G. H. BOLUS.

DUPLEX CATENARY PULL-OVER.

APPLICATION FILED MAR. 13, 1916.

1,292,238.

Patented Jan. 21, 1919.

Fig. 1.

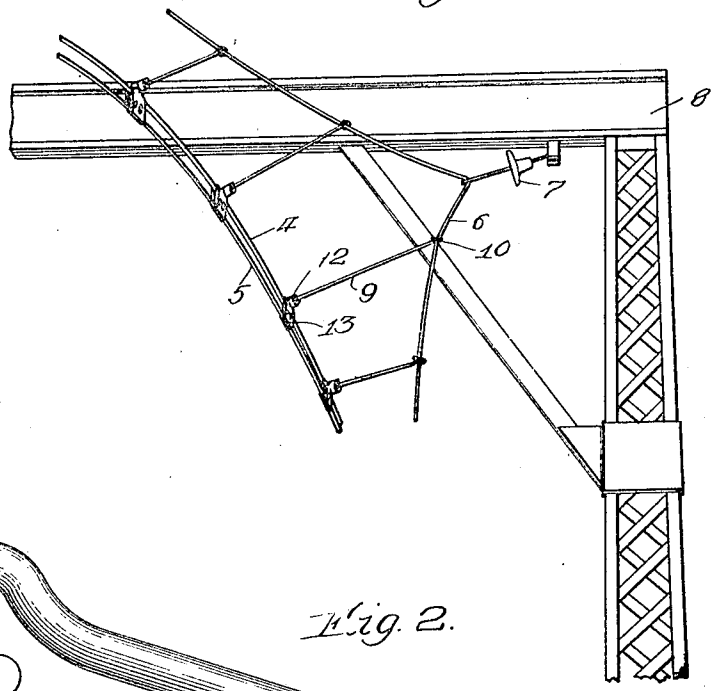


Fig. 2.

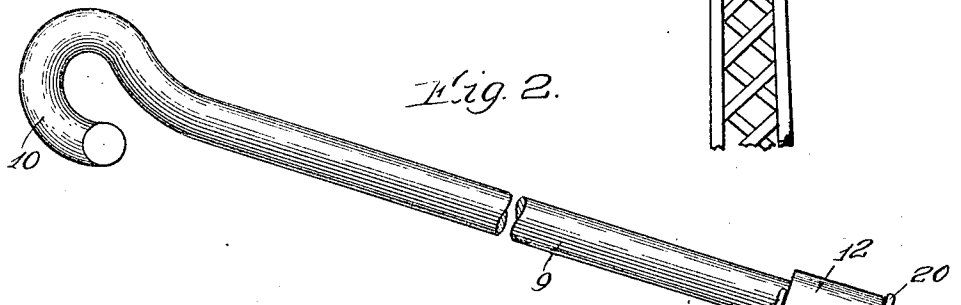
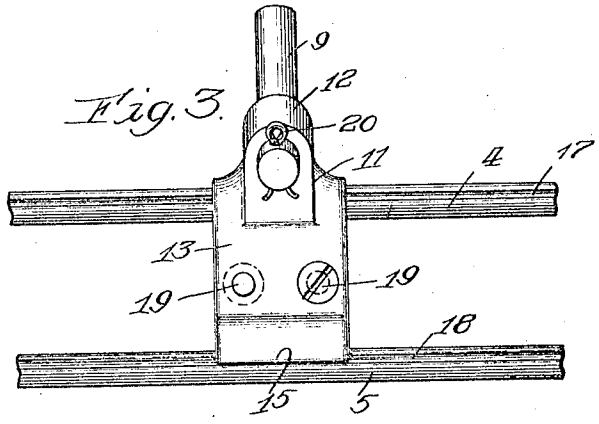


Fig. 3.



Witness:
R. L. Farrington

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UNITED STATES PATENT OFFICE.

GLENN HENRY BOLUS, OF MANSFIELD, OHIO, ASSIGNOR TO THE OHIO BRASS COMPANY, OF MANSFIELD, OHIO, A CORPORATION OF NEW JERSEY.

DUPLEX CATENARY PULL-OVER.

1,292,238. Specification of Letters Patent. Patented Jan. 21, 1919.

Application filed March 13, 1916. Serial No. 83,740.

To all whom it may concern:

Be it known that I, GLENN H. BOLUS, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Duplex Catenary Pull-Overs, of which the following is a specification.

This invention relates to catenary trolley wire suspension, and more particularly to the suspension of a pair of conductor wires one above the other at a curve or turnout of such a system. The invention consists in the features of novelty in the construction, combination and arrangement of the several parts.

In the accompanying drawings, Figure 1 is a fragmentary view of a catenary trolley wire suspension system at a curve; Fig. 2 is a side elevation of a pullover device constructed in accordance with the principles of the invention, and Fig. 3 is an end view of the device shown in Fig. 2.

At a curve of a catenary trolley wire suspension system it is current practice to employ a duplex trolley in which two wires are separated at a distance of two or three inches. In this construction the upper wire is of copper in order to secure the necessary conductivity and the lower wire is of steel in order to give a longer life to the system as the lower wire of a catenary wire suspension system is usually in contact with a sliding collector shoe. Where such a construction is used around a curve it would be necessary to pull off each wire separately which would make a complicated and expensive structure as well as an unsightly and unsafe arrangement. This invention therefore relates to a device which grips and holds two wires of such a system in a fixed relation to each other by employing a single pullover device.

A fragment of a catenary curve construction employing duplex trolley wires is shown in Fig. 1, in which a pair of conductor wires 4 and 5 are supported one above another from a single messenger or pullover wire 6 which is attached by means of an insulating device 7 to a supporting frame structure 8. The means for supporting the conductor wires 4 and 5 from the pullover wire 6 consists of a number of pullover devices, as shown in detail in Figs. 2 and 3.

Each pullover device comprises a rod 9 with a hook 10 at one end for engaging the pullover wire 6, or with some other suitable means for attachment to the pullover wire. The pullover wire 6 is attached only at intervals to suitable supports on the outside of the curve and the rods 9 are of different length corresponding to the distance between the pullover wire and the conductor wires which they support. Attached to the end of each rod 9 opposite the fastening device 10 is a wire clamping member 11 having a sleeve portion 12 adapted to fit over the rod and with a wire engaging portion 13 having an upper groove 14 and a lower clamping jaw 15. Coöperating with this wire engaging portion 13 is a clamping plate 16 having a groove 17 and a clamping jaw 18. These coöperating clamping portions are secured together by any suitable fastening devices, such as the screws 19. It is obvious that the sleeve portion 12 may be attached to the rod 9 in any suitable manner, such for example as threading it on the end thereof or fastening it by nuts or holding it in place by means of cotter pins 20.

With this construction it is obvious that the two wires 4 and 5 will be supported in a plane at a fixed angle to the rod 9 determined by the angle at which the sleeve portion 12 is disposed to the wire clamping portion. With the proper location of the pullover wire 6 it is possible to maintain the trolley wires 4 and 5 in a vertical position which is desirable, and the rod 9 being maintained at an angle prevents the sliding collector which engages the lowermost trolley wire from catching the rod 9 as the collector passes under the pullover device, which it would be liable to do if the rod 9 were held out horizontally.

What I claim is:

1. A duplex wire pullover, comprising a two-part clamp for holding two parallel wires, one of the clamp parts having an integrally formed sleeve which extends over the end of the other member, and a suspension rod attachable in the sleeve.

2. In a duplex wire pullover; a two-part clamp for holding two wires one above the other, one of the clamp parts having a sleeve which is inclined upwardly therefrom above the end of the other member, and means for securing the parts together; and a suspension rod attachable in the sleeve.

3. A pullover hanger for parallel conductors comprising a clamp for engaging the

conductors, and a rod attached to one of the clamp parts and extending over the top of the clamp and above both of the conductors when they are engaged by the clamp.

4. In an overhead suspension system for double conductors, a messenger wire, a pair of conductors disposed at one side and below the messenger wire, a two-part clamp for holding the conductors in an upright plane, the clamp part on the side opposite the messenger wire having an inclined sleeve portion extending over the top of both conductors toward the messenger wire, and a rod attachable at one end to the messenger wire and engaging the sleeve portion at the other end thereof.

5. In an overhead structure for curved double trolley conductors, a messenger wire, two conductors disposed one above the other and at one side and below the messenger wire, clamping members to engage the conductors and hold them one above the other, the clamping member on the side opposite the messenger wire being provided with a sleeve extending toward the messenger wire above both of the conductors, pull rods of different lengths each having means at the upper end to engage the messenger wire, and means at the lower end of each rod for attaching it in the sleeve of the corresponding clamping member.

6. A combined pullover and hanger for double conductors comprising a two-part clamp, one of said clamp parts having an inclined sleeve portion extending across and above the wire clamping portions thereof, and a hanger rod extending through said sleeve and attached thereto at one end and having a hook at the other end for attachment to a messenger wire.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 9th day of March, A. D. 1916.

GLENN HENRY BOLUS.

Witnesses:
G. L. BUCHAN,
H. M. KOOGLE.