H. A. MENAGER.

TOOL FOR STRINGING LINE WIRES.

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1,036,136. Patented Aug. 20, 1912.

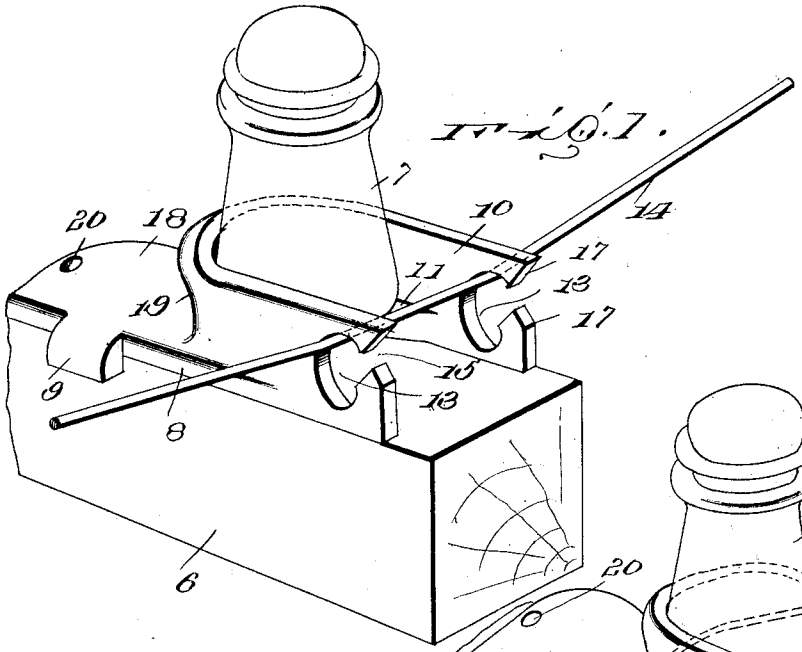

Fig. 1.

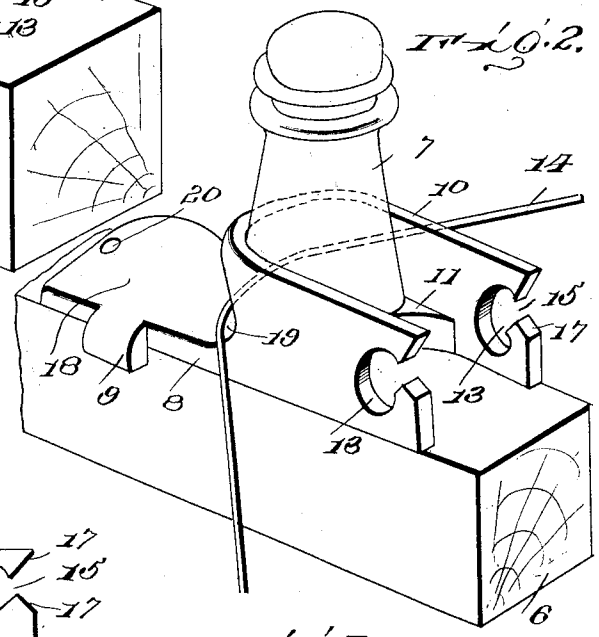

Fig. 2.

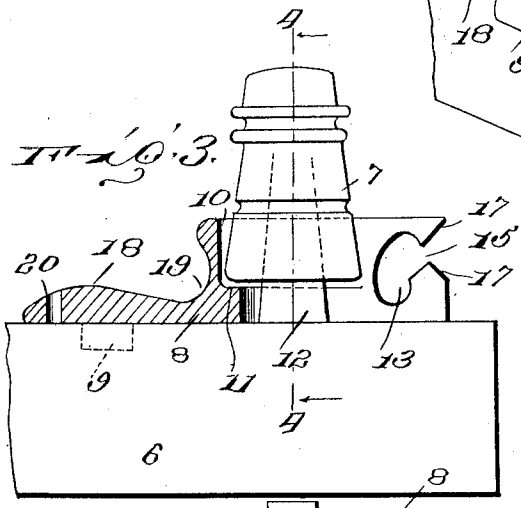

Fig. 3.

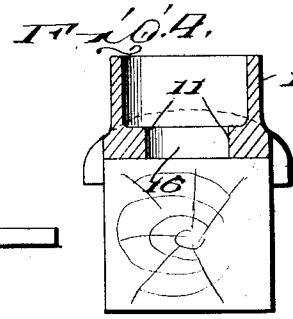

Fig. 4.

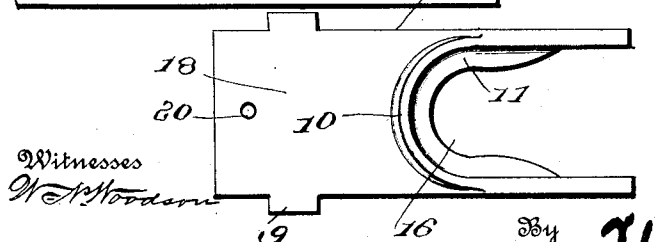

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

HENRY A. MENAGER, OF GALLIPOLIS, OHIO, ASSIGNOR OF NINETY ONE-HUNDREDTHS TO JOHN A. MENAGER, OF HOLDEN, WEST VIRGINIA.

TOOL FOR STRINGING LINE-WIRES.

1,036,136. Specification of Letters Patent. **Patented Aug. 20, 1912.**

Application filed January 7, 1911. Serial No. 601,489.

To all whom it may concern:

Be it known that I, HENRY A. MENAGER, citizen of the United States, residing at Gallipolis, in the county of Gallia and State of Ohio, have invented certain new and useful Improvements in Tools for Stringing Line-Wires, of which the following is a specification.

This invention relates to telephone and telegraph construction work and more particularly to means for retaining the overhead wires or conductors on the cross arms of supporting poles when stringing said wires, and prior to tying the wires to the insulators.

The present method of stringing overhead wires or conductors on the cross arms of telephone or telegraph poles, is to pass the wires over the cross arms of a series of poles and then draw the wires tight so as to place the latter under tension. As the wires are tightened, the latter are elevated more or less above the cross arms of some of the poles, according to the surface irregularities of the ground and the height of the poles, this being particularly true when the poles are erected in a hilly or rolling country. When the wires are strung in this manner, the lineman must reach above the cross arms of the poles in order to grip the wires and lower the same so that they may be tied to the insulators, or else employ a helper or groundman to lower said wires, which result is accomplished by casting a weighted hand line or cable over the wires and exerting a downward pull thereon until the wires are within reach of the lineman. This method of stringing line wires is not only expensive, in that it requires an assistant or helper to effect the lowering of the wires, but is also objectionable by reason of the fact that in reaching for the overhead wires, the lineman often loses his balance and is severely injured in the fall.

The object of the invention is to overcome these objectionable features and to facilitate the stringing of overhead conductors in telephone, telegraph or other electrical construction work, by providing means for guiding and holding the wires on the cross arms, preparatory to tying said wires to the insulators.

A further object of the invention is to provide a lineman's tool adapted to be supported on the cross arm of a telephone or telegraph pole and having slots formed therein for the reception of the line wires.

A further object is to provide a lineman's tool of simple and durable construction, capable of being used for stringing wires either in a straight line or at an angle to each other, as for instance, when turning a corner or curve.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of the device, showing the latter in position on a cross arm and used for stringing wires in a straight line; Fig. 2 is a similar view, showing the manner of using the device for stringing wires on a curve or at a corner; Fig. 3 is a longitudinal sectional view, the insulator being shown in elevation; Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 3, looking in the direction of the arrow, the insulator being removed for sake of clearness; Fig. 5 is a top plan view of the device.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The device comprises a body portion or base 8 having a flat lower face for contact with the upper face of a cross arm 6, said base being provided at its opposite longitudinal edges with depending retaining ears 9 adapted to bear against the opposite side edges of said cross arm so as to retain the device in position thereon.

Extending upwardly from the base, is a collar or flange 10 adapted to partially encircle the adjacent insulator 7, the height of said flange being such as to extend above the base of the insulator so as not to come in contact therewith. The base 8 is formed at one end with a recess within the lines of the flange 10 to accommodate the insulator, and also to produce an inwardly extending flange 11, which latter encircles the insu-

lator pin 12, and by contact with the base of the insulator, serves to limit the upward movement of the tool on the cross arm. The opposite walls of the vertical flange 10 are provided with transversely alined slots 13 constituting seats for the reception of the line wires, indicated at 14, there being diagonally disposed slots 15 communicating with the seats 13 so as to permit the ready insertion and removal of the line wires.

One end of the base 8 is recessed to permit the tool to be positioned over an insulator, while the side walls of the flange 11 gradually merge into the interior walls of the flange 10 so as to assist in guiding the tool around the pin 12, thus to cause the base of said pin to be seated in the recess 16 formed in the base 8. The forward or free ends of the flange 10 are preferably inclined or beveled in the direction of the adjacent slots 15, as indicated at 17 so as to allow the lineman to readily insert the wires in the slots 13. The base 8 has its upper surface convex or rounded as at 18, and the adjacent wall of the flange 10 is concave at 19 to afford a seat for a line wire when stringing the latter around a curve or corner.

In stringing overhead wires or conductors in a straight line, the tool is positioned on one of the cross arms with the ears 9 bearing against the adjacent longitudinal edges of said cross arm and with the flange 10 spanning the base of the adjacent insulator. One of the line wires is then introduced within the seating recesses 13 by passing the wire through the slots 15. After the wire has been passed over several of the poles in this manner, said wire is drawn block tight so as to place the wire under tension, after which the lineman removes the wire from the seats 13 and ties or otherwise fastens said wire to the insulators. If the wire has a tendency to extend above the top of the pole, said wire will bear against the upper walls of the seats 13, and if said wire has a tendency to extend below the cross arm, the wire will bear against the lower walls of the seats 13. By such a construction, the wires may be held within convenient reach of the lineman so that said lineman may fasten the wires to the insulators without the necessity of reaching above or below the cross arm in order to grasp the wire, or without employing a helper or groundman for lowering the wires, which operation is at present accomplished by throwing a weighted hand line over the wires and drawing the latter down within convenient reach of the lineman on the pole.

It will here be noted that the inwardly extending flange 11, by engagement with the base or bottom of the insulator, serves to prevent upward movement of the tool or implement when the wire contacts with the upper walls of the seats 13, while the upper end of the flange 10, being spaced from and extended above the bottom of the insulator, serves to prevent injury to said insulator incident to tightening the wires.

When the tool or implement is used for stringing wires around a curve or bend, the wire is passed over the base 8, and in contact with the groove 19, as best shown in Fig. 2 of the drawings, the strain incident to tightening the wire being received directly on the flange 10 so as to prevent cracking or otherwise mutilating the insulator. When the device is used in this manner, the ears 9, by engagement with the adjacent edges of the cross arm, serve to prevent twisting or turning movement of the tool on said cross arm, as will be readily understood.

It is preferred to form the base 8 with an opening 20 by means of which the device may be readily attached to the belt of the lineman.

It will of course be understood that the tools may be made in different sizes and shapes and as many of said tools employed in the erection of a telephone or telegraph line as may be found desirable.

Having thus described the invention, what is claimed as new is:

1. A device of the class described including a supporting base having a recess formed in one end thereof and provided at its other end with depending ears adapted to bear against the adjacent longitudinal edges of a cross arm, an upstanding flange formed on the base, and an inwardly extending flange arranged at the bottom of the upstanding flange, there being wire receiving seats formed in the walls of said upstanding flange.

2. A device of the class described, including a supporting base formed at one end with a recess and at its other end provided with depending attaching ears, the base being also formed with an upstanding flange extending transversely across and along the opposite edges of said base at the recess thereof, and the base being further formed with an inwardly extending horizontal flange, there being wire receiving seats formed in the walls of the upstanding flange.

3. A device of the class described, including a supporting base formed in one end with a recess and provided at its other end with means for engagement with a cross arm, the base being also formed with an upstanding flange extending around the wall of the recess of the base, and the base being further formed with a convex upper face, one wall of the flange being concave to produce a wire-receiving groove, the base being further formed with a horizontal flange,

there being registering wire-receiving seats formed in the walls of said upstanding flange, said flange having inclined slots intersecting the said seats to permit the insertion and removal of a line wire.

4. A device of the class described including a body portion having a base adapted to rest on a cross arm and provided with a recess, and flanges of different heights surrounding the recess in the base and disposed at right angles to each other, the long flange being curved and adapted to embrace an insulator mounted on said cross arm, and the short flange being disposed within the long flange and adapted to encircle the insulator pin, there being wire receiving seats formed in said long flange.

5. A device of the class described including a supporting base adapted to rest on a cross arm and formed in one end with a recess and provided with an upstanding flange extending transversely across and along the opposite edges of said base at the recess, the walls of the flange, at the recessed end of the base, being provided with wire receiving seats having inwardly extending slots communicating with said seats.

6. A device of the class described including a supporting base formed in one end with a recess and provided at its other end with depending attaching ears, an upstanding flange arranged on the upper surface of the base and extending transversely across and along the opposite edges of said base at the recess therein, said upstanding flange being spaced inwardly from the recess in the base to form an inwardly extending flange, the walls of which gradually merge into the walls of the base, there being registering wire receiving seats formed in the side walls of the upstanding flange, and inclined slots intersecting said wire receiving seats to permit the insertion and removal of a line wire.

7. A device of the class described, including a supporting base formed in one end with a recess and also formed with a curved upstanding flange spaced from the other end of the base and extending to the recess thereof, said flange having one wall thereof provided with a groove, there being registering wire-receiving seats formed in the flange at the recessed end of the base and inclined slots intersecting said wire receiving seats.

8. A device of the class described including a supporting base formed at one end with a recess and at its other end provided with depending attaching ears, a curved flange extending upwardly from the upper surface of the base at the recess therein, there being transversely alined wire receiving seats formed in the flange, and inclined slots intersecting said seats to permit the insertion and removal of a line wire.

9. A device of the class described including a body portion having a flat base adapted to rest on a cross arm, one end of said base being formed with a recess and the other end thereof provided with means for engagement with said cross arm, an upstanding flange extending transversely across and along the opposite edges of the base at the recessed end thereof and adapted to embrace an insulator mounted on said cross arm, and wire receiving seats formed in the flange and having inclined slots communicating therewith to permit the insertion and removal of a line wire.

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

HENRY A. MENAGER. [L. S.]

Witnesses:

HOMER J. WARD,

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