

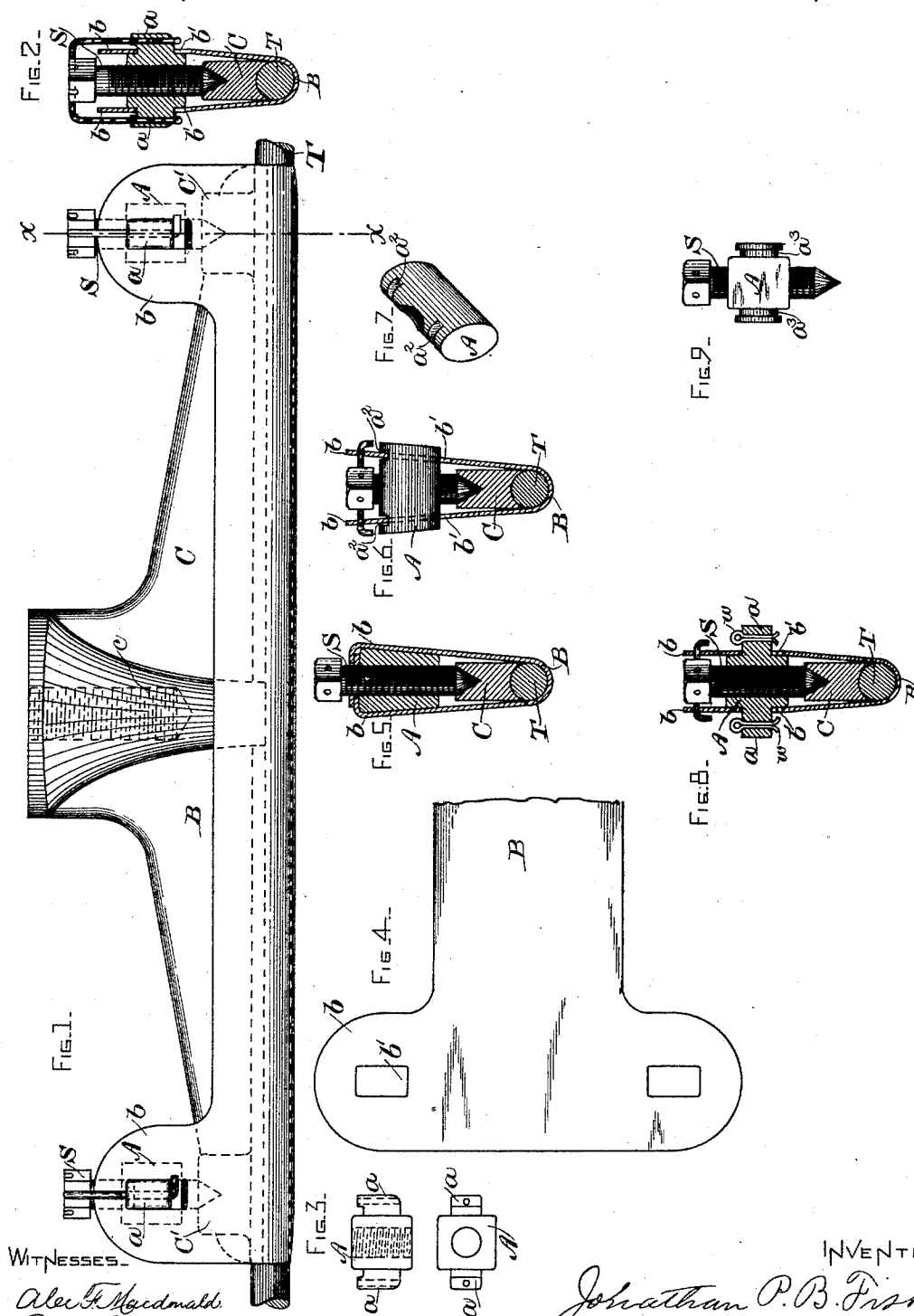
(No Model.)

2 Sheets—Sheet 1.

J. P. B. FISKE.
TROLLEY WIRE SUPPORT.

No. 468,336.

Patented Feb. 9, 1892.



WITNESSES.

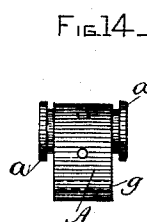
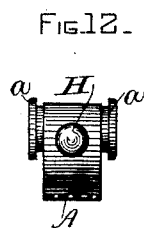
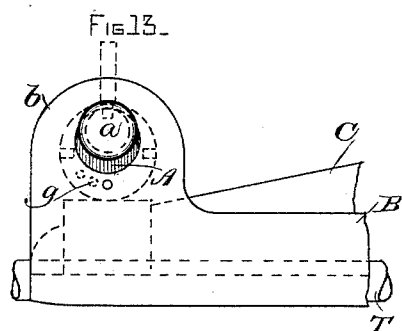
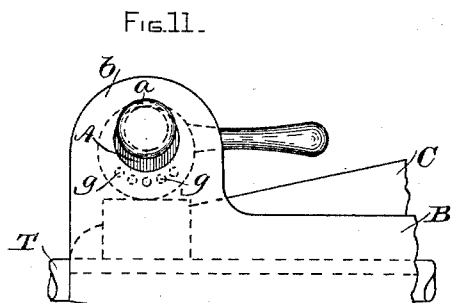
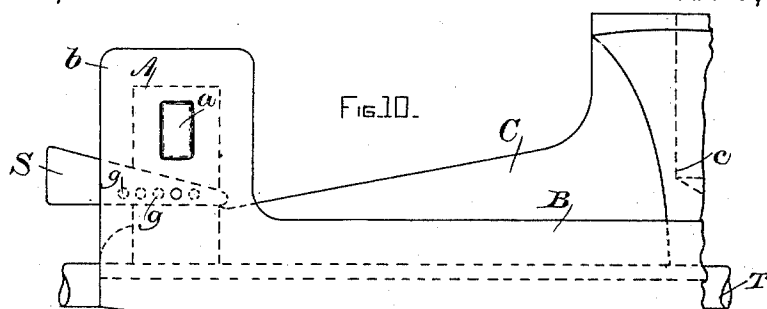
Alex. F. Macdonald
A. L. Crane

INVENTOR.
Jonathan P. B. Fiske
by B. M. Knight
Att'y

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A. C. Orme

INVENTOR.

Jonathan P. B. Fiske
by Bentley Knight
Atty.

UNITED STATES PATENT OFFICE.

JONATHAN P. B. FISKE, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE
THOMSON-HOUSTON ELECTRIC COMPANY, OF CONNECTICUT.

TROLLEY-WIRE SUPPORT.

SPECIFICATION forming part of Letters Patent No. 468,336, dated February 9, 1892.

Application filed July 30, 1891. Serial No. 401,159. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN P. B. FISKE, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Trolley-Wire Supports, of which the following is a specification.

This invention relates to improvements in trolley-wire supports for electric railways, and is particularly applicable to trolley-line work in mines and confined situations, where soldering becomes an impossible or difficult operation, and where occasional taking up of the slack in the line is required; but the support is also well adapted for use on ordinary trolley-line out-door construction as practiced with electric railways at the present day. It has the advantage over the ordinary trolley-wire support, in which the trolley-wire is secured to the support by soldering, that it will not become loosened by vibrations or blows, causing the wire to become detached. It possesses decided advantages over those forms of supports which have dependent bosses or lugs passing below and engaging with the trolley-wire in that in this construction the way of travel of the trolley-wheel is unobstructed, thus avoiding the destructive sparking which ensues at every support with consequent deterioration of both trolley-wire and the trolley-wheel. It also possesses obvious advantages over those clamps which consist of a thin sheet of metal drawn up under the wire by a clamp of some kind located midway between the two ends of the trolley-ear, as it is necessary to have the ends of the thin sheet metal fit tightly to the trolley-wire to prevent sparking, as occurs when the clamp is located elsewhere. It also is an improvement on those forms of supports in which the trolley-wire is caused to be bent laterally over holder-guides in order that the under surface may be plain and smooth, as in this construction no such bending becomes necessary, the trolley-wire remaining in its stretched position of a straight line.

The invention has the further advantage that it is readily applied to the trolley-line or is capable of being placed quickly in position, and the wearing portion can be replaced in a moment.

In the accompanying drawings, Figure 1 is a side view of a trolley-wire support embracing my invention. Fig. 2 is a cross-section thereof on the line *xx* in Fig. 1. Figs. 3 and 4 show details, and Figs. 5 to 14 show modifications.

Fig. 1 shows the elements of the invention in its preferred form. The ear or hanger *C* extends above and is grooved to receive the trolley-wire *T*. A central enlarged portion *c* has the usual screw-hole to receive a bolt coming from any suitable insulated support above. This support may be of those commonly employed in such work and is not a part of the present invention. A sheet of metal *B*, preferably of phosphor-bronze or other metal possessing great tenacity with considerable flexibility, is cut, as shown in Fig. 4, with lateral extensions or wide portions *b* at the end, so that when bent up along both sides into a *U* form it will pass over and closely engage the trolley-wire *T* in its position beneath the piece *C*, while the extensions *b* project above the ear *C* and are provided with clamping devices engaging with said ear. Such clamping devices may consist of a block *A*, having lugs *a* engaging in holes *b'* in said extensions, and traversed by a screw *S*, engaging in cups or notches *C'* in the trolley hanger or ear *C*. The screw *S* is preferably provided with a lock against retrograde movement, which may consist of a wire passed through a groove in the screw-head and holes in the lugs *a*.

The means for clamping the strap, clip, or holder *B* to the hanger *C* may be variously modified, as shown in Figs. 5 to 14. In Fig. 5 the extensions of the plate *B* are bent over the top of the block *A* and the screw *S* is passed through holes in said extensions and screwed through the block and against the hanger.

Figs. 6 and 7 show a form in which the spring-formed extensions *b* are snapped over the top of the block and caught by notches *a'* therein, and the screw is locked by a pin passing through holes in screw *S* and extensions *b*. Fig. 8 shows a similar construction, except that the extensions are held on the block by split pins *w w*. Instead of the notches *a'* in the block *A*, (shown in Fig. 7,) continuous grooves may be made, as indicated

at a^8 in Fig. 9. Instead of the screw S, other well-known equivalents may be used—for example, a cam or wedge. As shown in Fig. 10, the wedge may be driven between the block 5 A and the hanger B and held by a pin inserted through an opening in the extensions b and any one of the holes g in the wedge.

A connection is shown in Figs. 11, 12, 13, and 14. In this instance the block A is made 10 cam-shaped and engages by lugs a with the extensions b and is provided with a handle H for its rotation, thus tightening the parts, and it is locked by a pin passing through the holes in the extensions and the cam. It also 15 has holes or slots in its periphery for the insertion of the lever by which it may be rotated.

It will be seen that in each of the above forms the clip is clamped at both ends to the 20 hanger by extensible or adjustable clamping devices, so as to give a tight fit at each end.

What I claim as new, and desire to secure by Letters Patent, is—

1. A trolley-wire support comprising a 25 hanger extending along the top of the wire and a sheet-metal clip extending below the wire and clamped to the hanger at its ends.

2. A trolley-wire support having an ear or hanger extending along the top of the wire, a 30 sheet-metal clip extending below and embracing the trolley-wire and having end portions projecting above the wire and hanger, and clamping devices engaging with the hanger and end portions of the clip.

35 3. A trolley-wire support having an ear or hanger extending along the top of the trolley-

wire, a sheet-metal clip extending below and embracing the trolley-wire and having end portions projecting above the wire and hanger, and extensible or adjustable clamping de- 40 vices engaging with the hanger and with the end portions of the clip.

4. A trolley-wire support having an ear or hanger extending along the top of the trolley- 45 wire, a sheet-metal clip extending below and embracing the trolley-wire, blocks at the ends of the clip engaging therewith, and extensible or adjustable clamping devices engaging with said blocks and hanger.

5. The combination, with the trolley-wire 50 and hanger, of the sheet-metal clip extending below said wire and having end portions projecting above said wire and hanger, blocks having lugs or portions engaging in holes in the end portions of the clip, and screws or 55 their equivalents engaging with said blocks and with the hanger.

6. The combination, with the trolley-wire and hanger, of a sheet-metal clip extending 60 below the said wire and having end portions extending above said wire and hanger, blocks engaging with the end portions of the clip, screws or their equivalents engaging with said blocks and with the hanger, and locking 65 devices for said screws.

In testimony whereof I have hereto set my hand this 27th day of July, 1891.

JONATHAN P. B. FISKE.

Witnesses:

JOHN W. GIBBONEY,
BENJAMIN B. HULL.