

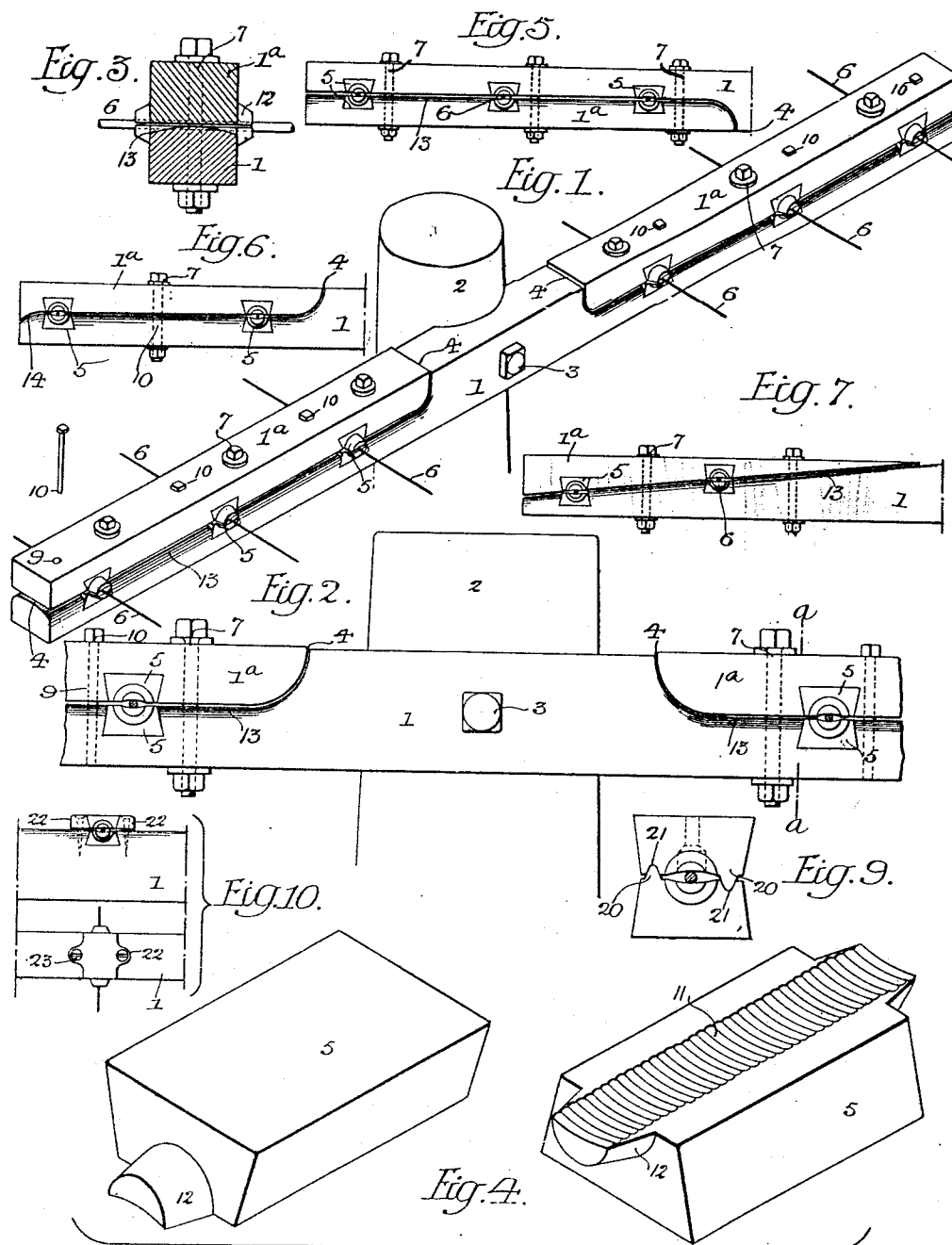
No. 873,456.

PATENTED DEC. 10, 1907.

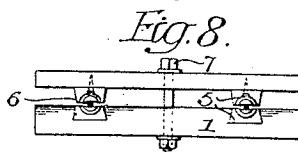
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WIRE CARRYING CROSS ARM AND INSULATOR THEREFOR.

APPLICATION FILED APR. 12, 1906.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWIN C. OTTINGER, OF NEWPORT, PENNSYLVANIA; WALTER SCOTT OTTINGER, SR., ADMINISTRATOR OF SAID EDWIN C. OTTINGER, DECEASED, ASSIGNOR OF ONE-THIRD TO JENNIE E. OTTINGER AND ONE-THIRD TO WALTER S. OTTINGER, SR., OF PHILADELPHIA, PENNSYLVANIA, AND ONE-THIRD TO SAMUEL H. BAIR, OF NEWPORT, PENNSYLVANIA.

WIRE-CARRYING CROSS-ARM AND INSULATOR THEREFOR.

No. 873,456.

Specification of Letters Patent.

Patented Dec. 10, 1907.

Application filed April 12, 1906. Serial No. 311,307.

To all whom it may concern:

Be it known that I, EDWIN C. OTTINGER, a citizen of the United States, and a resident of Newport, Perry county, Pennsylvania, have invented certain Improvements in Wire-Carrying Cross-Arms and Insulators Therefor, of which the following is a specification.

My invention relates to the cross-arms and the insulators attached thereto, carried by telegraph or telephone poles or other structures for supporting electrical conductors; the object of my invention being to do away with the use of the locust pins now employed to support the glass insulators to which the wires or electrical conductors are tied, and also to dispense with the tie wires now in use.

To this end my invention consists of a special form of cross-arm carrying insulators of special construction between which the wires or electrical conductors are clamped.

My invention is fully shown in the accompanying drawing, in which:

Figure 1, is a perspective view of my improved cross-arm carrying the improved clamping insulators made in accordance with my invention; Fig. 2, is an enlarged view in elevation of part of the structure shown in Fig. 1; Fig. 3, is a cross sectional view, taken on the line *a-a*, Fig. 2; Fig. 4, is a perspective view of one of the insulators made in accordance with my invention, and Figs. 5, 6, 7, 8, 9 and 10, are views of modified forms of structures embodying my invention.

In construction work of this character, it is desirable that wooden cross-arms be employed to carry the insulators. The common practice heretofore has been to employ an arm of rectangular cross section and standard size, carrying a series of locust pins which are threaded and are adapted to receive glass insulators to which the wires or other forms of electrical conductors are tied. It requires quite a length of wire to secure the conductors to said glass insulators, and the pins are constantly breaking, or working loose by reason of moisture settling around the base of the same and causing the arm as well as the pins to rot, and in some instances causing longitudinal splitting of the arms. I propose to overcome the difficulties heretofore experienced with this

form of cross-arm, by employing a series of clamping insulators carried by an improved form of sectional cross-arm, the members of which carry the halves of such clamping insulators in their meeting faces.

The cross-arm forming the subject of my invention comprises a member 1 secured to a pole 2 or other suitable support by means of a bolt 3; each side of said cross-arm being divided into two portions by the saw-cut 4 forming the sections 1^a. Each section 1^a and the adjacent portions of the cross-arm carries at regular intervals in their meeting faces the halves of clamping insulators 5, which are clearly shown in the perspective view in Fig. 4, and between these insulators the wires or other conductors 6 are held. The sections 1^a are secured to the portion 1 of the cross-arm by means of bolts 7 disposed at intervals throughout its length and clamping the insulators firmly together; the wires being gripped by the roughened surface 8 of the meeting faces of the insulator sections. To guard against the conductors pulling away from the cross-arm, a condition which might be occasioned on curves, I provide the cross-arm with apertures 9 for pins 10 to hold said conductors against displacement. These pins are disposed on the opposite side from the bolts 8.

The halves of the insulators are preferably dovetailed into the meeting faces of the cross-arm 1 and its sections 1^a so they will be held in proper position when assembled. The ends of the insulators have projecting portions 12 so shaped as to shed rain water falling upon the same; and to prevent water settling or accumulating between the sections of the cross-arm the lower portion is rounded at 13, as clearly shown in Figs. 1, 2 and 3, and Figs. 5 to 8, inclusive.

In Fig. 5, I have shown a structure in which the section 1^a of the cross-arm is placed underneath with the opening to the saw-cut on the under side, the idea being to insure that no moisture may enter the space between the main portion of the cross-arm and the section 1^a.

In Fig. 6, I have shown a form of cross-arm, substantially the same as that illustrated in Fig. 1, but in which a single bolt is employed to clamp the section 1^a to the portion 1 of the arm; the meeting face of such

section carrying a pair of the clamping insulator halves which register with a similar pair carried by the meeting face of main portion 1 of the cross-arm and confine a pair of 5 wires or conductors 6 in place. The end of the saw-cut is curved at 14.

In Fig. 7, the saw-cut 4 which forms the sections 1^a is taken at an angle with respect to the cross-arm, so that any moisture that 10 may enter in the space between said parts will run off freely.

In Fig. 8, I show a form of insulator that may be screwed to a bar to be mounted above the regular cross-arm carrying the other 15 halves of the insulators. The upper bar will be held to the cross-arm by the usual bolts and nuts. In this instance, the halves of the insulator may be provided with ribs 20 and grooves 21 on opposite sides, arranged to 20 engage each other when the structure is assembled, as shown in the enlarged view, Fig. 9, clearly illustrating this form of insulator.

In Fig. 10, I have shown a form of structure in which one set of the half sections of 25 the clamping insulators 5 are dovetailed into the cross-arm, while the complementary halves 5^a are provided with ears 22 through which screws 23 are passed to confine them 30 to said cross-arm and in proper position with respect to the halves of the insulators carried by the latter.

In all forms of my improved structure, the part carrying the lower half of the clamping 35 insulator, will have its upper surface rounded so as to shed rain falling upon the same. The clamping insulators may be made of porcelain, glass or any other suitable material.

I claim:

40 1. A cross-arm for electrical conductors, comprising a continuous member secured to the pole, independent sections carried by said continuous member, means for holding said sections to the continuous member, and insulator sections carried by said cross-arm 45 sections and the continuous member between which the wires are clamped, said insulator sections being immovably fixed in their supports.

50 2. A cross-arm for electrical conductors,

comprising a continuous member, independent sections mounted on said continuous member, means for securing the sections and said continuous member together, and insulators between which the wires are clamped 55 dovetailed into the continuous member and the sections secured thereto whereby they may be supported when the sections of the cross-arm are in the separated condition.

3. A clamping insulator for use with wire 60 supporting sectional cross-arms, comprising registering members of the same contour immovably fixed in seats in the meeting faces of the sections of the cross-arm.

4. The combination in a cross-arm for electrical conductors, of a continuous member, 65 independent sections secured thereto, clamping insulators immovably fixed in said sections and the continuous member and registering with each other whereby the wires 70 may be confined between the same, the lowermost member carrying said insulator sections having its upper surface rounded to shed rain.

5. A clamping insulator for use with sectional supporting cross-arms, said insulator 75 comprising a pair of registering members of the same contour having bodies shaped to dove-tail into recesses formed in the meeting faces of the cross-arm sections. 80

6. A sectional cross-arm for electrical conductors, clamping insulators immovably fixed to the meeting faces of said sections, and means passing through the sections of the cross-arm adjacent said insulators to 85 prevent removal or dislodgment of the conductors.

7. A sectional cross-arm for electrical conductors, clamping insulators fixed to the meeting faces of said sections, and pins passing through said sections of the cross-arm adjacent said insulators to prevent removal or dislodgment of the conductors. 90

In testimony whereof, I have signed my name to this specification, in the presence of 95 two subscribing witnesses.

EDWIN C OTTINGER.

Witnesses:

SAMUEL H. BAIR,
PAUL R. FLURIE.