

(No Model.)

C. G. PERKINS.

COUPLING DEVICE FOR ELECTRICAL CONDUCTORS.

No. 349,809.

Patented Sept. 28, 1886.

Fig. 1.

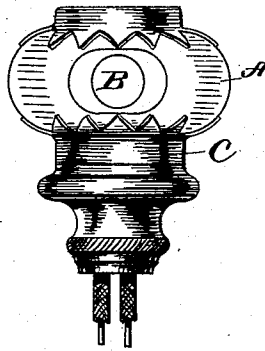


Fig. 2.

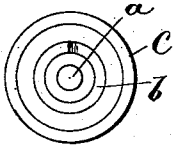


Fig. 3.

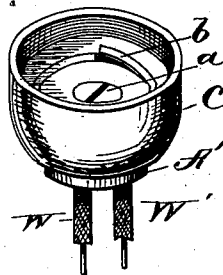


Fig. 4.

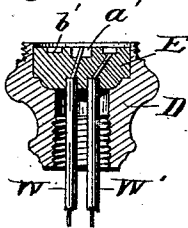
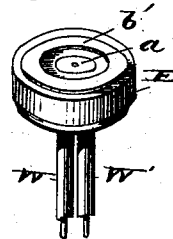


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES G. PERKINS, OF NEW YORK, N. Y., ASSIGNOR TO THE IMPERIAL
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COUPLING DEVICE FOR ELECTRICAL CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 349,809, dated September 23, 1886.

Application filed November 25, 1884. Serial No. 148,788. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Coupling Devices for Electrical Conductors; 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.

While my invention has reference, primarily, to coupling devices for the conductors of electric incandescent lamps, and is intended to be employed as a means both for preserving the continuity of the electric circuit and for joining the lamp mechanically to its support, it is also applicable to any conductor or series of conductors, and need not be restricted to a single use.

The object of my invention is to furnish means for coupling electrical conductors which shall be mechanically simple, convenient, and strong, and which shall insure good electrical contact, while maintaining the perfect insulation of conductors not designed to form a continuous circuit. The conductors to be coupled may be the direct and return wires of a circuit or circuits, as in the case of lamp-conductors, or they may be either the direct or return wires of a telegraph or other circuit.

In the accompanying drawings, which illustrate my invention and form a part of this specification, Figure 1 represents my improved coupling device as applied to a safety cut-out for electric incandescent lamps. Fig. 2 is a bottom view of the said cut-out, showing one of the coupling members. Fig. 3 is a perspective of the same coupling member, showing the construction I use in applying my coupler to telegraph-wires. Fig. 4 is a section of the second coupling member, and Fig. 5 is a perspective of a part of the same.

Referring to Figs. 1, 2, 4, and 5, A is a safety cut-out, and B a safety-plug contained therein, these parts being of any desired construction. The cut-out may be said in this instance to form a part of one of my coupling members, as it carries the terminals *a b* for making electrical contact with similar terminals on the

other coupling member. A metallic ring, C, screw-threaded on its inner side, as shown, is attached rigidly to the exterior of the cut-out and forms, with the latter, the first coupling member, the mechanical function of coupling the members being performed mainly by the screw-threaded ring. In like manner the second member of the coupler is made up of two parts, one of which, D, is of metal and screw-threaded, as shown, for attachment both to the first coupling member and to an arm of an electric-lamp fixture. The other part, E, is a block of insulating material and carries the circuit terminals *a' b'* for making electrical contact with the terminals *a b* when the halves are screwed together. Fig. 5 gives a separate view of this part with the circuit-wires attached, and Fig. 4 shows the wires *w w'* connected one to the pin or disk terminal *a'*, and the other to the ring-terminal *b'*. The insulating-block E is shaped to lie loosely in the ring D, this construction allowing line-wires to be joined without twisting, and being also adapted, as will be seen, to use in connection with electric-lamp fixtures.

For some uses of my coupler the ring C may be loose upon its insulating-block, and the ring E rigidly secured to block D; or both rings may be free to move with relation to their blocks. Ordinarily in putting up electric-lamp fixtures the circuit-wires are left projecting an inch or more beyond the end of each arm. In making connection with my coupling the ring D is first screwed upon an arm, and the block E, which has been previously perforated for the reception of the wires, is applied to the conductors by soldering or otherwise attaching the disk or pin *a'* to one of the same and the ring *b'* to the other. The wires *W W'* may be cut off at the proper distance beyond the end of the fixture-arm to allow the block E, when attached, to rest just within the top of the ring D. On screwing the coupling members together the block E will be pushed into place. The conductors which run to the other coupling member are connected, as already indicated, to the disk, pin, or screw *a* and the ring *b*. It should be stated that the part which I have called the "ring" *b* is really a spring, as shown in Figs. 2 and 3. It is attached at one

end to the insulating portion of the first coupling member, countersunk in the same for the greater part of its length, and raised at its opposite extremity to form a spring, whereby good electrical contact is maintained when the coupling members are joined. The ring terminal *b*' is countersunk in the block throughout its whole circumference.

Fig. 3 shows my first coupling member as it appears when applied to line-conductors. *W* and *W'* are the wires of a telegraphic, telephonic, or other circuit or circuits. *A'* is the insulating-block corresponding to the cut-out block *A*. *C* is the metallic ring; *a*, the disk, pin, or screw terminal, and *b* the ring-terminal.

My device is simple, strong, and easy of manipulation, and there is no reason why it should not secure and maintain perfect electrical contact.

It will be observed that the ring-terminals and the pin-terminals at the center of the rings have special mechanical as well as electrical functions in connection with the screw attachment, as their contact does not depend upon the number of turns given to the screw.

In addition to the uses recited above to which I may apply my invention, it should be noted that my coupling device is admirably adapted to form a means of coupling the conductors of a railway-car telegraph system.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a coupling device for electrical conductors the members of which are provided with corresponding screw-threads for attachment each to the other, the central pin-terminals and the ring-terminals, substantially as described, whereby when the members are

screwed together certain contact will be made between the corresponding terminals.

2. In a coupling device for electrical conductors the members of which are provided with corresponding screw-threads for attachment each to the other, the central pin-terminals, the countersunk ring-terminals, and the raised ring-terminals, whereby, when the members are screwed together, certain contact will be made between the corresponding terminals, and whereby spring contact will be made and preserved between the corresponding ring-terminals.

3. The combination, with screw-threaded coupling members carrying circuit-terminals, of means for operating the screws to make contact between the terminals without twisting the wires connected therewith, substantially as described.

4. The combination, with insulating-blocks carrying circuit-terminals, of screw-threaded rings for connecting the insulating-blocks, one or both of the said rings partially inclosing the said blocks and being free to move with relation thereto, whereby the terminals may be brought into firm contact by screw-pressure without twisting the wires connected with the said terminals.

5. The combination, with two insulating-blocks carrying the circuit-terminals of an incandescent lamp, of couplers for joining the two insulating-blocks and means connected with one of the couplers for joining it to an arm of an electric-lamp fixture.

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

CHARLES G. PERKINS.

Witnesses:

GEO. C. COFFIN,
GEO. C. WILDE.