

(No Model.)

A. L. JOHNSON.
COMBINED NUT LOCK AND ELECTRICAL CONNECTION FOR
RAILROAD RAILS.

No. 497,963.

Patented May 23, 1893.

Fig. 1.

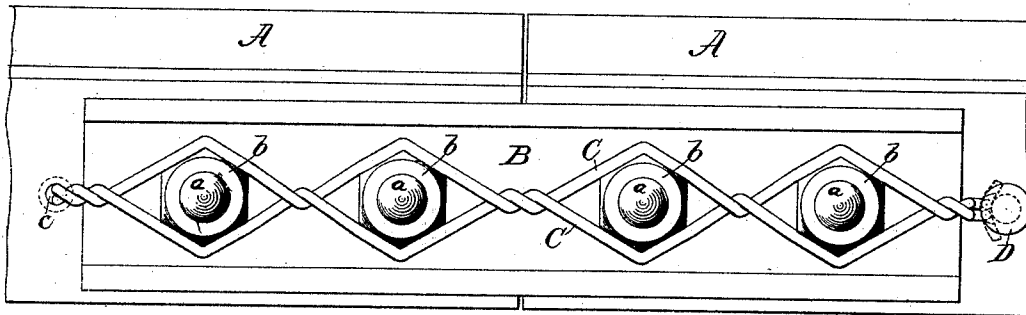


Fig. 2.

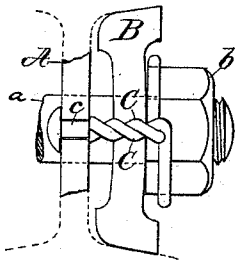


Fig. 3.

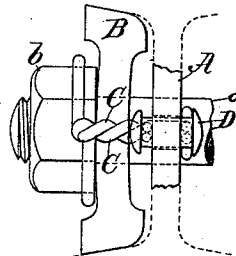
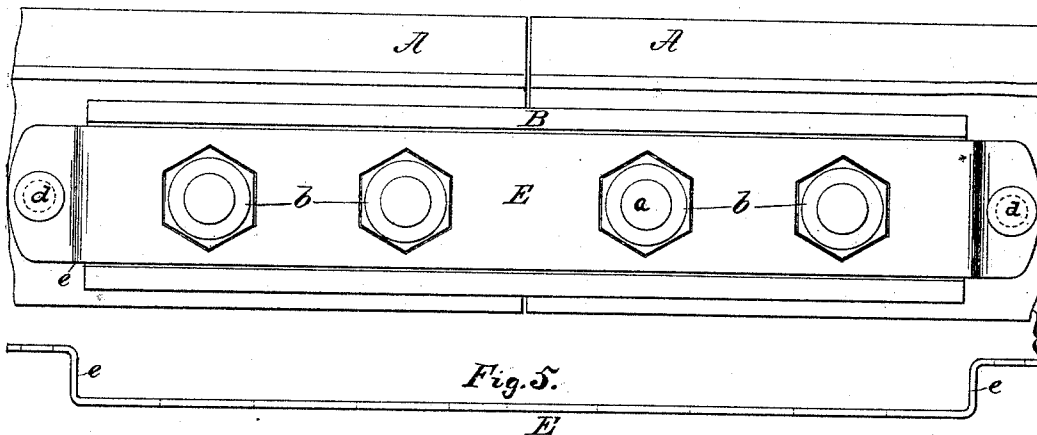


Fig. 4.



WITNESSES :

WITNESSES:
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ALBERT L. JOHNSON, OF CLEVELAND, OHIO.

COMBINED NUT-LOCK AND ELECTRICAL CONNECTION FOR RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 497,963, dated May 23, 1893.

Application filed April 27, 1892. Serial No. 430,858. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. JOHNSON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Combined Nut-Lock and Electrical Connection for Railroad-Rails, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention is to provide a device which shall serve both as a nut-lock and as an electrical connection between adjacent rails.

The invention will first be described in detail and then particularly set forth in the claims.

In the accompanying drawings, Figure 1 shows in side-elevation one form of a device embodying my invention. Fig. 2 is an end-view, having some of the parts broken away, of Fig. 1, looking from the left. Fig. 3 is an end-view, partly in section, of Fig. 1, looking from the right. Fig. 4 shows in side-elevation a modification of my device. Fig. 5 shows the part marked E, in Fig. 4, detached.

In said figures the several parts are respectively indicated by reference letters as follows:—

The letters A, A, indicate two railroad rails, united by fish-plates B, said fish-plates or rail joints being secured to the rails by bolts a, provided with nuts b.

In Figs. 1, 2 and 3, the letters C, C, indicate copper wires, or wires of material that is a good conductor of electricity. These wires are bent so as to embrace the nuts a, and cross each other between said nuts, where they are preferably twisted together as shown in Fig. 1. Beyond the ends of the fish-plates or rail joints B, the wires C may be electrically connected with the respective rails in any suitable manner, two methods of connection being shown in Fig. 1, one at the left hand side of said figure and the other at the right hand side. At the left hand side the

ends of the wires C, are swaged or pressed into a shank c (Fig. 2) which shank is passed through a hole in the web of the rail and riveted. At the right-hand side, the ends of the wires C are passed through a hole in the web of the rail, after which a rivet D (Fig. 3) is passed through said hole and riveted, which riveting bends or upsets the heads of the rivet and so locks the wires.

In Fig. 4, instead of the wires C, a strip or plate of metal E, is used, which plate is preferably of copper and has a series of holes punched therein adapted to fit, respectively, the nuts b. The ends of this plate, beyond the fish-plate or rail joint B, are offset, as shown at e (Figs. 4 and 5) to engage the rails A, to which said plate may be secured by bolts or rivets d, or in any other suitable manner.

It will be observed from the above description that the device herein described not only serves the purpose of a nut-lock for the nuts securing the fish-plates or rail joints of a rail-joint, but also serves as an electrical connection between adjacent rails for an electric railway.

Having thus fully described my said invention, I claim—

1. The combination with a rail joint secured to rails by bolts and nuts, of a nut locking device adapted to secure said nuts and to transmit electricity, the ends of said nut locking device being connected to the rails so as to form an electrical connection.

2. The combination with two adjacent rails, of a fish plate uniting said rails and secured thereto by bolts and nuts, a nut locking device common to all said nuts, said device being adapted to transmit electricity and the ends of which are connected to the rails so as to form an electrical connection.

ALBERT L. JOHNSON.

Witnesses:

CHAS. C. REEVE,
H. J. DAVIES.