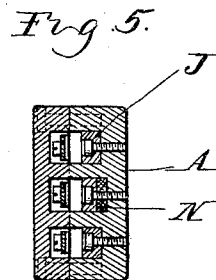
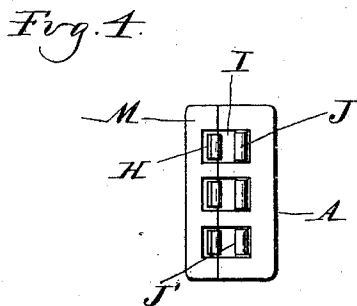
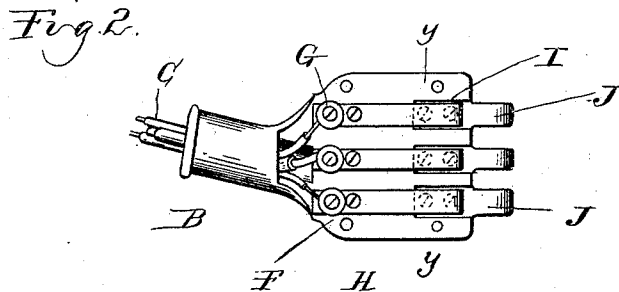
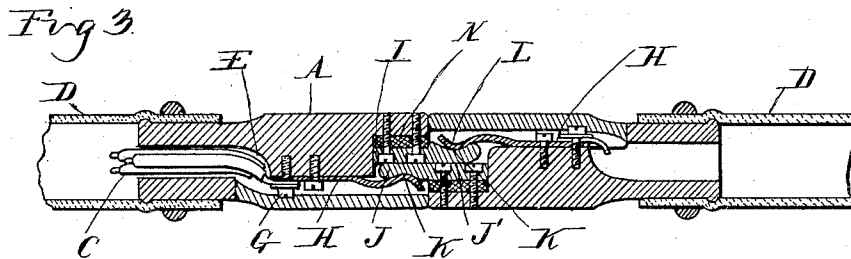
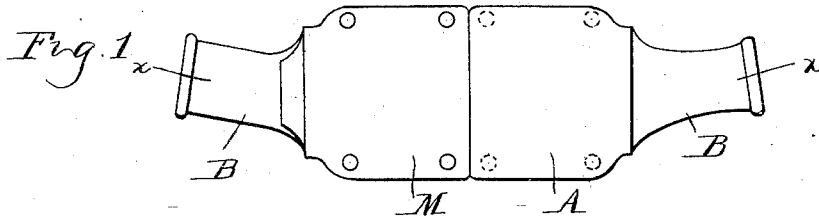


(No Model.)

J. F. McELROY.
COUPLING FOR ELECTRIC WIRES.

No. 473,637.

Patented Apr. 26, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES F. MCELROY, OF ALBANY, NEW YORK, ASSIGNOR TO THE CONSOLIDATED CAR-HEATING COMPANY, OF WHEELING, WEST VIRGINIA.

COUPLING FOR ELECTRIC WIRES.

SPECIFICATION forming part of Letters Patent No. 473,637, dated April 26, 1892.

Application filed November 24, 1891. Serial No. 412,949. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. MCELROY, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Couplings for Electric Wires, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to new and useful improvements in couplings for electric wires, designed especially for use in connecting the electric lighting or signaling wires between the cars of railway-trains.

15 The invention consists in the peculiar construction of corresponding coupling-heads adapted to automatically connect the ends of the wires when coupled and to automatically disconnect upon the separation of the cars, leaving no exposed metal terminals.

20 The invention further relates to the peculiar construction of the heads of a substantially plane block of insulating material, with the contact-springs secured to a plain face thereon and a removable recessed cap therefor, whereby the construction is simplified, and all the parts are readily accessible for repair or renewal, all as more fully hereinafter described.

25 In the drawings, Figure 1 is a side elevation of my improved coupler, showing two members coupled. Fig. 2 is a similar elevation of a single member, with the cover detached. Fig. 3 is a central longitudinal cross-section on line *x x*, Fig. 1. Fig. 4 is an end elevation of one of the members; and Fig. 5 is a vertical section on line *y y*, Fig. 2, with the cover replaced.

30 I have shown my invention as applied to a three-wire system of electric-car lighting. It is obvious, however, that it may be applied with one, two, or more wires.

35 A is a substantially rectangular block of insulating material—such as hard rubber—having the hollow nipple B at one end, through which the wires C pass and to which a hose D may be secured. This opening in the nipple at the rear of the coupler-head connects with a lateral passage E, extending to the side of the head to permit the ends of the wires to

engage upon the flat face F of the coupler-head, (which is at one side of the central line of the coupler,) being secured thereto by means of binding-screws G.

H are contact-springs secured at their rear ends by the screws G and extending to near the front of the coupler-head.

I are notches or grooves formed in the forward end of the head A, and in which are secured the forwardly-extending metallic tongues J, their inner faces J' forming flat contact-faces in line with the central line of the coupling, and their outer faces provided near the end with a notch or groove K. The ends of the springs H overhang the inner ends of the tongues J and are provided with bends or lugs L, corresponding to the grooves in the tongues.

The overhanging portion of the springs H, it will be seen, are normally separated from the tongues a distance a little less than the thickness of the outwardly-extending portion of the tongue.

M is a recessed or grooved cap or cover adapted to be secured over the side of the coupler-head to cover the ends of the conductors, the springs, &c. This cover is detachably secured in position, so that it may be removed to expose the flat face of the coupler-head and all the connections thereon.

To couple together two members of my coupling, they are brought end to end and moved together, the flat faces J' of the tongues in contact. The ends of these tongues will pass beneath the springs H until the bends of the springs L engage in the notches or grooves K, which will hold the two members together. It is evident that the contact-springs in the opposite members will not only hold the parts from end movement, but will also clamp the two tongues tightly together, making a perfect electrical connection through the coupler. Upon the separation of the cars, the two parts will disengage, and the springs in each coupler-head being entirely within the head normally separated from the projecting tongues, no metal terminal will be exposed.

In using a coupling for three wires I find it desirable to connect one or more of the tongues loosely with the coupler-head. Other-

wise by warping or from other causes only part of the tongues may make proper engagement and contact.

In the construction I have here shown I have placed an elastic cushion N beneath the middle tongue, so that it may accommodate itself to any slight inaccuracy in the parts, and effect a perfect coupling, both mechanical and electrical.

What I claim as my invention is—

1. In a coupler for electric wires, the combination, with two corresponding heads, of metallic tongues projecting beyond the heads and arranged to closely engage with each other when the coupling is made, the outer face of the tongues being formed with suitable shoulders, and contact-springs forming terminals for the circuit arranged within the head, their outer ends engaging the projecting ends of the tongues of the opposite heads to form a coupling and to closely unite the respective tongues, substantially as described.

2. In an electric coupler, the combination

of a coupling-head of insulating material having an upper flat face, of contact-springs secured to the rear end of this face and extending to near the forward end of the head, an interiorly-grooved cap secured upon the head and inclosing the springs, and the forwardly-extending metallic tongues, arranged as and for the purpose described.

3. In a coupler for electric wires, the combination of two heads of insulating material, a series of metallic tongues forwardly extending therefrom, one or more of said tongues being yieldingly supported in the head, and of springs to engage with said tongues within the heads, substantially as and for the purpose described.

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

JAMES F. McELROY.

Witnesses:

EDWIN A. SMITH,

H. J. NODINE.