

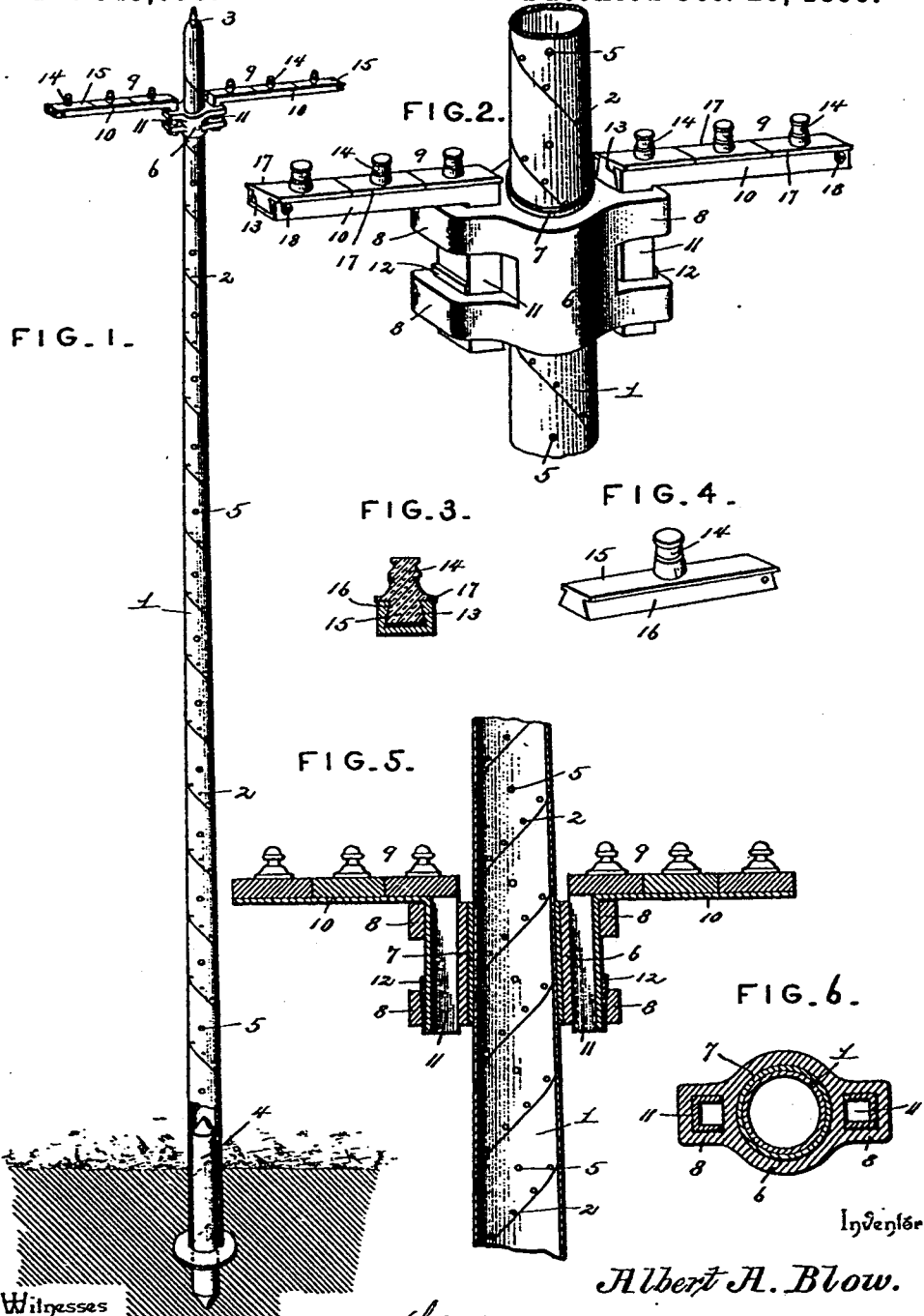
(No Model.)

2 Sheets—Sheet 1

A. A. BLOW.
TELEGRAPH POLE.

No. 549,053.

Patented Oct. 29, 1895.



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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FIG. 7.

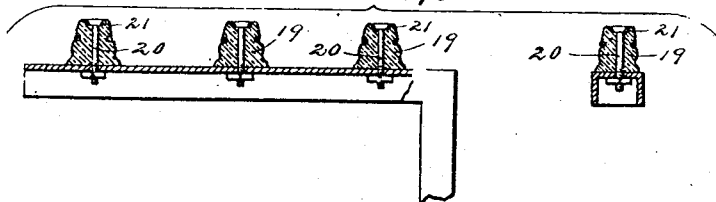


FIG. 8.

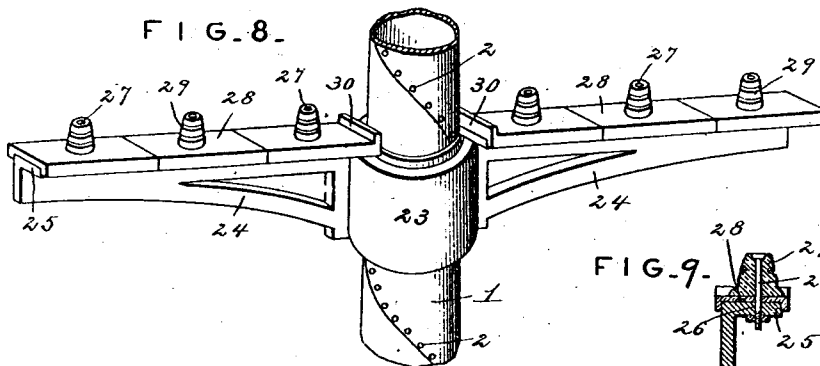


FIG. 9.

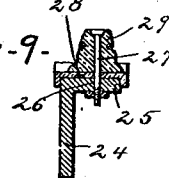


FIG. 10.

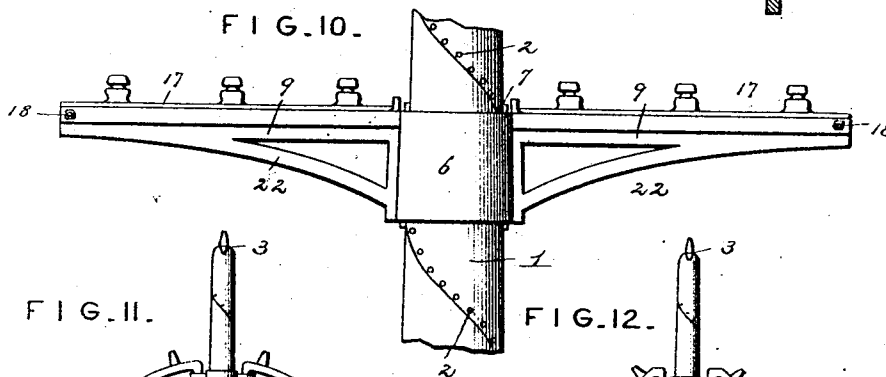


FIG. 11.

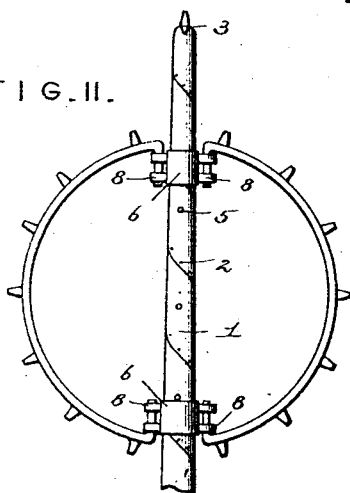
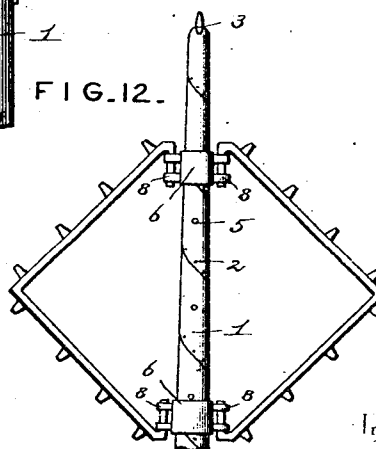


FIG. 12.



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UNITED STATES PATENT OFFICE.

ALBERT ALLMAND BLOW, OF DENVER, COLORADO.

TELEGRAPH-POLE.

SPECIFICATION forming part of Letters Patent No. 549,053, dated October 29, 1895.

Application filed January 28, 1895. Serial No. 536,368. (No model.)

To all whom it may concern:

Be it known that I, ALBERT ALLMAND BLOW, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Telegraph-Pole, of which the following is a specification.

The object of this invention is to provide a more desirable telegraph-pole than any heretofore known, and to provide for said pole wire-supporting arms of an equally-improved character; and to these ends the invention consists in certain peculiar features of construction whereby the pole is made stronger, smaller, and lighter, and whereby the arms are made capable of more effective insulation and of more effectively securing the electrical wires thereto, all of which will be fully described hereinafter, and finally embodied in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of a telegraph-pole constructed after the manner of my invention, a portion of said pole being broken away to disclose the interior construction thereof; Fig. 2, an enlarged perspective view showing in detail the preferred construction or form of wire-supporting arm; Fig. 3, a detail cross-section of said wire-supporting arm; Fig. 4, a detail perspective of one of the insulator-blocks for use in connection with the arm of Fig. 2; Fig. 5, a vertical section taken through the pole at the point directly adjacent to the arms of Fig. 2; Fig. 6, a horizontal section taken through the same point; Fig. 7, a view illustrating a varied arrangement of the arms of Fig. 2; Fig. 8, a perspective view of a modified form of arm; Fig. 9, a cross-section thereof; Fig. 10, a view showing the application of strengthening-webs to the arms of Fig. 2, and how said arms may be cast integral with the collar by which they are secured to the pole. Figs. 11 and 12 are views showing modifications of the shape of the wire-carrying arms.

The reference-numeral 1 indicates the pole, which is formed of an integral and continuous strip or ribbon of sheet-steel, which is coiled spirally so that its edges will overlap each other and so that a tubular structure will be formed. The pole is made to taper

from the base upward, and the overlapping edges of the steel are riveted or welded to each other, as at 2.

At the upper extremity of the pole the material is bent in, at 3, so as to close the tube and so as to prevent water and other foreign matter from entering the same, while the lower end or base of the pole is made secure and prevented from being crushed or collapsed by the wooden spar or helper 4, which is arranged partially within the pole and partially without, and adapted to be buried in the ground with the base of the pole, as shown in Fig. 1.

Helper 4 consists of a central post provided a short distance from its lower end with an annular flange projecting at right angles thereto, which receives the downward thrust of the pole 1 and prevents settling thereof being flat on its upper face to prevent the periphery of pole 1 from splitting and spreading. The upper portion of said post is conical, so as to aid in sleeving said pole over the post as it is raised, and the lower portion of said post is likewise pointed or conical to aid the same in maintaining its center against the vertical and lateral strains to which it is subjected.

By means of the helper 4 the pole may be raised and seated in its hole in the ground without fear of crushing it, and when once seated the helper will lend rigidity to it and materially assist in withstanding the force of storms and other shocks.

Formed in the material composing the pole 1, and arranged at equidistant points throughout the length of the same and on opposite sides are the holes 5. The purpose of these holes is to permit the insertion of the spur of a lineman, so that he may climb the pole in the operation of securing or adjusting the electrical wires supported thereby. The preferred form of wire-supporting arm is shown in Figs. 2, 3, 4, 5, and 6, and the complete device consists of a metallic collar 6, adapted to embrace the pole 1, and of an interior diameter slightly greater than the circumference of the pole, the difference being compensated by the insulating filling or packing 7. This packing may be formed of any tough, pliant, and non-conducting material,

has a twofold purpose—to secure the collar upon the pole 1 and to insulate said collar therefrom.

Formed integral with the collar 6, and on opposite sites thereof, are the vertically-recessed lugs 8, which are four in number, two for each side, and the lugs of each side are arranged in vertical alignment, so that the recesses thereof will be similarly aligned. These recessed lugs 8 are adapted for the reception of the vertically-extending portions of the channel-iron arms 9. The arms 9 are preferably cast and are formed with a horizontal portion 10, having the vertical portions 11 at one end thereof. The vertical portions 11 are of such a length that they will extend from one of the lugs 8 to the other, and such portions are held in place by means of the wedge-keys 12, which are one for each arm and which are driven into the space between the recess of the lower lug and the arm which fits therein.

The arms 9 are arranged with their hollow or channeled sides upwardly, and the inner or interior sides of the arms are beveled inwardly and upwardly from their lower portions, as shown at 13 in Fig. 3. This bevel 13 is of a regular extent and is provided to permit and to facilitate securing the insulator-blocks of Fig. 4 to the arms 9.

The insulators of Fig. 4 are formed with the wire-securing stud 14, molded integral with the parallelogram-shaped block 15. The block 15 has its sides 16 inclined upwardly and inwardly, so as to conform with the inclined sides 13 of the arms 9, while the upper portion or top of the block 15 is formed with the integralside flanges 17, adapted to project over the upper edges of the arms 9 and to shed the water falling upon the blocks, thus preventing the said water from entering the space within the arms 9.

18 indicates a bolt, which is passed transversely through the outer end of each of the arms 9 and through the outer ends of the end insulating-blocks, thus preventing them from being accidentally displaced. Thus in the use of the invention the blocks are first moved into their places within the channels of the arms 9 and the bolts 18 passed through the arms, thereby preventing the retraction of the insulator-blocks.

It will be observed that the size of the blocks 15 may be reduced or increased to permit increasing or diminishing the number of insulators applied to an arm of given length.

It will also be observed that the insulators are securely and immovably held in place and that their release will be impossible without first removing the bolts 18.

In Fig. 7 the form of Fig. 2 is departed from inasmuch that the arms are reversed and placed with their channel downwardly. In this case the peculiar construction of the insulator-blocks is departed from and an insulator of frusto-conical shape employed. These

insulators are shown at 19 in Fig. 7, and are each provided with a vertical passage through which the bolts 20, respectively, pass. The bolts 20 project through a corresponding opening in the arms and are provided below the same with a nut, whereby the insulators 19 are clamped in place. The heads of the bolts 20 are each countersunk in recesses in the upper ends of their respective insulators, and lead washers 21 are interposed between the beveled heads of the bolts and said recesses. Keys 12 are employed to hold the arms of Fig. 7 in place, and these keys are the same as those used in connection with the arms of Fig. 2.

The arrangement of Fig. 10 differs from that of Figs. 2 to 6 in that the arms 9 are cast integral with the collar 6 and that a strengthening-web 22 is provided for bracing the arms. By this arrangement the lugs 8 and attendant parts are dispensed with. The modification of Figs. 8 and 9 consists of a collar 23, having the webs 24 cast integral with opposite sides thereof and with the horizontal plates 25. The plates 25 are provided with vertically-extending holes 26, through which the bolts 27 pass.

Located upon the plates 25 are the sections of glass capping 28, which consist of glass plates provided with downwardly-extending flanges at their sides adapted to embrace the corresponding sides of the plates 25. The caps 28 are arranged upon the plates 25 and with their edges contiguous, so as to be practically continuous, and are held in place by the bolts 27, which pass through openings in them provided for that purpose. Seated upon the caps 28, and one for each section thereof, are the insulators 29, which are provided with a vertical passage adapted for the reception of the bolts 27, respectively. By these means the insulators 29 and caps 28 are clamped upon the plates 25, which form the wire-supporting arms.

The use of my improved pole does not differ from that of the ordinary telegraph-pole, and a detailed description thereof is not necessary.

It will suffice for me to say that the pole is planted as usual and the electrical wires strung upon its cross-arms, so as to be supported thereby.

It will be observed that the extreme lightness of the pole will recommend it to extensive use, and that its decreased diameter will afford but little resistance to the passage of wind-storms, thus increasing the life of the pole.

It will be observed that owing to the metal of which the pole is constructed, it will be indestructible by prairie and forest fires, as well as incapable of warping, splitting, or cracking upon being subjected to the weather.

The section of capping 28 of Figs. 8 and 9, which is directly adjacent to the pole 1, may be provided with an upwardly-extending lug 30, formed integral therewith and operating

to prevent a wire from making contact with the pole, which it is liable to do should it become disengaged from the insulator-blocks.

Figs. 11 and 12 illustrate how the shape of the wire-carrying arms may be varied, and there it will be seen that the arms are curved in two different shapes, so that each of their ends may be connected to the posts. In one instance the arms assume an angular form, while in the remaining view the arms are curved as a semicircle.

Having thus described my invention, I claim—

1. A telegraph pole consisting of a hollow metal tube provided at its base with a spar or helper, said helper comprising an upper portion arranged within said tube at its base end and conforming thereto in size and shape, and an annular flange of considerable relative dimensions projecting perpendicularly from said helper and adapted to receive said tube in perpendicular facial contact, and a lower projecting portion of substantially similar cross-section to said upper portion, said upper and lower portions being each provided with conical ends, substantially as described.

2. A telegraph pole tapered toward its upper end and provided with a collar adapted to be sleeved over the pole and of an interior size slightly greater than the size of the pole, a

pliant, non-conducting packing interposed between the collar and the pole, whereby said collar is adjusted longitudinally thereof and secured in its proper position without other fastening means, and wire-supporting arms secured to the collar, substantially as described.

3. A telegraph pole having a collar secured thereto and provided with a vertically-recessed lug, an arm secured in said recessed lug and bent to extend horizontally therefrom, and insulators secured to the horizontal portion of said arm, substantially as described.

4. The combination with a telegraph pole, of an angle iron arm secured thereto, having one flat side thereof disposed horizontally, and an insulator consisting of a non-conducting block, having its under side channeled to fit snugly over said horizontal side, and properly secured thereto, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALBERT ALLMAND BLOW.

Witnesses:

J. C. MITCHELL,

J. WILL HUDSTON.