

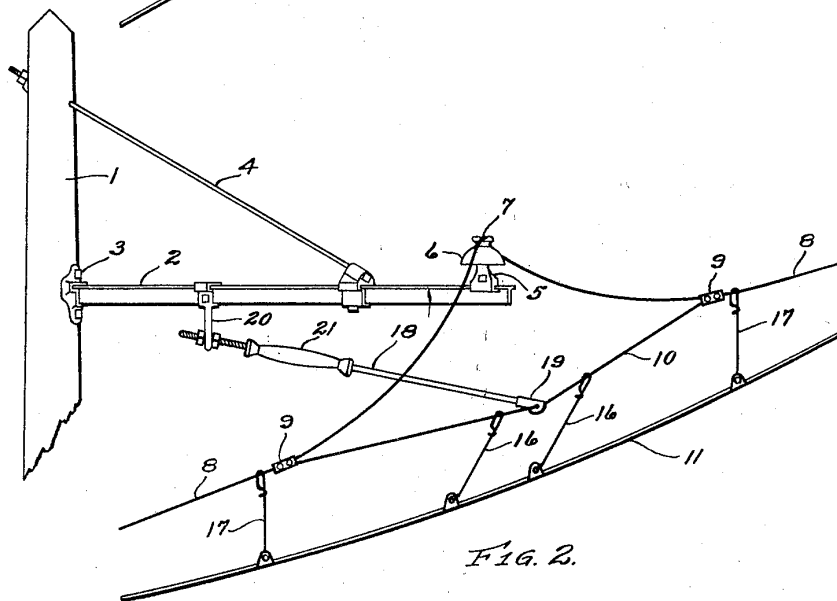
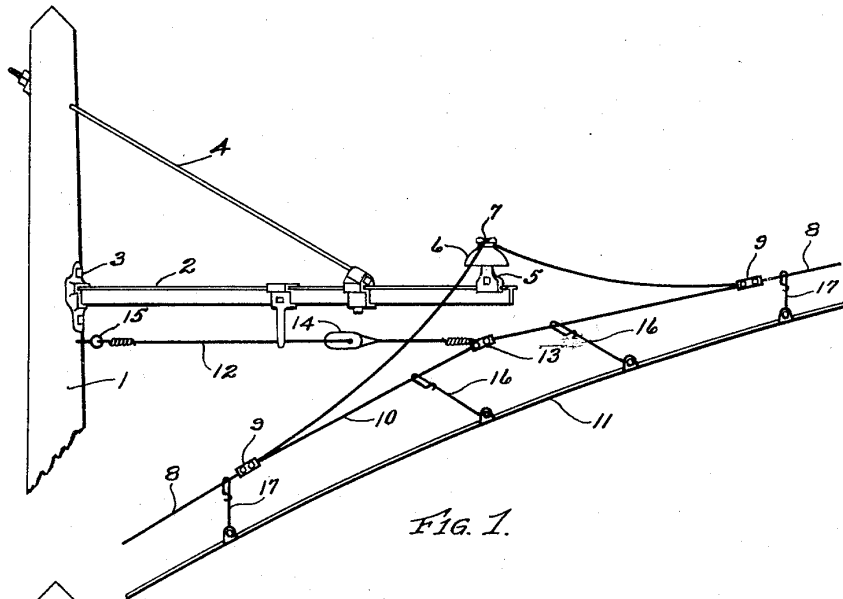
June 24, 1930.

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1,766,873

CONDUCTOR SUPPORT

Filed July 25, 1929



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CONDUCTOR SUPPORT

Application filed July 25, 1929. Serial No. 380,862.

My invention relates to overhead systems for supporting a contact wire used in connection with the electric traction lines and has particular reference to such construction at curves.

The object of my invention is to provide a simple arrangement of elements for maintaining the contact wire in a fixed position with respect to the track and at the same time permit flexibility in the contact wire due to the upper pressure of the current collector as it passes along the contact wire.

My invention resides in the new and novel arrangement and combination of the various elements herein described and shown in the attached drawing.

In the drawing:—

Fig. 1 is a construction which may be used on a curve where the contact wire is convex with respect to the pole.

Fig. 2 is a construction which may be used where the contact wires are either convex or concave with respect to the pole.

In the two arrangements there is shown an upright pole member 1 projecting from the ground with horizontal arm 2 projecting from the pole and secured thereto by means of the bracket 3 and the support rod 4. Mounted upon the arm 2 is a pin 5 and an insulator 6 provided with a top groove 7 to receive the messenger cable 8.

At the points 9 are shown clamps which grip not only the messenger cable but an auxiliary cable 10. Below the above parts is positioned the contact wire 11, shown in Fig. 1 as curved in a plane parallel to the track and also in Fig. 2 shown as curved in a plane parallel to the track. This plane may be horizontal or not depending on the lay of the track.

In Fig. 1 is shown a pull-off wire 12 secured to the auxiliary cable 10 by means of the clamp 13 and having an interposed insulator 14 and secured to the pole 1 by means of the eye-bolt 15. This pull-off device draws the auxiliary cable 10 out of alinement and approximates the curvature of the contact wire 11. On both sides of the clamp 13 are shown obliquely disposed hangers 16 for suspending the wire 11 from the auxiliary cable and for producing and maintaining the desired curvature of

the wire 11. Beyond the limits of the auxiliary cable 10 the contact wire is supported from the messenger cable 8 by means of the hangers 17, which are usually vertically disposed although those hangers adjacent the clamps 9 may be somewhat obliquely disposed.

It would be seen that the contact wire 11 is given a curvature which is maintained and at the same time is free to rise and fall as the current collector passes, and without the effect of so-called hard spots at the hangers 16 as is the case where the contact wire is pulled and maintained in a curved condition by a pull-off device secured directly to the contact wire.

In Fig. 2 the arrangement is very similar to that in Fig. 1 excepting the contact wire is curved in the opposite direction and therefore it is necessary to use a rigid form of device for producing and maintaining the curvature of the contact wire. This device is shown as comprising a rod 18 secured to the auxiliary cable 10 by means of the clamp 19 and to an adjustable arm 20 and having an interposed insulating element 21. In this case the auxiliary cable 10 is pushed into position and maintained through compression upon the rod 18, while in Fig. 1 the cable 12 is under tension.

The contact wire 11 is suspended from the auxiliary cable 10 by means of the obliquely disposed hangers 16, which are positioned on opposite sides of the clamp 19. Contact wires are also suspended on the tangent from the messenger cable 8 by means of the hangers 17, which, as in the case of Fig. 1, may be slightly obliquely disposed adjacent the ends of the auxiliary cable 10.

It is quite evident that the rod construction 18 shown in Fig. 2 may be substituted for the cable construction 12 shown in Fig. 1. In other words, the rod 18 shown in Fig. 2 can be used either under tension or compression. The end of the rod 18, where secured to the arm 20, is made adjustable by means of threads and nuts as shown, thereby permitting a displacement of the auxiliary cable 10 other than that which may be produced by an adjustment of the arm 20 upon the bracket 2.

In the arrangement shown in Fig. 2 it will be noted that the contact wire is free to rise and fall with the passing of the current collector and without shock at the hangers 16, which would not be the case if the rod 18 was attached directly to the contact wire 11.

Modifications will suggest themselves to those skilled in the art after reading this specification, but I wish to be limited only by my claims.

I claim:—

1. An overhead system comprising an up-standing support and a substantially horizontal arm support projecting therefrom, a curved contact wire positioned below the arm in a plane substantially horizontal to the track, an insulator on said arm, a messenger cable mounted on the insulator, an auxiliary cable positioned below the arm and above the contact wire and having its ends secured to spaced points on the messenger cable on opposite sides of the arm, an insulated device secured to the auxiliary cable and to the support and forcing the auxiliary cable out of alinement with the messenger cable and contact wire, hangers connecting the contact wire to the messenger cable and obliquely disposed hangers between the auxiliary cable and contact wire and holding the contact wire to proper curvature.

2. An overhead system comprising a support, an insulator mounted on the support, a contact wire positioned in a plane below the insulator and curved out of alinement, a messenger cable supported by the insulator, an auxiliary cable connecting spaced points on the messenger cable, hangers connecting the contact wire and the messenger cable, means secured to the support and to the auxiliary cable and holding the auxiliary cable out of alinement with the messenger cable and hangers between the auxiliary cables and the contact wire to hold the contact wire to proper curvature.

3. An overhead system comprising a support, an insulator mounted on the support, a contact wire positioned in a plane below the insulator and curved out of alinement, a messenger cable supported by the insulator, an auxiliary cable connecting spaced points on the messenger cable, hangers connecting the contact wire and the messenger cable, means secured to the support and holding the auxiliary cable out of alinement with the messenger cable and hangers between the auxiliary cable and the contact wire on opposite sides of the point for attachment of the said means to the auxiliary cable to hold the contact wire to proper curvature.

4. An overhead system comprising a support, an insulator mounted on the support, a contact wire positioned in a plane substantially parallel to the track and curved out of alinement, a messenger cable supported by the insulator, an auxiliary cable connected to

the messenger cable at spaced points on opposite sides of the support, means secured to the auxiliary cable and to means adjustably secured to the support to hold the auxiliary cable out of alinement either towards or away from the support, hangers connecting the contact wire to the messenger and other hangers connecting the contact to the auxiliary cable and holding the contact wire to a curved position.

5. An overhead system comprising a support, a contact wire curved out of alinement, an insulator mounted on the support, a messenger cable mounted on the insulator, an auxiliary cable having its ends secured to the messenger cable at spaced points, a device secured to the auxiliary cable and to the support to hold the auxiliary cable out of alinement, means to adjust the amount the auxiliary cable deviates from alinement and a plurality of means to suspend the contact wire from the messenger and the auxiliary cables.

In testimony whereof I affix my signature.

LELAND W. BIRCH.