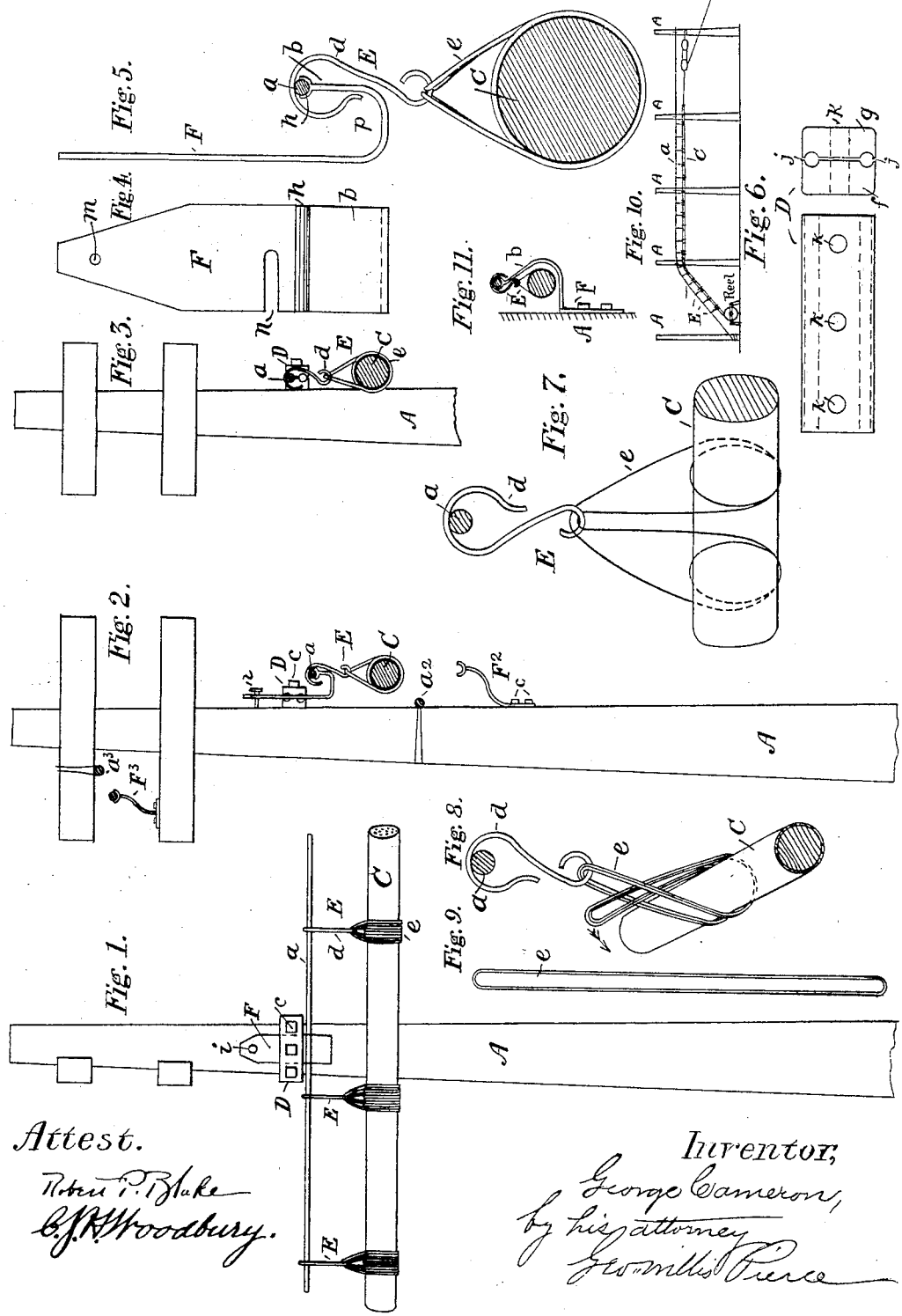
(No Model.)

G. CAMERON.

SUSPENSION OF AERIAL CABLES.

No. 595,693. Patented Dec. 21, 1897.



Attest.

Robert F. Blake

C. J. H. Woodbury.

Inventor,

George Cameron,

by his attorney

Geo. Willis Pierce

THE NORRIS PETERS CO., PHOTO-LITH., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE CAMERON, OF BOSTON, MASSACHUSETTS.

SUSPENSION OF AERIAL CABLES.

SPECIFICATION forming part of Letters Patent No. 595,693, dated December 21, 1897.

Application filed July 24, 1897. Serial No. 645,785. (No model.)

To all whom it may concern:

Be it known that I, GEORGE CAMERON, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Suspension of Aerial Cables, of which the following is a specification.

The present invention relates to aerial cables, and, first, to the method and means employed in stringing or putting them into position, and, second, to the hanger used in suspending the cable from its supporting-wire.

The invention will be fully understood by reference to the accompanying drawings, in which—

Figures 1 and 2 are side and front views of a telegraph-pole to which are applied the means employed in stringing the cable. Fig. 3 is a front view of a pole, showing the cable as it appears when suspended. Figs. 4 and 5 are respectively front and edge views of a device attached to the poles when the cable is being strung. Fig. 6 shows side and end views of a clamp employed in the process, and Figs. 7 and 8 illustrate the peculiar cable clip or hanger devised by me. Fig. 9 represents a portion of the hanger. Fig. 10 illustrates the method of stringing the cable, and Fig. 11 shows a modification of the hanger.

In the drawings, A represents one of a plurality of poles to which the cable C is to be secured.

D is a clamp consisting of two oblong metal plates having two parallel grooves *j j* longitudinally thereof near the outer edges of their proximate surfaces, each having three holes *k* along their central line.

F is a metal plate having its lower end bent upward, as shown, in the form of an arm *b*, which is provided at its upper edge with a groove *h*.

E represents a cable-hanger composed, first, of a hook *d*, having a large upper eye and a lower small eye, and, second, a flexible insulating cord or band *e*, which may be made of fibrous material, as hemp or flax, saturated with a preservative material, as tar, preferably a single piece made into loops and its ends secured, or it may be cut as an endless loop from any suitable insulating material, as rawhide, &c., and folded into small loops.

When the cable is to be run, the plate F is placed between the clamps *f* and *g* and a bolt is passed through the central hole *k* and the slot *n* of the plate and then screwed into the side of a pole, as shown in Figs. 1 and 2. A nail *i* is driven through the hole *m* of the plate into the pole to hold the plate steady. The supporting-wire *a* is raised into the hollow *p* between the arm *b* and the face of the plate, and when all is ready it is placed into the groove *h* in each arm at each pole and secured, tightly stretched, at each end. One end may be carried to the foot of a pole and secured there, as shown in Fig. 10.

The cable-reel is placed on the ground and the cable unwound, and the hangers are put in place as follows: The hooks are successively placed over the wire *a*. One end of a flexible cord (which may be single, as shown in Fig. 7, or looped, as in Fig. 8) is placed in the small eye of the hook, as shown in Fig. 8, and the opposite end of the cord is passed between the strands of the first end and down in direction of arrow around the cable and then also placed in the small eye of the hook. As the cable is unwound and drawn along more hangers are placed as just described, and the upper eye of the hooks slide upon the wire, and when the hooks reach a pole they readily pass by the arms *b* of the plates F, and the operation is continued until the cable is hung.

The use of the plates F on each pole dispenses with the employment of a man thereat, as is necessary by the present methods, and the cable is easily and safely hung. The cord or band wound around the cable, as described, hugs closely thereto and does not slip when the cable is being drawn along, and keeps its place at all times.

When the cable is in place, the bolt in the hole *k* is slacked up and the bar, say *g*, is moved outward and the plate F taken off and the wire *a* inserted in the upper grooves on the inside of the bars and the three bolts screwed in, holding the wire *a* tightly. All of the bolts may pass into the pole, if desired.

An essential feature of the invention is that the supporting-wire is easily and quickly placed in position to be held by the guides or rests without being clamped or tied thereto and remains in a stable condition while the cable is being run, and it is as easily removed

therefrom when it is to be permanently fastened to the pole or support.

The method of stringing the cable described illustrates my invention, but the means may be widely changed without departing from the spirit thereof. For instance, the plate F may be provided with any suitable means for guiding or resting the supporting-wire, the clamp D may be dispensed with, and the plate F made to bolt directly upon the pole, as shown at F^2 in Fig. 2, or it may be made as shown at F^3, Fig. 2, to bolt upon the top of a cross-arm, or in any other suitable way. In such modifications the supporting-wire, after the cable has been run, may be lashed to the side of the pole, as shown at a^2, or lashed to the under side of a cross-arm, as shown at a^3. In either case the plates F are removed when the supporting-wire *a* is secured.

The hook *d* may be of steel wire and bent so that the lower part of the upper eye will have an open space smaller than the diameter of the supporting-wire *a* and a space in the upper part large enough to pass over groove *h* and wire *a*.

It frequently happens that the supporting-wire of aerial cables becomes crossed with a power-wire of some kind or a telephone or telegraph wire falls upon the supporting-wire and power-wire and current is conveyed to the former. With the metal hanger now in use the strong current passes from the supporting-wire to the cable, which frequently becomes burned and destroyed. The invention avoids this danger, as the insulating cord or band prevents the passage of electricity from the supporting-wire to the cable.

In the form of support shown in Fig. 11 the arm is inclined toward the pole, and when the supporting-wire is placed in the groove the cable passes through the space between the pole and the arm. This arrangement is of great advantage when the poles are in a curve or bend of the road, as the cable is held either to the side of the pole or to the inner side of the arm, as the case may be.

An important advantage of running out cable as described is that when the cable is in position all the clips are on and the time consumed in placing clips after the cable is up avoided. It will be possible to place aerial cables of one thousand feet lengths or more with not more than four men, using a horse to do the pulling.

Another advantage is that as there are no men on the poles in placing the cable there is no liability of injury to them by the breaking of any of the apparatus or by any crosses with high-tension currents either through themselves or the cable. A great deal of the cable is placed in trees, and the liability to injury to the cable where it is run out with clips at intervals of ten or twenty feet is much greater than it will be in this case, where the cable assumes its permanent position on the wire at first.

I claim as my invention—

1. As an improvement in the art of erecting aerial cables, the method herein described which consists in continuously drawing the cable up and along a single suspension-wire without obstruction or interruption to a horizontal position while suspended from the said wire by permanent hangers which are successively attached to the cable and wire as the former is brought into proximity with the latter during its movement.

2. As an improvement in the art of erecting aerial cables the method herein described which consists in continuously drawing the cable along the suspension-wire without obstruction or interruption to its position while suspended from the said wire by permanent hangers which are successively attached to the cable and wire as the former is brought into proximity with the latter during its movement and then removing the suspension-wire with the cable suspended therefrom from its temporary supports and securing the same to permanent supports.

3. The combination of an overhead cable-line consisting of a plurality of poles, of a cable and a supporting-wire therefor, the cable being suspended from the wire by hangers with supports for said wire attached to each pole, having an arm provided with a rest or guide; whereby when the cable is pulled along the wire, the hangers are maintained in position upon the cable and are adapted to move past the said supports successively without obstruction.

4. The combination of an overhead cable-line consisting of a plurality of poles, of a cable and a supporting-wire therefor, the cable being suspended from the wire by hangers consisting of a hook and a flexible insulating cord or band with supports for said wire attached to each pole, having an arm provided with a rest or guide; whereby when the cable is pulled along the wire, the hangers are maintained in position upon the cable and are adapted to move past the said supports successively without obstruction.

5. The combination in an overhead cable-line of a plurality of poles, a cable and a supporting-wire therefor attached to each pole; with hangers between the said wire and cable consisting of a hook and a flexible insulating cord or band wound around the cable, as set forth.

6. A cable-hanger consisting of a hook, and a flexible insulating cord or band adapted to be wound around a cable, as set forth.

7. A cable-hanger consisting of a hook, and a flexible insulating cord or band of fibrous material adapted to be wound around a cable.

8. A cable-hanger consisting of a hook and a flexible insulating cord or band of fibrous material saturated with preservative material adapted to be wound around a cable, as set forth.

9. A cable-hanger consisting of a hook of wire bent into the form of an S with the larger eye at the top and nearly closed, and a flexi-

ble insulating cord or band adapted to be wound around a cable, as set forth.

10. The combination of an overhead cable-line consisting of a series of poles, of a cable and a supporting-wire therefor, the cable being suspended from the wire by hangers; with supports for said wire attached to the poles provided with a rest or guide; whereby the said wire is supported without clamps or ties, and when the cable is pulled along the wire the hangers are maintained in position upon the cable and are adapted to move past the said supports successively without obstruction.

11. A cable-supporting wire extending to a plurality of poles or supports, and supported at the intermediate poles or supports by an arm provided with a rest or guide, and clamped or otherwise secured to the terminal poles only.

12. A cable-supporting wire extending to a plurality of poles or supports and supported at the poles or supports by brackets; whereby when the cable is drawn along the said wire no obstruction is offered to the passage of the clips or hooks by which the cable is attached to said wire.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 15th day of July, 1897.

GEORGE CAMERON.

Witnesses:
GEO. WILLIS PIERCE,
THOMAS L. MADDEN.