

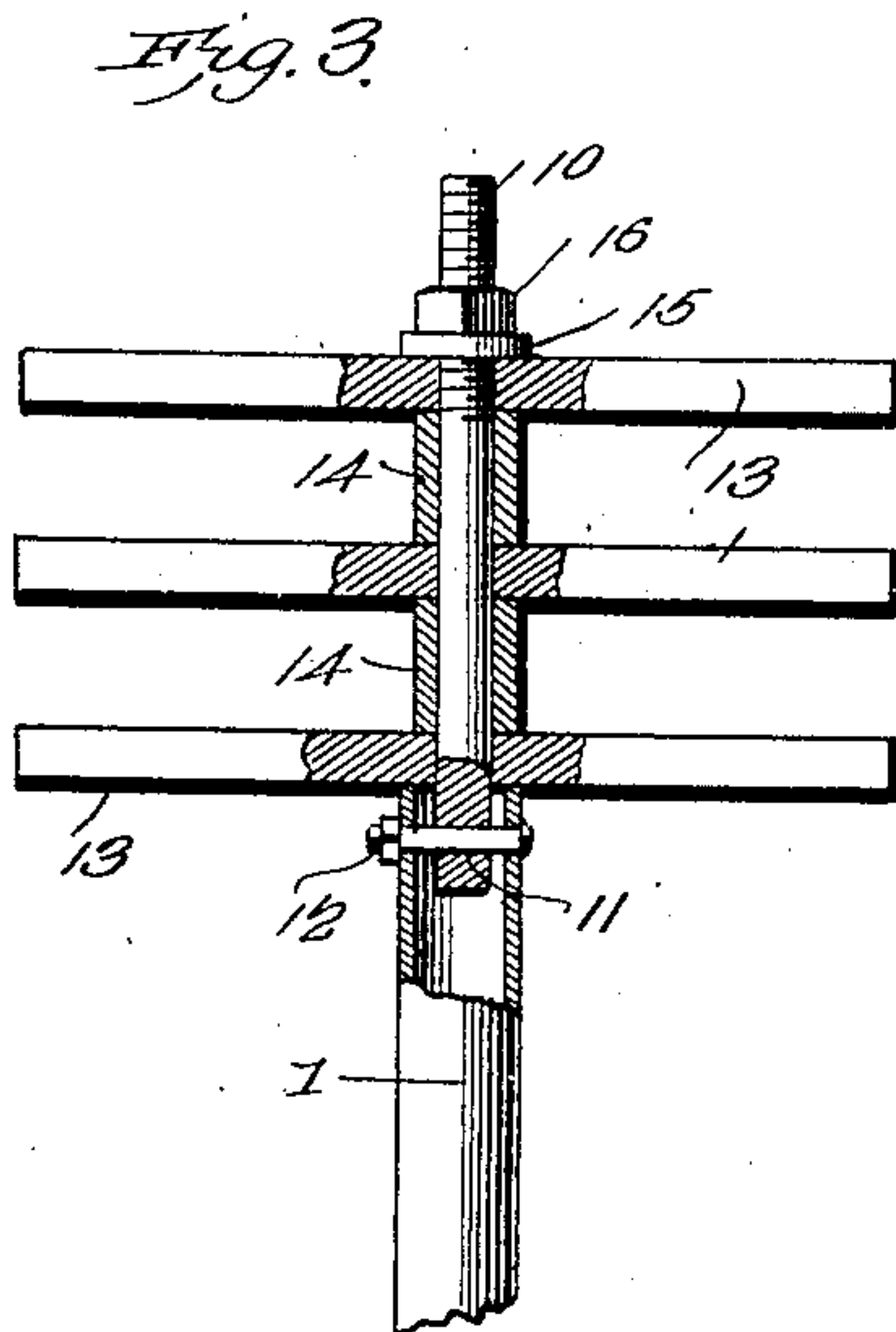
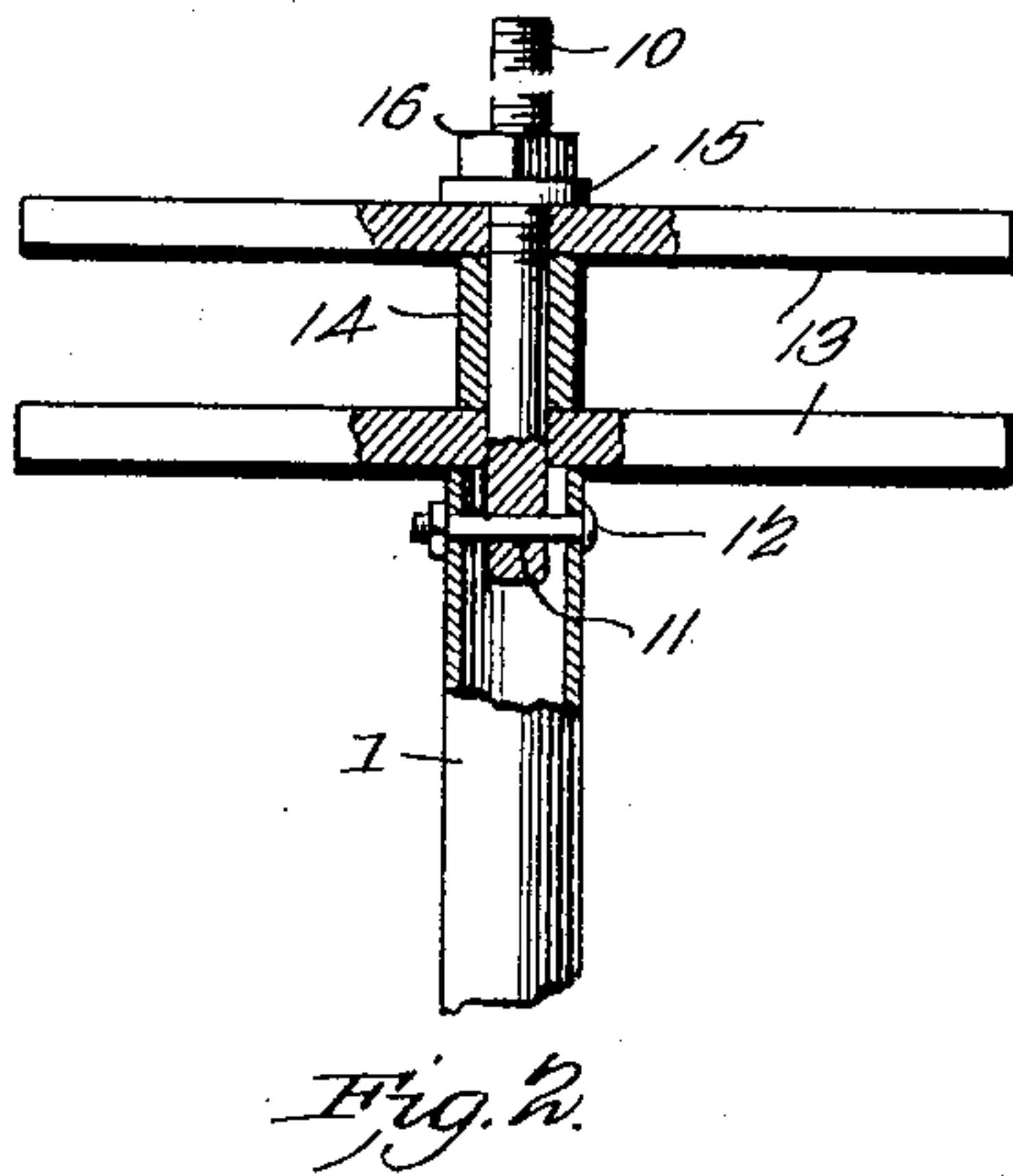
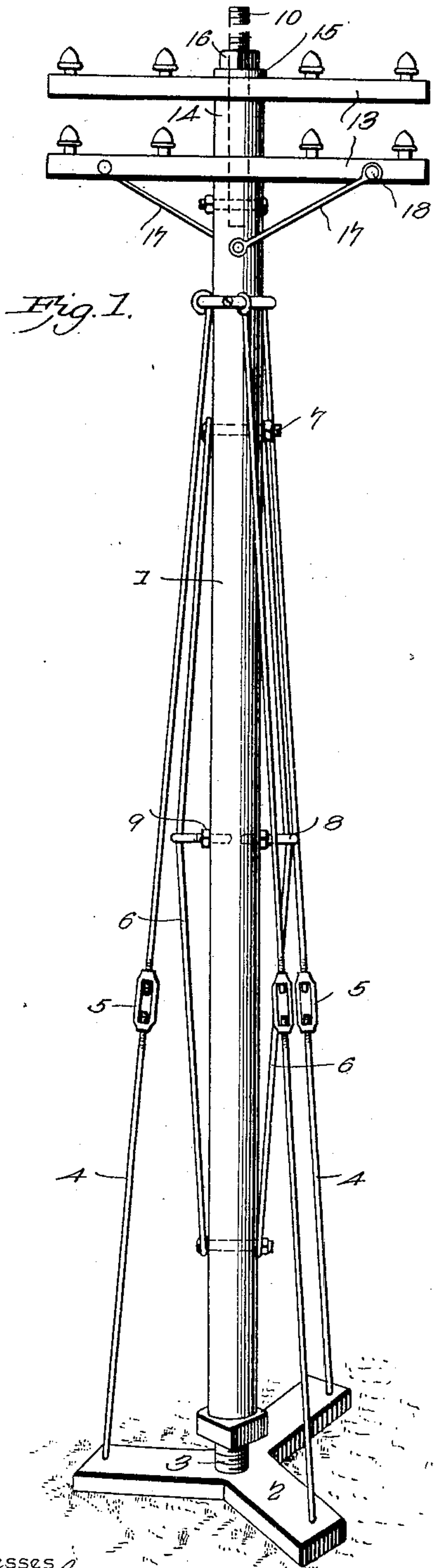
No. 708,277.

Patented Sept. 2, 1902.

I. M. WARNER.  
TELEPHONE OR TELEGRAPH POLE.

(Application filed Oct. 15, 1901.)

(No Model.)



Witnesses  
E. F. Stewart  
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# UNITED STATES PATENT OFFICE.

ISAAC M. WARNER, OF UNION CITY, MICHIGAN, ASSIGNOR TO FRANK C. BOISE, OF UNION CITY, MICHIGAN.

## TELEPHONE OR TELEGRAPH POLE.

SPECIFICATION forming part of Letters Patent No. 708,277, dated September 2, 1902.

Application filed October 15, 1901. Serial No. 78,730. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC M. WARNER, a citizen of the United States, residing at Union City, in the county of Branch and State of Michigan, have invented a new and useful Telephone or Telegraph Pole, of which the following is a specification.

My invention relates to improvements in telephone and telegraph poles; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

The objects of my invention are to effect improvements in the construction of a telephone and telegraph pole and to provide improved means for securing the cross-arms thereto.

In the accompanying drawings, Figure 1 is a perspective view of a pole of the class described embodying my improvements. Fig. 2 is a detail sectional view of the upper portion of the pole, showing the same provided with a pair of cross-arms. Fig. 3 is a similar view showing the pole provided with three cross-arms.

In the embodiment of my invention the telephone or telegraph pole 1 is tubular and is preferably a section of a steel or iron pipe of suitable length and diameter. As here shown, the pole is supported on a base 2 by a jack-screw 3 and is provided with a series of stays or braces 4, which connect the upper portion of the pole to the outer ends of the arms of the said base, the said stays or braces being provided with turnbuckles 5, by which they may be lengthened or shortened, as may be required, to adjust the pole; but the pole may within the scope of my invention be supported and secured by any suitable means and in any suitable manner, the specific means herein shown for supporting and adjusting the pole being no part of my present improvements.

On opposite sides of the central portion of the pole are truss-rods 6. The ends thereof are secured to the pole by bolts 7, which pass through said pole and through eyes formed at the ends of said truss-rods. Eyebolts 8 project from the pole at opposite sides thereof and at points intermediate the ends of the said truss-rods. The eyes of the said eye-

bolts are engaged by the said truss-rods, and the shanks of the latter extend through openings with which the said pole is provided. On the shanks of the said eyebolts are nuts 9, by means of which said eyebolts may be adjusted longitudinally in order to tighten the truss-rods, as may be required. It will be understood that the trusses thus formed strengthen the pole to prevent the latter from becoming bent while in use.

In the upper end of the pole is the lower portion of a vertical bolt 10. The same has a transverse opening 11 near its lower end, through which passes a bolt 12, that is also passed transversely through the pole near its upper end. The bolt 10 projects upwardly above the pole, and on the same may be placed one, two, or any suitable number of cross-arms 13 to carry the insulators and wires. Where two or more cross-arms are carried by the pole, the lower cross-arm bears directly on the upper end of the pole, and space-blocks 14 are placed on the bolt 10 between the said cross-arms to appropriately space the latter apart. A washer 15 and nut 16 are also provided, the said washer bearing on the upper side of the upper cross-arm and the said nut serving to clamp the cross-arms and the space block or blocks together and firmly secure the same on the bolt and on the upper end of the pole. If desired, suitable braces 17 may also be employed, as shown in Fig. 1, to connect the cross-arms to the pole, the braces being secured to the said cross-arms and pole by means of bolts 18.

Having thus described my invention, I claim—

1. The combination of a tubular pole, a bolt projecting vertically from the upper end thereof and having its lower end secured therein, a cross-arm provided with a series of wire-supports on said bolt, bearing on the upper end of said pole and means, independent of said bolt to secure said cross-arm to said pole, substantially as described.

2. The combination of a tubular pole, a bolt projecting vertically from the upper end thereof and having its lower end secured therein, cross-arms on said bolt, a space-block on said bolt between said cross-arms, the lowermost cross-arm bearing on the up-



per end of the pole, and a clamping-nut on said bolt bearing on the upper cross-arm, substantially as described.

3. The combination of a tubular pole, a  
5 bolt 10 having its lower end inserted in the upper end of the tubular pole, a bolt passed transversely through the upper portion of the pole and the lower portion of said bolt 10 to secure the latter in the pole and a cross-arm  
10 secured on the projecting upper portion of

said bolt 10 and bearing on the upper end of the pole, 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.

ISAAC M. WARNER.

Witnesses:

H. T. CARPENTER,  
CHAS. H. LOWELL.