

(No Model.)

J. HARRISON.
SECURING RAILS IN RAILWAY CHAIRS.

No. 418,891.

Patented Jan. 7, 1890.

Fig. 1.

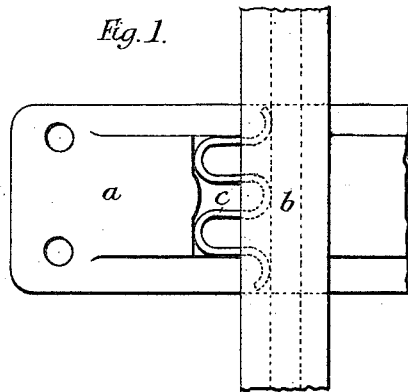


Fig. 3.

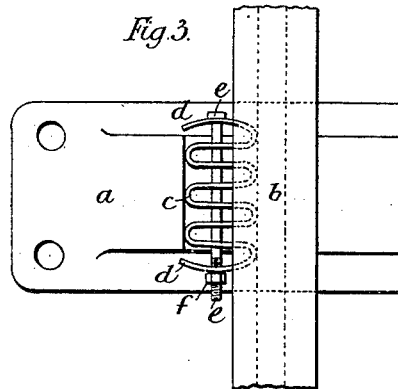


Fig. 2.

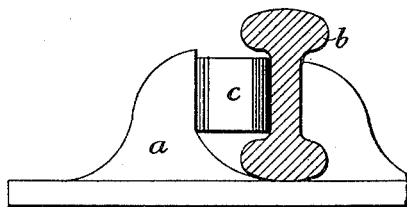


Fig. 4.

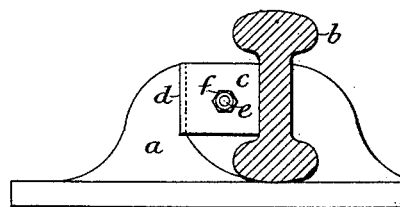


Fig. 5.

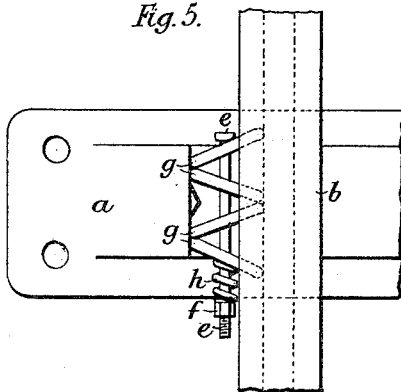
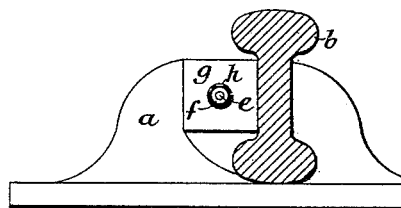


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN HARRISON, OF STAMFORD, COUNTY OF LINCOLN, ENGLAND.

SECURING RAILS IN RAILWAY-CHAIRS.

SPECIFICATION forming part of Letters Patent No. 418,891, dated January 7, 1890.

Application filed July 24, 1889. Serial No. 318,500. (No model.) Patented in England February 18, 1886, No. 2,367.

To all whom it may concern:

Be it known that I, JOHN HARRISON, a subject of the Queen of Great Britain, residing at Stamford, county of Lincoln, England, have invented new and useful Improvements in Securing Rails in Railway-Chairs, (for which a patent has been granted to me in Great Britain, No. 2,367, dated February 18, 1886,) of which the following is a specification.

My invention relates to the securing of railway-rails in chairs of that class in which wooden wedges are usually employed, and has for its object to replace the wooden wedges by metallic keys so constructed that they will adapt themselves to the irregularities of the rail and chair without injury and automatically tighten themselves in case of wear or movement.

In carrying out my invention I prefer to make each key of a strip of steel plate having corrugations (somewhat like the letter **M**) which are rather deeper than the width of the space the key will occupy when in position in the chair.

My invention will be clearly understood by reference to the accompanying drawings, in which—

Figure 1 is a plan of a railway-chair with a rail secured therein by means of a key constructed according to my invention. Fig. 2 is an elevation of the same. Figs. 3 and 4 are views similar to Figs. 1 and 2, respectively, illustrating a modified form of key; and Figs. 5 and 6 are similar views, illustrating another modification.

Similar letters of reference indicate corresponding parts in the several figures.

a is the chair, *b* the rail, and *c* my improved key. This key, as hereinbefore stated, is formed by corrugating a steel plate, as shown, the corrugations being somewhat deeper than the distance between the web of the rail and the jaw of the chair. To introduce the key into the chair as shown, it is elongated to reduce its width, and when in position released, so that it contracts longitudinally and expands laterally. As, however, the space between the rail and the chair is too small to allow the key to assume its normal shape, the bows or crowns of the corrugations wedge or bed themselves alternately against the chair

and the rail, adapting themselves without injury to any irregularities of surface and taking up any wear or movement, whereby the rail is firmly secured.

In the modification of my invention shown in Figs. 3 and 4 the ends of the key are made to project outward from the rail slightly beyond the cheek of the chair, as at *d*, to prevent the said key from working out, and when a firmer grip is required than the resistance of the key is able to exert a bolt *e* is passed through the key from end to end and tightened by means of a nut *f*.

Instead of making the key of one piece of metal, I can construct it of several pieces or plates *g*, as shown in Figs. 5 and 6. In this case each strip is rather longer than the width of the space between the rail and the chair and has a hole through it. These plates are placed in the chair to incline alternately to the right and to the left, and may be made either to butt against or hook into each other at the point where they come in contact with the chair and rail. A bolt *e* is passed through the holes, and has a nut for tightening or contracting the plates, and a spring or spring-washer *h* can be placed under the nut to render the key self-tightening when adjusted.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is—

1. A key for securing rails in railway-chairs, portions of said key extending transversely of its length, and all of said portions lying in the same horizontal plane, substantially as described.

2. A key for securing rails in railway-chairs, portions of said key extending transversely of its length, and all of said portions lying in the same horizontal plane, said key being provided with means for simultaneously adjusting it longitudinally and laterally, substantially as described.

3. A key for securing rails in railway-chairs, portions of said key extending transversely of its length, and all of said portions lying in the same horizontal plane, said key being adjustable laterally by means of a bolt and nut, substantially as described.

4. A key for securing rails in railway-chairs,

portions of said key extending transversely of its length in the same horizontal plane, said key being adjustable by means of a bolt and nut, and said bolt being provided with a spring, substantially as described.

5 5. A key for securing rails in railway-chairs, consisting of a plate of elastic material, portions of which are bent transversely of the length of the key, the said transverse portion
10 lying in the same horizontal plane and being provided with openings for the reception of

a bolt adapted to receive a nut at one extremity, substantially as described.

In testimony whereof I, the said JOHN HARRISON, have hereunto set my hand this 9th day of July, A. D. 1889.

JOHN HARRISON.

Witnesses:

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