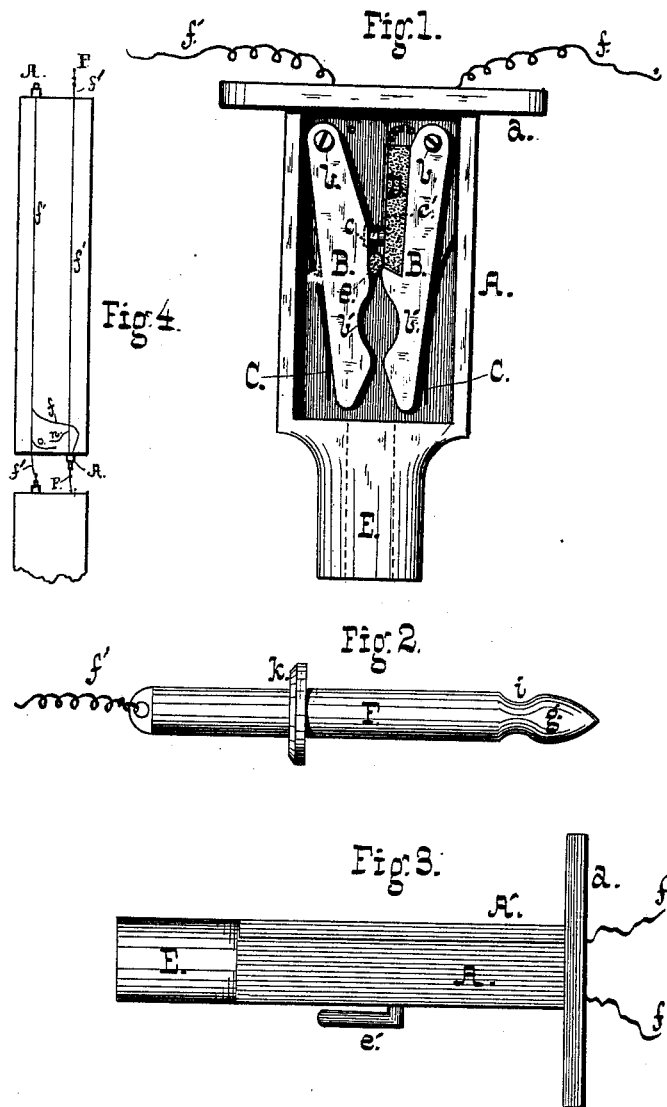


H. M. GREEN.
Coupling for Electric Annunciator Conductors.
No. 219,936. Patented Sept. 23, 1879.



Witnesses,
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN COUPLINGS FOR ELECTRIC-ANNUNCIATOR CONDUCTORS.

Specification forming part of Letters Patent No. **219,936**, dated September 23, 1879; application filed August 5, 1879.

To all whom it may concern:

Be it known that I, H. MORTON GREEN, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Couplings for Electric Annunciators; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of the coupling, the cover-plate being removed. Fig. 2 is a side elevation of the coupling-bolt; Fig. 3, a similar view of the coupling; and Fig. 4, a plan view, illustrating the adaptation of the device to the cars of a railway-train.

My invention has reference to that class of devices in use for transmitting signals from the cars of a railway-train to the engineer; and it consists in a device for coupling the wires between the cars, constructed and operating as hereinafter set forth.

In the accompanying drawings, A is a casing, preferably metallic, having an end flange, *a*, perforated for the purpose of attaching it by means of screws to the end of the car. It is provided with a close cover, A', which is fastened in place in any convenient way.

Within the casing A are pivoted at *b b* a pair of tongues, B B, recessed at *b' b'* to receive the head of the coupling-bolt F. Springs C C normally press the tongues together. One of the tongues is provided with a platinum plate, *c*, against which a contact-point, *c'*, upon the other is pressed.

The point *c'* is embedded in a piece of hard rubber, D, secured on the tongue B, and is in electric connection with the wire *f* that passes through a hard-rubber thimble in the casing A.

An elliptic or cam-shaped block of hard rubber, *e*, occupies a position between the tongues B B, and is capable of revolution by means of the handle *e'* under the casing. (See Fig. 3.) The block *e* is of such size that when its major axis is parallel to the tongues B B, the point *c'* and plate *c* are allowed to come in contact, but when transverse thereto, they are held apart.

F is the coupling-bolt, having a head, *g*, of a shape and size to fit in the recesses *b' b'* of the tongues, and adapted to be inserted through

the tubular end E of the casing A. A flange, *k*, brings up against the casing when the bolt is inserted the proper distance, and prevents its being pushed in too far. The connecting-wire *f'* is attached to the end of the bolt. Such is, in general terms, a description of the device.

In operation one of the couplings A is secured on each end of the car on opposite sides, as shown in Fig. 4. The connecting-wire *f'* leads straight through the car to the opposite end, where it is attached to a bolt, F. The insulated wire *f* is attached in each car to the opposite wire *f'*, and from each wire *f'* leads a connection, *o n*, to a suitable key, which is operated by a cord running from end to end of the car. The circuit is kept open at the rear of the train by means of an isolated bolt, F, or the block *e* may be turned, if desired. The wires communicate with an ordinary electric gong on the engine, where a suitable battery is located in the circuit. As the wires *n o* are brought in contact when the cord is pulled, the gong is sounded, according to a predetermined code of signals. Should the cars become detached, the bolts F simply pull out, and the gong is sounded as the tongues B B come together, closing circuit.

The tube E subserves the double purpose of directing the bolt F centrally between the tongues as the parts are coupled, and of preventing any strain from being brought upon the tongues.

The object of having the couplings at the ends of the cars on opposite sides is to insure the proper coming together of the bolts and couplings. Were they on the same side of each car a great and inconvenient length of connecting-wire would be needed to meet the contingency of the reversal of any car, or else such car would need to be turned on a Y or turn-table, in order to be coupled in the circuit.

The object of the block *e* is to keep the tongues apart as a train is being coupled up, as otherwise the gong would continually ring.

The device is simple in construction, thoroughly efficient in operation, and as the only orifice (the tube E) is closed while in use, dust or cinders are excluded, and liability to get out of order is reduced to a minimum.

Having thus described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. In a railway electric-signal apparatus, the couplings A A, having wires $f f'$, the wire f' of one coupling being joined to the wire f of the other, substantially as described.

2. In combination with the coupling A, having spring-tongues B, the circuit-breaker e , substantially as described.

3. In combination with the coupling A, having spring-tongues B and the tube E, the headed connecting-bolt F, substantially as described.

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