R. S. Potter.

Railroad Chair.

No. 23,390. Patented Mar. 29, 1859.

Fig. 4.

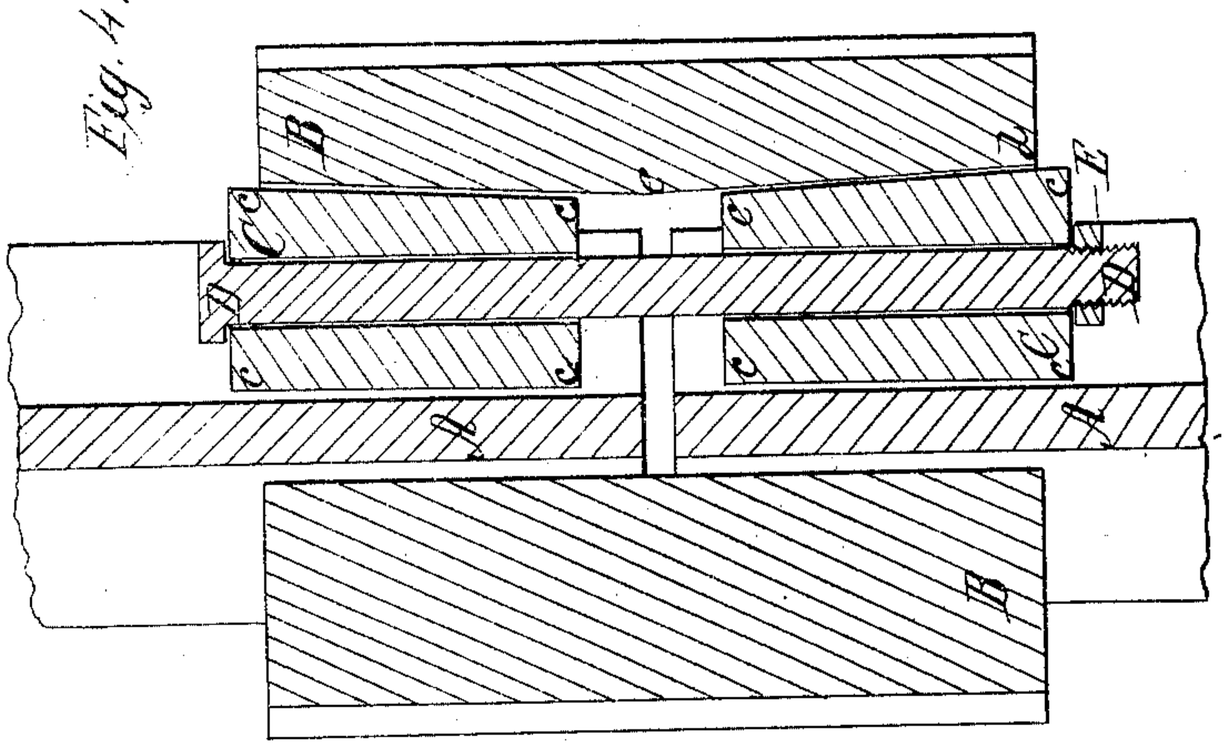


Fig. 3.

Fig. 1.

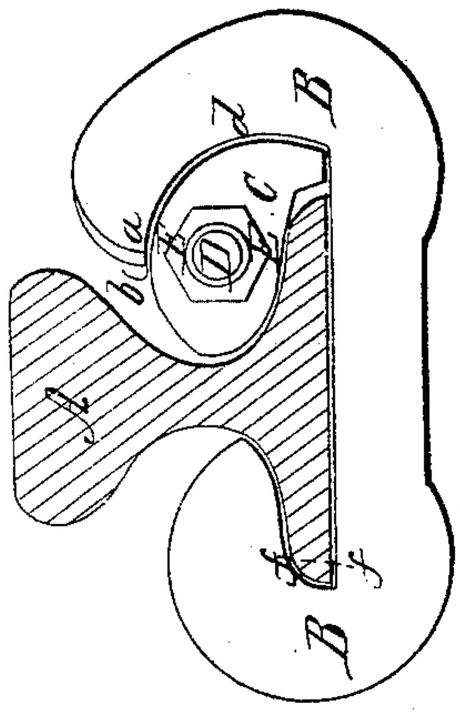
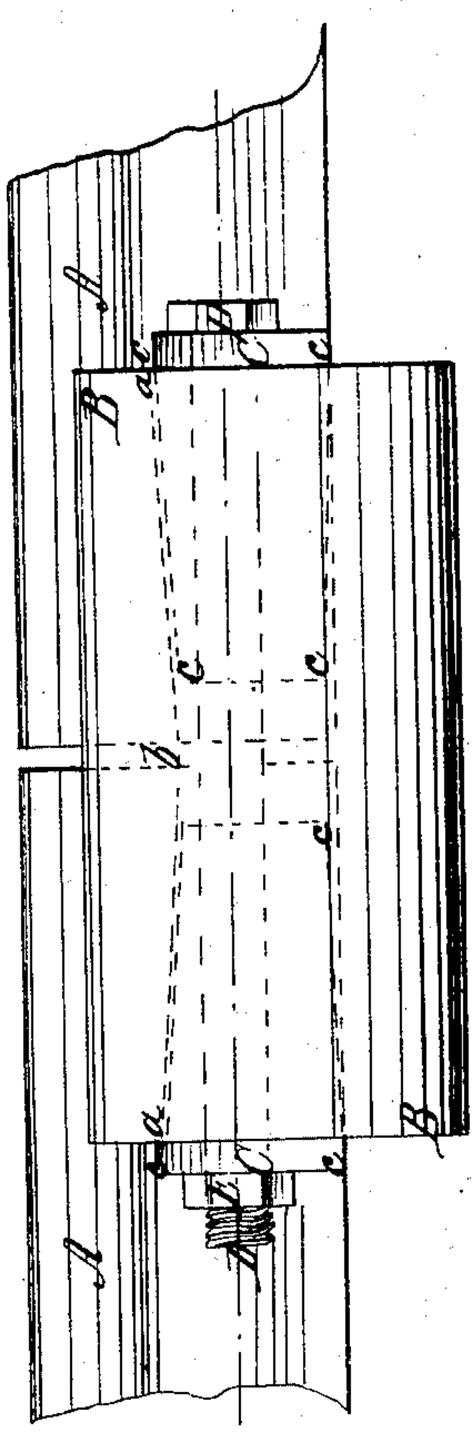


Fig. 2.



Witnesses;
L. L. Bowe
George Coatsworth

Inventor;
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UNITED STATES PATENT OFFICE.

RANSOM S. POTTER, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN RAILROAD COUPLING-CHAIRS.

Specification forming part of Letters Patent No. **23,390**, dated March 29, 1859.

To all whom it may concern:

Be it known that I, RANSOM S. POTTER, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful improvement on a rail-coupling chair for the purpose of confining the ends of iron rails used in the construction of railroad-tracks so that they are held vertically and horizontally in line with each other, so as to prevent displacement in either direction, secure the ends of rails from injury, and to relieve the rolling-stock from the wear and tear consequent upon uneven tracks, and called a "rail-coupling chair;" and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an end view of the chair rail-key, head of bolt, &c.; Fig. 2, an elevation of side of the same; Fig. 3, a smaller end of key or wedge, and Fig. 4 a section on red line.

Of Figs. 1 and 2, A represents rail; B, chair; C, wedge; D, bolt, with screw at head; E, head of bolt; *a*, inner edge of lip of chair; *b*, edge of lip of chair at center of chair; *c c c c*, corners of wedge or key; *d*, inner edge of chair on section-line at end; *e*, same at center of chair; *ff*, niche to confine rail to chair.

In the ordinary method of laying the rails for railroad-tracks the chairs are placed upon broad ties specially prepared for them, and the chairs for both sides of the track are placed upon the same tie, so that the rails for the two sides of the track lie in pairs and do not break joint. When a train passes over such a broad tie, it is caused to rock laterally in the earth, thus throwing up first the end of one rail and then the end of the other, abrading and rounding the ends, and causing them to work loose in the chair. This results in the speedy destruction of the rail and injury of the track. My improved chair is intended to meet these disadvantages of the ordinary mode of construction by doing away with the necessity for chair-ties by reason of the character of the support given to the joints being such as to enable the rails to be joined by the chairs between the ties, and consequently the rails on the opposite sides of the track to break joint. This arrangement is believed to approximate as nearly in solidity and durability to a continuous rail as possible. The advantageous effect of my invention is principally due to the conoidal form given to the outer surfaces of the wedges, and to the corresponding inner surfaces of the outer lip of the chair, in combination with the overhanging form imparted to the upper edge of said lip, as shown, which combination insures perfect vertical, as well as lateral, support to the joint, limited only by the strength of the materials of which the chair and wedges are made.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct the chair of cast or wrought iron plates, with the sides folded over on each side of the bottom flange of the rail, the inside fitting close to the flange and part of the neck of the rail, and the outside made so as to afford space for the insertion of two iron wedges or keys between it and the rail from each end of the chair, as shown at Fig. 4. The space, which is conoidal in shape, diminishes in size from the ends to the center, requiring a corresponding conical taper in the wedges or keys, of which the upper and outer surfaces coincide with the part of the chair which holds them, while the lower and inner are fitted to the flange and neck of the rail. The wedges or keys are drawn from each end toward the center of the chair by means of a bolt passing through them longitudinally, thus forcing the rails by both vertical and lateral pressure firmly into the cavity on the inner side of the chair, while the wedges and keys fill the cavity on the outer side firmly and compactly, thus forming a complete and solid coupling of the rails, so that the track will be perfectly even at the joinings and possess the strength of other portions of the rail. The chair can be used either on ties or in the space between, the latter method being preferable, and is made of any size suitable to the kind of metal used.

I do not claim as my invention a chair with one key or wedge running its entire length. Nor do I claim a chair with a cavity for one key

or wedge only. Nor do I claim, broadly, the use of two wedges or keys in combination with a railroad-chair; but

What I do claim is—

The use of two wedges or keys in combination with a railroad-chair, when the outer lip of said chair is overhung in the manner described and shown, and its inner surface is of a conoidal form, as specified.

RANSOM S. POTTER.

Witnesses:
L. L. BOND,
GEORGE COATSWORTH.