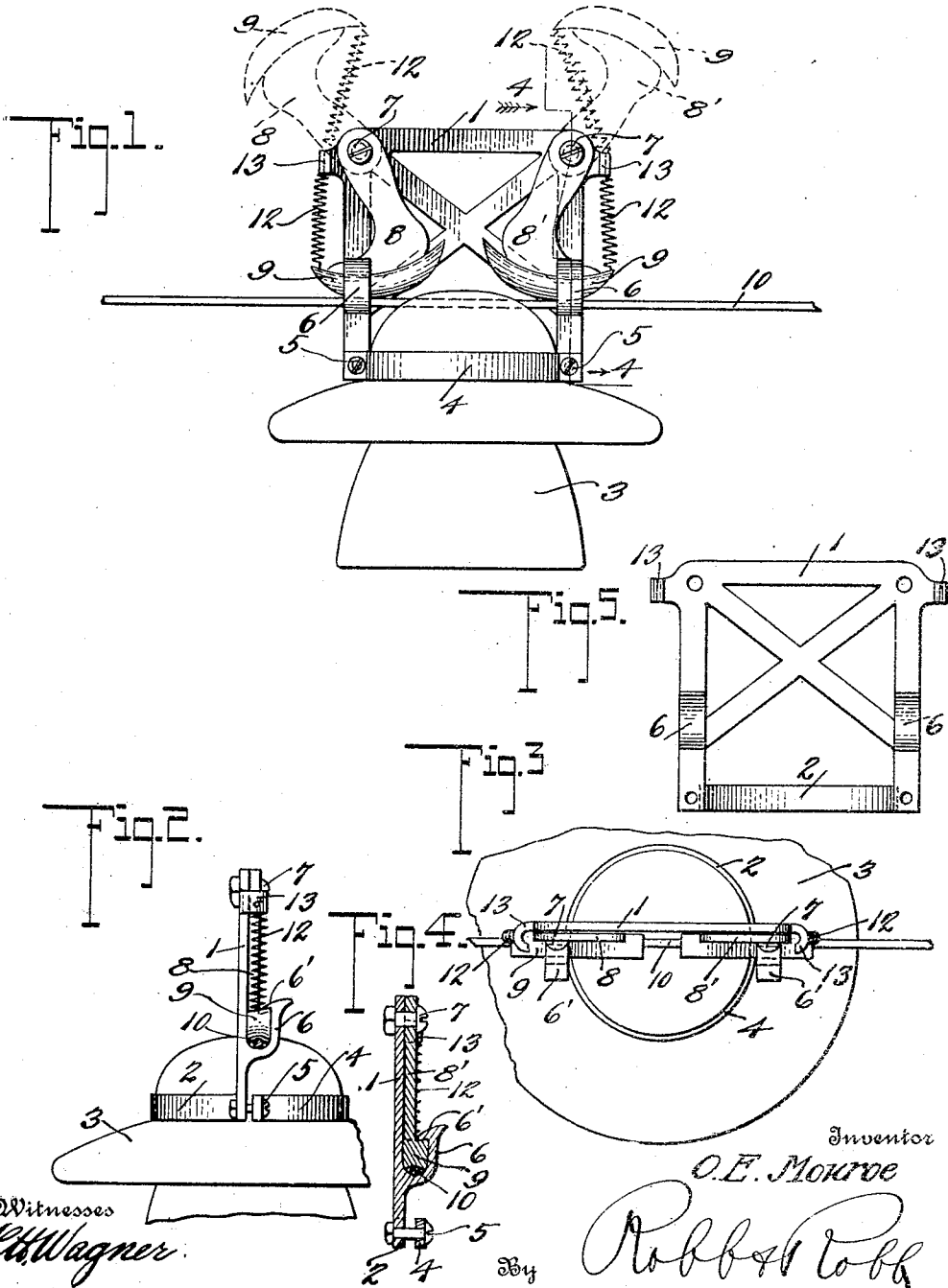


O. E. MONROE.
 WIRE HOLDING MEANS FOR ELECTRIC CONDUCTORS.
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Witnesses
E. H. Wagner
R. R. Partello

Inventor
O. E. Monroe
Robert Cobb
 Attorney

UNITED STATES PATENT OFFICE.

OLIVER E. MONROE, OF ST. LOUIS, MISSOURI.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, OLIVER E. MONROE, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Wire-Holding Means for Electric Conductors, of which the following is a specification.

The present invention relates to improvements in wire supporting and holding means designed especially to eliminate the necessity of "tying in" wire conductors of electric current to the insulator supports, as now customary, which involves considerable waste of tie wires, weakening of the conductors at points where kinking takes place due to binding about said insulators by the tie wires, and last but not least, dangers of physical contact of linemen in hanging or repairing live wires.

The use of my invention possesses numerous advantages, among which may be mentioned that of greatly facilitating the process of stringing the lines or conductors, it being only necessary to position the holding means of this invention properly upon the arm support of a pole and insert the conductor into its seat, whereupon the clamping elements of my invention may be easily thrown into coöperative relation with the wire without requiring any tying whatsoever; again, actual handling of the conductor is not required, it being contemplated to employ special manipulative means for attaching my support in position. said means, however, not being disclosed in the present application; still another feature inherent to the use of my device lies in the fact that when breakage of a line occurs between any two poles, the holding means of this invention prevents slacking back beyond this span and consequent danger beyond that point to passers-by.

In carrying out these objects, and in its practical embodiment, the invention consists of a supporting frame adapted to be attached to an insulator either of special or ordinary construction, said frame being provided with wire clamping members so arranged in coöperation with the frame as to more firmly engage the wire as the strain thereon increases. In addition thereto I contemplate employing tension means for imparting clamping action to the wire engaging member or members in one position, or maintaining the said members in inop-

erative position, such as when inserting the wire in position on the device.

These and such other objects as may hereinafter appear are attained by the novel construction, combination and arrangement of parts to be hereinafter specifically described and claimed.

Reference will now be had to the accompanying drawings forming a part of this specification, wherein:—

Figure 1 is a side elevation of an embodiment of the invention, showing in dotted lines the inoperative position of the wire engaging members; Fig. 2 is an end elevation of the device; Fig. 3 is a top plan view thereof; Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 1; and Fig. 5 is a front elevation of the wire supporting frame.

The invention consists preferably in its embodiment disclosed by the drawing of a rectangular frame 1 of suitable proportions, having its lower member 2 curved to conform to the shape of an insulator 3 to which it is attached, as by means of a coöperating clamp 4, complementary to the curved member 2, fastening members or bolts 5 passing through its bent extremities and suitable openings in the frame for the purpose of holding the frame in upright operative position on said insulator.

Upon one face, at each side of the frame 1, is formed a laterally projecting seat 6, each seat being hook-shaped for reasons more clearly apparent from the following description.

Pivotaly mounted at each upper cover of the frame 1, as at 7, is a rocker clamping or wire engaging member, designated 8, 8', each being of similar construction and form excepting that one is right hand and the other left hand. These wire engaging members are provided at their free extremities with elongated enlargements 9 somewhat angular in formation and tapering toward each end or heel and toe. As most clearly shown in the drawing these elements perform a wedge function in that when in normal position they clamp the wire or conductor 10 by coöperation with their respective hook-shaped seats 6, the hooked terminals 6' of said seats conforming to and engaging the top portion of said enlargements. It will be noted by reference to Figs. 2 and 4 that each of the elements 9 is grooved on its

surface as well as serrated in the grooved portions to more adequately engage the wire and prevent slipping thereof. It will be obvious that stresses upon the wire in one direction will be taken care of by one of the wire engaging members while those in the other direction are resisted by its corresponding member, and the greater the strain the more tightly the clamping elements are wedged beneath the hook seats.

At 12, 12 are denoted springs, one for each member 8, 8', said springs being connected at one end to the outer or toe extremity of an enlargement and at its other end to the frame 1 at any convenient point adjacent to the pivot of its respective wire engaging member. These springs place the wire engaging members under tension tending to draw them into their normal position in the seats 6.

Projecting from each side of the frame 1 adjacent to its top are rests 13 integral with the frame and designed to support the wire engaging members when moved into the dotted line positions of Fig. 1, as when it is desired to insert the conductor or wire in place after disposing the device in position upon the cross arm of the telegraph pole. When in such inoperative position these wire engaging members are swung to the opposite side of their pivot and are held against their respective rest supports from accidental displacement by the springs until such time as the lineman desires to engage them with the wire, it being only necessary at that time to move the members slightly past the vertical position over their pivots whereupon the springs become effective to automatically draw these clamping members down into clamping engagement with the conductor.

The holding means of the foregoing description may be installed upon any insulator and enables the slack in the wires to be taken up very much more quickly than where the wire is tied to the insulators in the ordinary manner, thereby involving quite a saving in maintenance expense. The wire is allowed to remain straight in its disposition in the apparatus as hereinbefore premised, doing away with the damage made by the ordinary tie wires which cause kinks under the old style of fastening. Furthermore holding devices of the character of this invention are lasting equipment and may be used over and over, an item of economy quite obvious. In addition to these advantages, the difficulties and dangers of tying live wires are eliminated because of the facility with which these devices permit the engagement or clamping of the wires to be accomplished, and especially where they are installed by my special tool which forms the subject-matter of another application.

I desire it to be understood that slight changes may be made in the details of construction without departing from the spirit of the invention, and within the scope of the appended claims. In other words, I do not desire to be limited to the exact disposition of my wire holding device upon the insulator as herein shown, because it is within the purview of my invention to construct the holding means so as to constitute a side wire tie, this only requiring that the clamping member 2 be so lengthened or enlarged as to bring the frame 1 to the side of the insulator, the cooperation clamping member 4 being correspondingly shortened to properly coact as herein described.

Having thus described the invention, what is claimed is:—

1. In holding means of the class described for electric conductors, the combination of a support, a wire receiving seat formed thereon, a wire engaging member pivotally mounted on said support, and tension means connected to the support adjacent to the pivot of the wire engaging member and to the latter at a distance from said pivot to move the latter into clamping position upon swinging the same to one side of a horizontal plane passing through its pivot and into inoperative position upon swinging movement to the other side of said plane.

2. In holding means of the class described for electric conductors, the combination of a support, a wire receiving seat comprising a hook-shaped projection on said support, and a wire engaging member pivotally mounted on said support and having an enlarged extremity adapted to engage beneath the hook projection to clamp the wire in said seat.

3. In holding means of the class described for electric conductors, the combination of a support, a wire receiving seat comprising a hook-shaped projection on said support, a wire engaging member pivotally mounted on said support and having an enlarged extremity adapted to engage beneath the hook projection to clamp the wire in said seat, and a spring connected at one end to the support and at its other end to the wire engaging member for actuating the same to cause engaging action thereof.

4. In holding means of the class described for electric conductors, the combination of a support adapted to receive the wire, a wire engaging member movably mounted on said support for clamping the wire thereon, and a rest arm projecting from the support with which the free end of the wire engaging member coacts for support when swung into inoperative position.

5. In holding means of the class described for electric conductors, the combination of a support adapted to receive the wire, a wire engaging member movably mounted on said

support for clamping the wire thereon, a rest for supporting the wire engaging member when swung into inoperative position, and actuating means for causing the engaging movement of the wire engaging member in one position and for maintaining the said member in its inoperative position coöperative with the rest aforesaid.

6. The combination with an insulator having a wire receiving recess, of wire holding means supported on said insulator and comprising a frame, spaced wire receiving seats formed on said frame in alinement with the insulator recess aforesaid, a wire engaging member connected to each side of the frame for coöperation with the frame seats aforesaid to clamp the wire in the seats and hold the same in the insulator recess, and actuating means for said wire engaging members.

7. The combination with an insulator, of wire holding means supported thereon and

comprising a vertically disposed frame, a clamping member for securing said frame on the insulator, a hook-shaped projection at each side of said frame constituting a wire receiving seat, a wire engaging member pivotally mounted at each side of said frame for coöperation with the hook projections aforesaid to clamp the wire in said seat, laterally projecting rests formed on said frame adjacent to the wire engaging members with which said members are engaged when in inoperative position, and means for holding the wire engaging members in inoperative and operative positions respectively.

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

OLIVER E. MONROE.

Witnesses:

HENRY C. BAKER,
EVA MUSE.

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