member of substantially bow-shape having an intermediate portion 11 on the stud 9 has oppositely-projecting portions 12 extending outwardly and downwardly therefrom along the conductor 7 and combined arcing and conductor-positioning portions 14 engaging the conductor only adjacent to the outer ends of the portions 12.

The portions 14 are each provided with an upwardly projecting arcing or horn portion 16 connected to the adjacent portion 12 by a reinforcing web 17 and a downwardly projecting portion 18 of substantially hook-shape, in end contour, whereby the conductor 7 may be placed therein from the sides thereof. A member 20, similar to a pulley wheel and having a curved conductor-receiving seat, is adjustably secured in position on the stud 9, as by a member 21 in the form of a fork

or clevis having an upper portion 22 disposed around the stud 9 over the nut 10 and depending arms 23 between which the member 20 is supported, as by a bolt 24 and a nut 25. In attaching the conductor 7 to the device 6, with the member 20 removed, the conductor is placed laterally through the hooks 18, and the member 20 placed in position under the conductor. The member 20 is then moved upwardly on the stud 9 to any desired position in which it is fixed by the nut 10.

In moving the member 20 upwardly, the conductor 7 is bent between its portion on the member 20 and its portions adjacent to the hooks 18 and thereby, placed under clamping tension to hold it in position.

By the above-described construction, the conductor 7 may be clamped lightly but securely during mounting to permit longitudinal adjustment of the line relative to the device, after which the parts may be quickly manipulated to hold the conductor in adjusted position. Also, by adjusting the clamping parts, any desired relative movement or play between the device and the conductor may be permitted during service, such as to compensate for violent oscillations of the conductor caused by the sudden release of sleet or snow, to prevent damage to the device or to the conductor.

As shown in Fig. 3, the member 20 of Figs. 1 and 2 is replaced by a member 27 that is preferably of tubular form and having a curved conductor seat 28 and an upper portion 29 for supporting the same on the stud 9 above the nut 10.

In cross-sectional contour, the member 27 is also preferably of substantially hook-shape, similar to the portions 18, whereby the conductor may similarly be placed therein from the one side.

The member 20 has a curved conductor-receiving seat and is rotatable, and the seat 28 of the member 27 is curved to avoid sharp bends in the conductor and to permit it to slide through the device with reduced frictional resistance.

While I have shown and described particular forms of my invention, changes may be effected therein without departing from the spirit and scope thereof, as set forth in the appended claims.

I claim as my invention:

1. A transmission-line clamping device comprising a suspension member having a portion of substantially bow-shape for engaging a line conductor only adjacent to the ends of the bow, a screw-threaded member extending through an intermediate portion of the bow at substantially right angles to the conductor, means on said screw-threaded member outside the bow for supporting the device and means on the screw-threaded member inside the bow cooperating with said ends for holding the conductor in position.

2. A transmission-line supporting device comprising a suspension member having a portion of substantially bow-shape for movably engaging a line conductor only adjacent to the ends of the bow, an element co-related to an intermediate portion of the bow extending transversely thereacross, means on said element outside the bow for supporting the device and means on said element inside the bow cooperating with said ends for movably holding the conductor in position.

3. A transmission-line supporting device comprising a suspension member having a portion of substantially bow-shape for engaging a line conductor only adjacent to the ends of the bow, an element co-related to an intermediate portion of the bow extending transversely thereacross, means on said element outside the bow for supporting the device and means on said element inside the bow cooperating with said ends for holding the conductor in position, said latter means being adjustable relative to the bow.

In testimony whereof, I have hereunto subscribed my name at Munich (Germany) this 4th day of November, 1925.

ANTON WEINBERGER.