

No. 868,843.

PATENTED OCT. 22, 1907.

W. S. CLAY.

METALLIC CROSS ARM FOR TELEGRAPH OR TELEPHONE POLES.

APPLICATION FILED SEPT. 7, 1906.

Fig. 1.

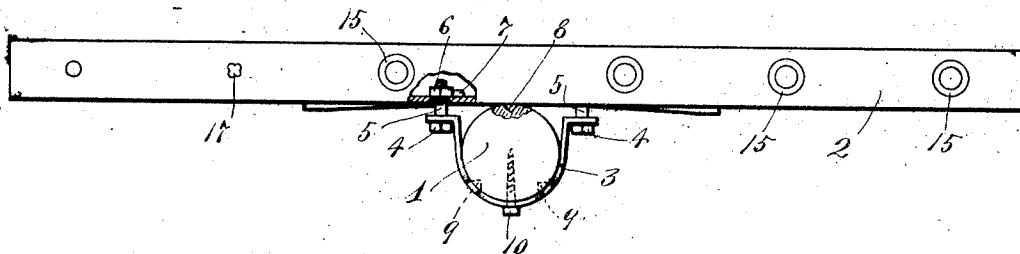


Fig. 2.

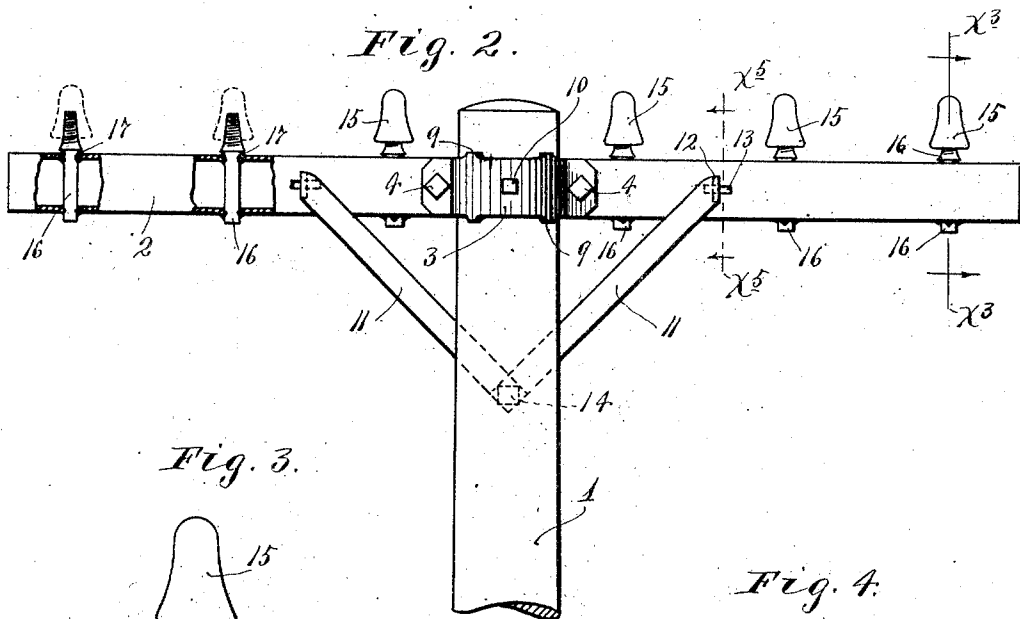


Fig. 3.

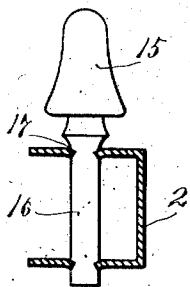


Fig. 4.

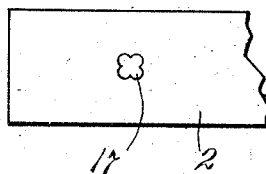
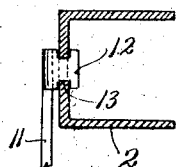


Fig. 5.



Witnesses.

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METALLIC CROSS-ARM FOR TELEGRAPH OR TELEPHONE POLES.

No. 868 843.

Specification of Letters Patent.

Patented Oct. 22, 1907.

Application filed September 7, 1906. Serial No. 333,602.

To all whom it may concern:

Be it known that I, WELLINGTON S. CLAY, a citizen of the United States, residing at Hutchinson, in the county of McLeod and State of Minnesota, have invented certain new and useful Improvements in Metallic Cross-Arms for Telegraph or Telephone Poles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved metallic cross arm for telegraph and telephone poles, and to this end it consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings:—Figure 1 is a plan view with some parts broken away, showing the improved cross arm applied to a telegraph pole. Fig. 2 is an elevation of the parts shown in Fig. 1. Fig. 3 is a transverse section taken on the line $x^3 x^3$ of Fig. 2. Fig. 4 is a plan view showing one end portion of the cross arm, and Fig. 5 is a transverse section taken on the line $x^5 x^5$ of Fig. 2.

The numeral 1 indicates an ordinary telegraph or telephone pole. The metallic cross arm 2 is in the form of a channel iron bar positioned with its back or vertical web against the pole, and with its flanges projecting in horizontal planes, one over the other.

The numeral 3 indicates a yoke-like clamp which embraces about the pole and engages about one-half thereof, and the arms of which are turned outward in reverse directions, and are perforated to pass there-through short bolts 4. The bolts 4 are passed through perforations 5 in the web of the cross arm 2, and they are provided with nuts 6 which, in the preferred arrangement, engage the inner surface of the vertical web of said cross arm, and are held against rotation by lugs 7 secured on said cross arm. With this arrangement, the nuts 6 are tightened upon the bolts 4 by applying a wrench to the heads of the bolts. When the nut bolts are tightened up, the clamping yoke 3 will be tightly drawn up against the pole, and the said pole will be tightly clamped between the said yoke and the back of the cross arm. To securely anchor the cross arm and the yoke to the pole, a barb 8 is pressed outward from the back of the vertical web of said arm and is pressed into the pole, and the yoke is provided, preferably both at its upper and lower edges, with inwardly turned barbs 9 that are also pressed into the pole. A lag screw 10 is also preferably passed through a perforation in the yoke 3 and screwed into the pole. By the means described, the cross arm will be very firmly anchored to the pole. In fact, by the arrange-

ment described, the cross arm may be so securely anchored to the pole that it cannot possibly rotate upon the pole, and cannot be moved in a horizontal plane without spreading or breaking the pole.

When extremely long cross arms are used, it is sometimes desirable to brace the same from the pole by braces that extend in a vertical plane, and which further brace the cross arms against tilting movements in a vertical plane. To this end I have provided tight bracing arms 11 which, at their upper ends, are formed with laterally projecting heads 12 that are adapted to be inserted through slots 13 in the web of the cross arm when turned parallel therewith, and which are adapted to be interlocked to said cross arms, when said braces are turned into the angular positions shown in Fig. 2. The lower ends of the bracing arms 11 are preferably lapped and secured to the pole by a lag screw 14.

The insulating caps 15 are, as shown, secured to their wooden supporting pins in the usual way. These supporting pins 16 are made quite long, and are passed through vertically aligned perforations 17 in the horizontal flanges of the cross arm 2. The said perforations 17 are formed with irregular surfaces, or with inwardly projecting barbs that are pressed slightly downward, so that the pins 16 may be quite readily driven through said perforations, but will be held firmly against displacement, or in other words, so that they cannot be readily withdrawn from the said perforations or seats 17.

A cross arm of the above character is not only much stronger and more durable than the wooden cross arms usually employed, but they may be applied to a pole with much less labor, and in a very much shorter interval of time. Furthermore, the said cross arms may be quickly removed from a pole, and may be used over and over again, almost indefinitely.

What I claim is:—

1. The combination with a metallic cross arm for a telegraph or telephone pole, of means for detachably securing said cross arm to the pole, and bracing arms having parts that interlock with said cross arm at their upper ends by angular movement, and securable to the pole at their lower ends, substantially as described.

2. The combination with a channel shaped metallic cross arm for a telegraph or telephone pole, of a clamping yoke extending half way around said pole and having approximately parallel end extensions with out turned extremities, and nutted clamping bolts passed through the out, turned extremities of said clamping yoke and through the vertical web of said cross arm, substantially as described.

3. The combination with a channel shaped metallic cross arm for a telegraph or telephone pole, the same having slots 13 in its vertical web, of a clamping yoke, nutted bolts passed through the ends of said clamping yoke and through the vertical web of said cross arm, and bracing arms 11, having at their upper ends laterally projecting heads 12, arranged to be interlocked with said slots 13 by angular movements of said arms 11; substantially as described.

4. The combination with a channel shaped metallic cross arm for a telegraph or telephone pole, the same having a barb projecting from the back of its web and engageable with the pole, a clamping yoke having barbs engageable with the pole, and nutted bolts passed through the ends of said clamping yoke and through the vertical web of said cross arm, substantially as described.

5. A channel shaped metallic cross arm for a telegraph or telephone pole, provided with vertically aligned pin

seats 17, formed with inwardly projecting barbs for engaging and holding the pins, substantially as described. 10

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

WELLINGTON S. CLAY.

Witnesses:

MALIE HOEL,

F. D. MERCHANT.