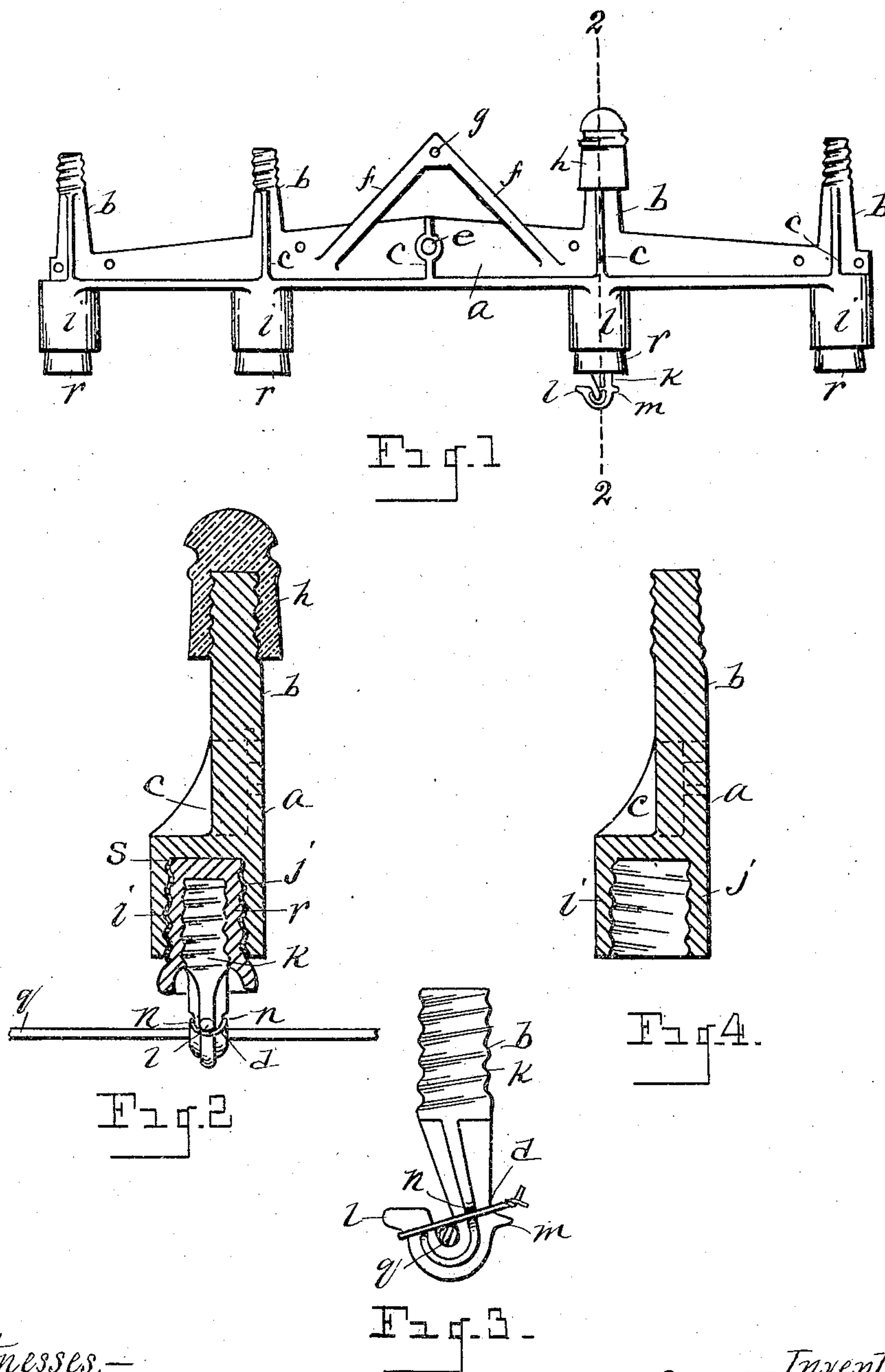


No. 838,537.

PATENTED DEC. 18, 1906.

E. S. HAMILTON.  
CROSS ARM FOR ELECTRICAL CONSTRUCTION.  
APPLICATION FILED APR. 9, 1906.



-Witnesses,-

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# UNITED STATES PATENT OFFICE.

EVLYN S. HAMILTON, OF ADRIAN, MICHIGAN.

## CROSS-ARM FOR ELECTRICAL CONSTRUCTION.

No. 838,537.

Specification of Letters Patent.

Patented Dec. 18, 1906.

Application filed April 9, 1906. Serial No. 310,692.

To all whom it may concern:

Be it known that I, EVLYN S. HAMILTON, a citizen of the United States, residing at Adrian, county of Lenawee, State of Michigan, have invented a certain new and useful Improvement in Cross-Arms for Electrical Construction, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object a novel cross-arm for electrical construction; and it consists of the mechanism hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation illustrating my invention. Fig. 2 is a view in section through one of the sustaining-sockets on the line 2 2, Fig. 1. Fig. 3 is a detail view showing one of the hooks with a line-wire secured in place thereupon. Fig. 4 is a view similar to Fig. 2, certain parts being omitted.

My invention is designed to provide a metal cross-arm having integral underhanging sustaining-sockets and upwardly-extended insulator-supporting arms.

I carry out my invention as follows:

In the drawings, *a* represents the body of the cross-bar, which is formed of angle-iron or metal of angular form, provided at intervals with upwardly-extending insulator-supporting arms *b*, said arms united also with the body by means of strengthening ribs or yokes *c*. When these ribs or yokes are located adjacent to the said arms, they not only help to support the arms, but a special feature of their use is to brace the body of the cross-arm against torsional strain, and the yokes or braces might therefore be located at any desired points within the scope of my invention. For example, a rib or yoke is shown intermediate the extremities of the cross-arm through which is formed a hole or orifice *e* for receiving a bolt to unite the cross-arm upon a pole. I have also shown brace-arms *ff* converging upwardly, as shown, and provided with bolt-orifice *g*, through which a bolt may be engaged in the pole, said brace-arms serving to stiffen the union of the cross-arm upon the pole and counteract lateral strain. These brace-arms might be led outward farther toward the extremities of the cross-arm, if desired. These braces are formed in my invention as integral parts of the cross-arm. The upwardly-extended sup-

porting-arms are shown threaded to receive insulators *h*.

From the under side of the body of the cross-arm depend sustaining-sockets *i*, formed integrally with the body, said sustaining-sockets being preferably interiorly threaded, as shown at *j*, and in which sockets are suitably engaged supporting-hooks *k*, having threaded shanks, as shown. These hooks are constructed also with outwardly-projecting shoulders *l* and *m* to support tie-wires *d* for holding the line-wires *q* from displacement in the hooks. I do not limit myself solely to the formation of the hooks with said shoulders, as the hooks may be provided with other suitable means of supporting the tie-wires within the scope of my invention. The shoulders are so arranged that the tie-wire will engage under the one and over the other, as shown in Fig. 3. The lateral edges of the hook are also preferably grooved, as indicated at *n*, to further receive the tie-wire. I have shown the hooks engaged in the sustaining-sockets by an intermediate insulator *r*, threaded into the socket and into which the shank of the hook is threaded. The insulators are preferably constructed so as to have a "skirt effect." Between the shank of the hook and the insulator I have also shown a yielding substance *s*—as of felt, for example—to diminish the liability of breaking the insulator.

A cross-arm so constructed provided with yokes or ribs to resist torsional strain, with upwardly-projecting insulator-arms, with braces to resist lateral strain, with downwardly-projecting sustaining-sockets, is believed to be novel and its superior utility and sufficiency is obvious, the cross-arm, with its yokes or ribs, upwardly-extending pins or arms, braces, and downwardly-projecting sustaining-sockets, being formed in a single integral piece.

What I claim as my invention is—

1. A metallic supporting cross-arm for electrical construction comprising a body of angular form in cross-section, having a series of yokes or ribs to resist torsional strain, a series of upwardly-projecting insulator-supporting arms or pins, and a series of sustaining-sockets projecting downwardly from the under side of the body.

2. A metallic supporting cross-arm for electrical construction comprising a body of angular form in cross-section, having a series



of yokes or ribs to resist torsional strain, a series of upwardly-projecting insulator-supporting arms or pins, and a series of internally-threaded sustaining-sockets projecting downwardly from the under side of the body.

3. A metallic supporting cross-arm for electrical construction comprising a body of angular form in cross-section, having a series of yokes or ribs to resist torsional strain, a series of upwardly-projecting insulator-supporting arms or pins, and a series of sustaining-sockets projecting downwardly from the under side of the body, all constructed in a single integral piece.

4. A metallic supporting cross-arm for electrical construction comprising a body of angular form in cross-section, having a series of yokes or ribs to resist torsional strain, a series of upwardly-projecting insulator-supporting arms or pins, and a series of sustaining-sockets projecting downwardly from the under side of the body, and a line-wire-sustaining device engaged in said sustaining-sockets.

5. A metallic supporting cross-arm for electrical construction comprising a body of angular form in cross-section, having a series of yokes or ribs to resist torsional strain, a series of upwardly-projecting insulator-supporting arms or pins, a series of sustaining-sockets projecting downwardly from the under side of the body and line-wire-sustaining

devices engaged in said sockets, said devices having threaded shanks.

6. A metallic supporting cross-arm for electrical construction comprising a body of angular form in cross-section, having a series of yokes or ribs to resist torsional strain, a series of upwardly-projecting insulator-supporting arms or pins, and a series of sustaining-sockets projecting downwardly from the under side of the body, and a line-wire-sustaining device engaged in said sustaining-sockets, said devices constructed with means to support tie wires to hold the line-wires in position.

7. A metallic supporting cross-arm for electrical construction comprising a body of angular form in cross-section, having a series of yokes or ribs to resist torsional strain, a series of upwardly-projecting insulator-supporting arms or pins, and a series of sustaining-sockets projecting downwardly from the under side of the body, and braces to resist lateral strain, all constructed in a single integral piece.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EVLYN S. HAMILTON.

Witnesses:

N. S. WRIGHT,  
E. M. SPIELBURG.