

J. CHRISTENSEN,
TROLLEY WIRE HANGER.

APPLICATION FILED DEC. 28, 1911. RENEWED NOV. 23, 1912.

1,063,182.

Patented June 3, 1913.

FIG. 1

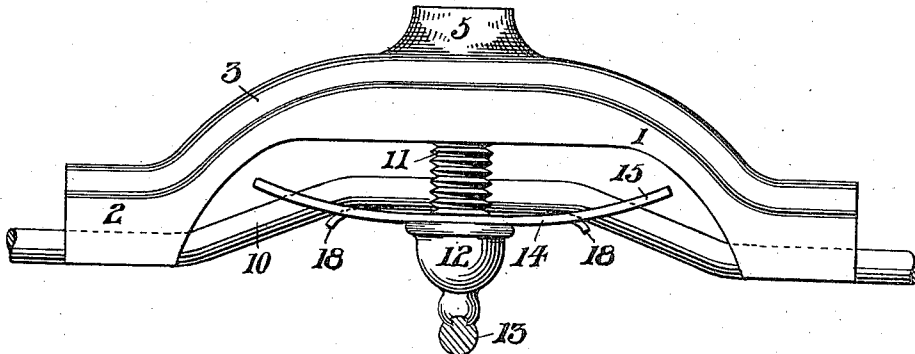


FIG. 2

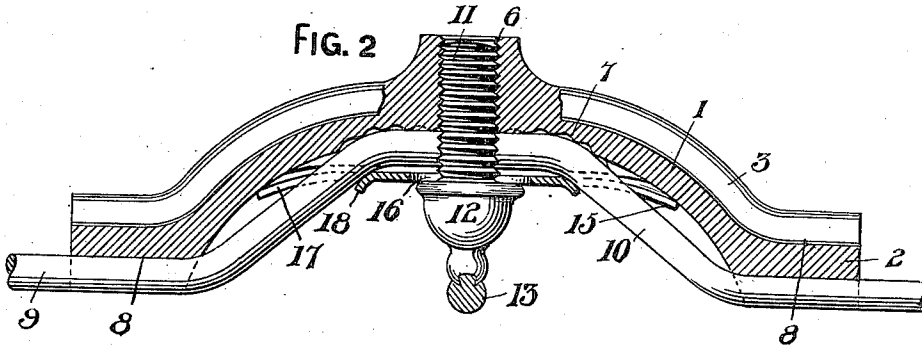


FIG. 3

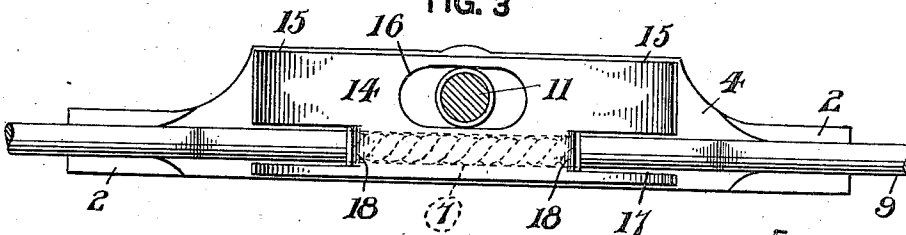


FIG. 5

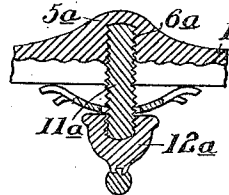
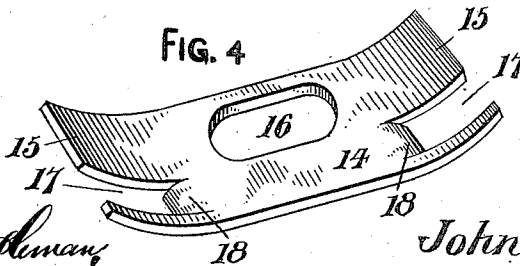


FIG. 4



WITNESSES

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TROLLEY-WIRE HANGER.

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To all whom it may concern:

Be it known that I, JOHN CHRISTENSEN, a citizen of the United States of America, residing at Evans City, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Trolley-Wire Hangers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a trolley wire hanger, and the object of my invention is to provide simple and effective means, in a manner as will be hereinafter set forth, for positively clamping a wire in engagement with a hanger whereby the hanger cannot become accidentally displaced.

In accomplishing the above object, I resort to the use of a mechanical construction that is durable and highly efficient for the purposes for which it is intended.

The mechanical construction has the following advantages from a practical standpoint:—First, the clamping means of the hanger wire is such that the wire is positively held without injury to the wire or the hanger and without any danger of the hanger becoming accidentally displaced relatively to the wire. Second, the hanger is not weakened at the point at which it is supported by the fastening means employed for retaining the hanger in engagement with the hanger wire. Third, the trolley wire support coöperates with the fastening means of the hanger in retaining the hanger wire in engagement with the hanger, the parts being assembled in such a manner that the hanger and the hanger wire can be easily and quickly separated when the hanger is to be replaced, and fourth, the fastening means of the hanger wire relatively to the hanger is such that the hanger wire is bound by friction, preventing the hanger from shifting in a lateral plane relatively to the hanger wire. All of these advantages are of the utmost importance particularly in connection with high speed suburban electric railways where the hanger wires and hangers are subjected to vibrations that have a tendency to displace the same.

With this understanding of the principal

object and advantages of my invention reference will now be had to the drawing, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements are susceptible to such variations as fall within the scope of the appended claims.

In the drawing:—Figure 1 is a side elevation of the trolley wire hanger, showing a hanger wire in position to be clamped in engagement with the hanger. Fig. 2 is a longitudinal sectional view of the same, showing the hanger wire clamped. Fig. 3 is a bottom plan of the same, partly in section. Fig. 4 is a perspective view of a detached clamping member, and Fig. 5 is a longitudinal sectional view of a portion of a modified form of hanger.

A hanger in accordance with this invention comprises an arch 1 having lateral projecting ends 2, said arch and the ends thereof being longitudinally reinforced by a longitudinal rib 3. The arch 1 has one side thereof provided with an offset portion 4 that is out of alinement with the lateral projecting ends 2 of the arch, for a purpose that will presently appear. The offset portion 4 of the arch 1 is provided with a boss 5 having a central vertical opening 6 with the walls thereof screw threaded. The under side of the arch 1, to one side of the opening 6 of the offset portion 4 is corrugated or roughened, as at 7 said roughened surface longitudinally alining with the laterally projecting ends 2 of the arch 1 and the ends 2 are provided with longitudinally alining grooves 8. The grooves 8 accommodate a hanger wire 9 that is bent, as at 10 to enter the arch of the hanger.

Screwed in the opening 6 is the screw threaded stem 11 of a support 12 for the trolley wire 13. Arranged upon the support 12 is a clamping member 14 made of a yieldable strip of metal in the form of a plate that has curved ends 15 and an oblong opening or slot 16. The oblong opening or slot 16 is in closer proximity to one of the longitudinal edges of the member 14 than the other edge, and the curved ends of the member, at the other edge are slotted, as

at 17 and the material forming the inner edges of the slots bent downwardly, as at 18.

The threaded stem 11 is first started into the opening 6, the support 12 being free of the lower end of the said stem 11, after the stem 11 is started into the opening 6, the member 14 is positioned upon the stem, after which the support 12 is mounted upon the lower end of the stem. The bent portion 10 of the hanger wire 9 is then placed upon the clamping member, the slots 17 providing clearance for the ends of the member 14 and the bent portions 18 of said member preventing sharp edges of the slots 17 from injuring the hanger wire 9. The clamping member 14 in this position is concave relatively to the hanger and the oblong opening 16 provides clearance for the screw threaded stem 11. By rotating the support 12, prior to placing the wire 13 in engagement therewith, the member 14 is gradually elevated until the curved ends 15 thereof engage the arch 1. The member 14 is then gradually sprung into a horizontal position thereby clamping the bent portion 10 of the hanger wire in engagement with the roughened surface 7 of the arch 1. The clamping member 14 assumes a form that is convex relatively to the arch 1, as best shown in Fig. 2, increasing the angularity of the bent portion of the hanger wire 9 relatively to the remaining portion of the wire, whereby said wire will be frictionally held by the hanger and cannot become accidentally displaced. After the support 12 has been screwed home, the member 14 is firmly held and provides ample support for the wire without any danger of cracking or breaking due to pressure brought to bear upon the same.

In Fig. 5 of the drawing, there is illustrated a slight modification of the invention wherein the arch 1 has a closed boss or enlargement 5^a provided with a socket 6^a having the walls thereof screw threaded. A screw threaded stem 11^a is screwed in the socket 6^a and a trolley wire support 12^a is screwed upon the lower end of the stem. In this construction the screw threaded stem is protected from the forces of nature and should the support 12^a be injured it can be renewed without discarding the screw threaded stem 11^a.

From the foregoing it will be observed that the hanger constitutes means for taking up slack in a hanger wire. It is a well known fact that after a hanger wire is placed in position and drawn taut that it often sags after an ordinary hanger and trolley wire have been attached thereto. By using my improved hanger, the hanger wire can be further tightened by attaching the hanger thereto, the curved or offset portion of the wire within the arch 1 taking up the

slack of the hanger wire. I attach considerable importance to this advantage of the hanger as it eliminates the use of devices at the ends of the hanger wire for taking up slack and properly positioning the hanger.

It is thought that the manner of assembling the hanger and its utility in connection with trolley railway systems will be apparent without further description, and I would have it understood that strong and durable metal is used throughout the construction of the wire hanger.

What I claim is:—

1. A wire hanger comprising an arch construction having a groove at each end and an offset portion at the center thereof, a yieldable clamping member engaging the lower face of the central portion of said arch and further engaging said offset portion constituting means for retaining a hanger wire in engagement with the lower face of said arch construction and means extending through said member and said offset portion for maintaining the member in clamping position, said means capable of supporting a trolley wire.

2. A trolley wire hanger comprising an arch construction, a trolley wire support adjustably connected to said arch construction, and a slotted yieldable clamping member carried by said trolley wire support and adapted to engage the under side of said arch construction for retaining a hanger wire in engagement therewith.

3. A wire hanger comprising an arch having an offset portion, a trolley wire support adjustably mounted in the offset portion of said arch, and a hanger wire clamped under said arch at the side of the offset portion of said arch by said trolley wire support.

4. In a wire hanger, an arch having an offset portion, a yieldable locking member for retaining a hanger wire in engagement with said arch, and means extending through said offset portion and said member for retaining the latter in position, said means capable of supporting a trolley wire.

5. In a trolley wire hanger, an arch having an offset portion, a trolley wire support adjustably mounted in the offset portion of said arch, a yieldable convexo-concave locking member carried by said trolley wire support and extending under said arch and adapted to retain a hanger wire in engagement with said arch.

6. In a trolley wire hanger, the combination with a hanger wire, of an arch located above said wire, a trolley wire support adjustably mounted in said arch, and a slotted yieldable locking member carried by said support and adapted to frictionally

hold said hanger wire in engagement with the under side of said arch.

frictionally hold the same when said support is adjusted.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN CHRISTENSEN.

Witnesses:

CHRISTINA T. HOOD,
MAX H. SROLOVITZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."