J. RADDIN.

Railway-Rail Chair.

No. 161,547. Patented March 30, 1875.

Fig. 1

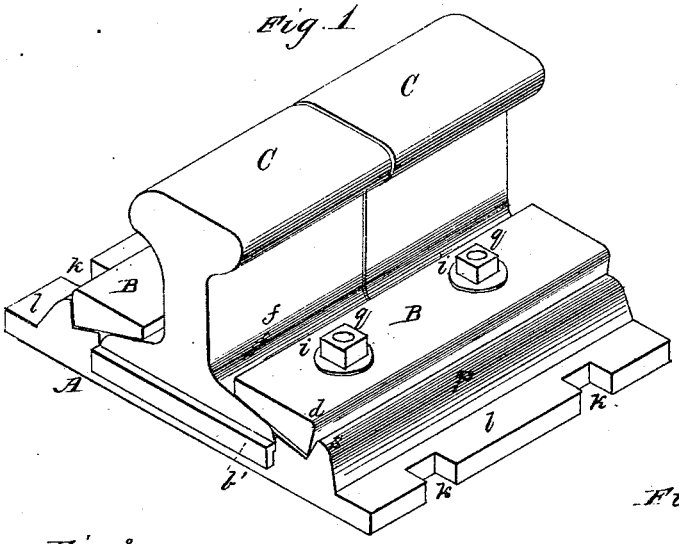


Fig. 3

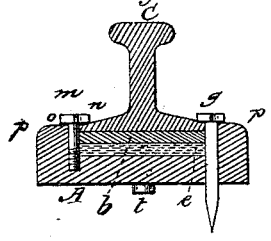


Fig. 4

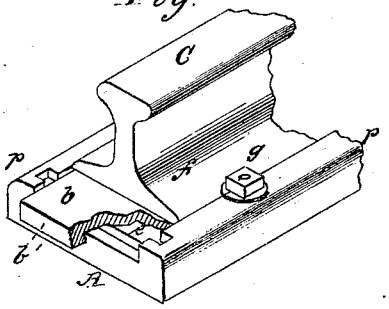
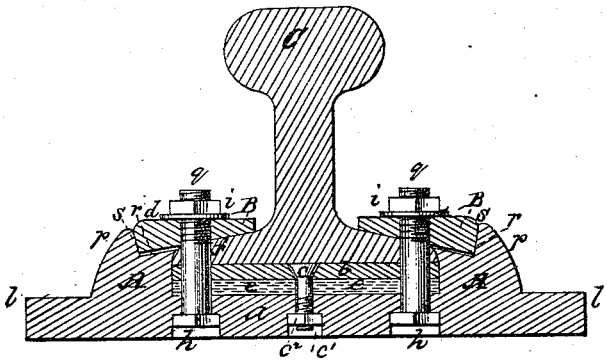


Fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN RADDIN, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN RAILWAY-RAIL CHAIRS.

Specification forming part of Letters Patent No. **161,547**, dated March 30, 1875; application filed October 26, 1874.

To all whom it may concern:

Be it known that I, JOHN RADDIN, of Lynn, Massachusetts, have invented an Improvement in Railway Joints and Chairs, of which the following is a specification:

This invention has for its object the connecting and uniting of rails, to form, in effect, a continuous rail, and the fastening of the same to the sleepers.

In order that the invention may be fully understood, I will describe the same in connection with the accompanying drawing.

Figure 1 is a perspective of the joint, and Fig. 2 is a section of the same. Figs. 3 and 4 present modifications when used as a chair.

Like letters indicate like parts in the different views.

A is the chair, provided with two parallel upward projections, *p*, recessed on the inside at the top, as shown at *r*, to furnish a shoulder, *s*, for the splicing-plate B, and separated from each other by a space sufficient to accommodate the base of the rail to be laid therein. An elastic packing, *e*, of rubber or other suitable material, is laid on the base *a* of the chair, and compressed to the desired density by a plate, *b*, which is screwed or bolted to the base of the chair *a* by bolts *c*. The bolt-hole in the plate is countersunk, and a recess, c^1, in the under side of the base *a*, holds a nut, c^2, for securing the bolt. The plate *b* is made a trifle longer than the chair, and provided with downward-projecting lips *b'*, to keep dust and grit from the packing. The rails C are next placed in position on plate *b*, between the projections *p*, the upper parts of the base *f* being flush with the upper surfaces of the recesses *r*. Two splicing-plates, B, made slightly concave on their under surfaces to better conform to the surface of the base *f* and recess *r*, and of the same length as the chair, are placed with their butts or thicker portions *d* in the recess *r*, to abut against shoulder *s*, and are made flush with the top of projection *p*, and lapped upon the base *f* of the rail C. These plates are securely bolted to the chair by bolts *q*, made with square heads and set in countersunk holes *h* of the same size in the base *a*, passing through recesses in the packing and plate *b*, and slots in the base of the rail, through holes in the splicing-plates, and the nut *i* is set from the outside onto the splicing-plate or a washer. Spikes driven into recesses *k* on the flange *l* of the chair fasten the same to the sleepers.

The modifications in Figs. 3 and 4 allow the joint to be used as a simple chair. The chair A is provided with projections *p*, the tops of which are made flush with the upper surface of the base of the rail, when the packing *e* is compressed in position by plate *b*, as above described. The rail C is secured to the chair by bolts *m*, which pass through recesses in the rail, plate, and packing, and screw into the base of the chair. The bolts are provided with square heads *n*, which lap upon the top of the projections *p* and base of the rail. Washers *o*, of rubber or other elastic material, are placed under the heads, to prevent loosening by the jar of passing trains. These bolts are placed on either side of the chair, diagonally opposite each other. The rail is further fastened to the chair and spiked to the sleeper by two spikes, *q*, which are driven in through recesses in the base of the rail, plate, and packing, and through holes in the chair into the sleeper. The heads of the spikes lap upon the projections. The chair is also provided with a projection, *t*, which is inserted in a corresponding hole in the sleeper, and serves to keep the chair in position. The spikes *q* are diagonally opposite each other.

In working my invention the packing must be tightly compressed, the object of the packing not being to furnish a spring, but to break metallic connection, and the vibration and tremor thereby occasioned, by the interposition of some non-conducting material.

I claim and desire to secure by Letters Patent—

1. In a railway-joint, the combination of the chair A, compressible packing *e*, and covering-plate *b*, securely bolted to the chair and compressing the packing, substantially as described.

2. The combination of the splicing-plates B and rails C with the chair A, when constructed with a plate confining an elastic cushion, as described, all bolted together, substantially as specified.

JOHN RADDIN.

Witnesses:
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