

B. C. CROWLEY & J. D. KELLEY.

Railway Rail-Joints.

No. 152,551.

Patented June 30, 1874.

Fig. 1

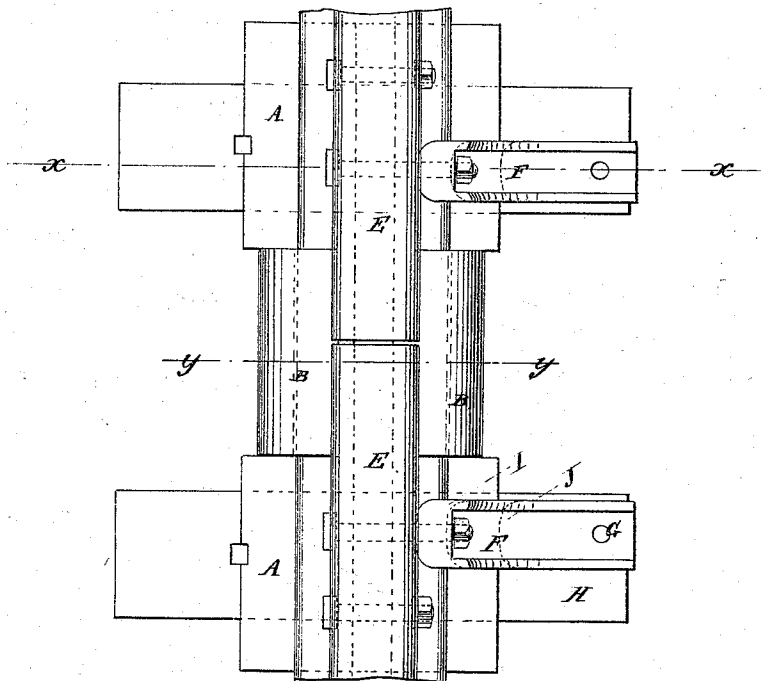


Fig. 2

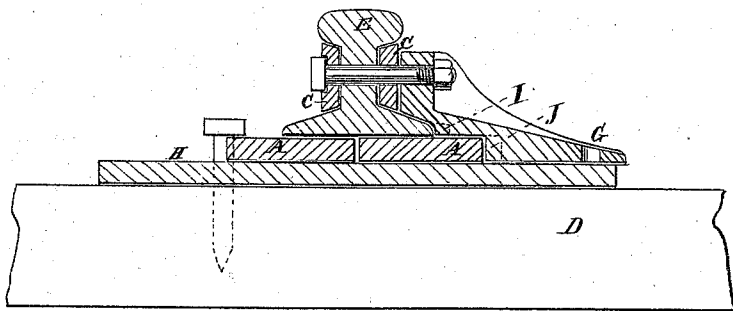


Fig. 3

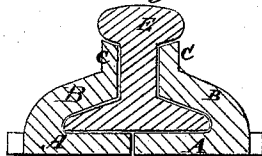
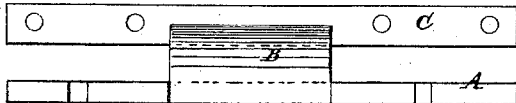


Fig. 4



WITNESSES:

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BARTHOLOMEW C. CROWLEY AND JOHN D. KELLEY, OF RENOVO, PA.

IMPROVEMENT IN RAILWAY-RAIL JOINTS.

Specification forming part of Letters Patent No. **152,551**, dated June 30, 1874; application filed March 21, 1874.

To all whom it may concern:

Be it known that we, B. C. CROWLEY and JOHN D. KELLEY, of Renovo, Clinton county, State of Pennsylvania, have invented a new and Improved Rail-Joint, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claim.

Figure 1 is a plan view of our improved rail-joint. Fig. 2 is a section on line *x x*, Fig. 1. Fig. 3 is a section on line *y y*, and Fig. 4 is a section of one of the chair and fish plates.

Similar letters of reference indicate corresponding parts.

A represents the chair-plates; B, the clips, and C the fish-plates, made of wrought metal, in one piece, the plates being long enough for extending across two ties, D, and resting at the ends on them, while the clips are of the usual length, and located at the middle, where the rails E meet in them, thus combining the chair and fish plates, which unites the bolt and spike fastening in aid of both the chair and fish plates. F represents the knee-shaped guard-chairs of cast metal, which are bolted up to the fish-plate on one side by one of the

bolts used for fastening them, and also bolted or spiked to the tie at G. The end or face, bearing against the fish-plate, also the shoulders I and J, bearing against the flange of the rail and edges of the chair, are rounded, to allow the chair to be closely bound to the several parts, and at the same time allowed to move forward and back, as the rail expands and contracts, without cramping unduly. H represents the metal plates employed under the chair-plates, to protect the ties and hold the spikes. They may be used or not, as preferred.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination of two plates, A B C, A B C, and two guard-chairs, F F, spiked upon two ties, D D, and bolted to the rails E E, in the manner described.

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Witnesses:

JOHN FLANIGAN,
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