No. 32,057.

PATENTED APR. 16, 1861.

R. FRENCH.

JOINT FOR RAILROAD RAILS.

Fig. 1.

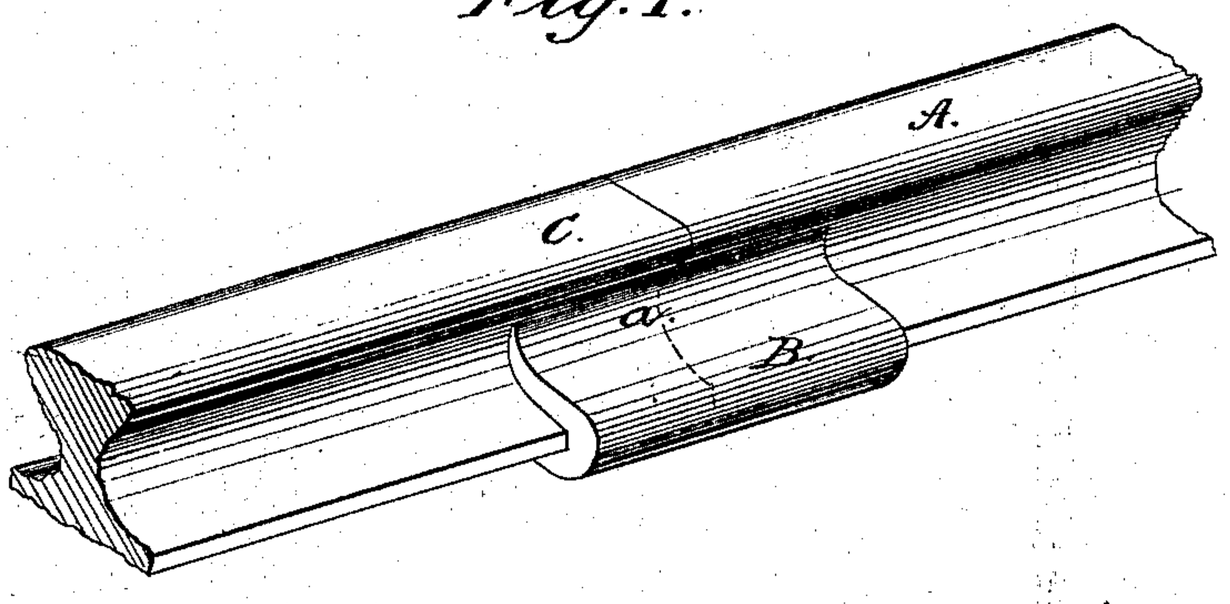
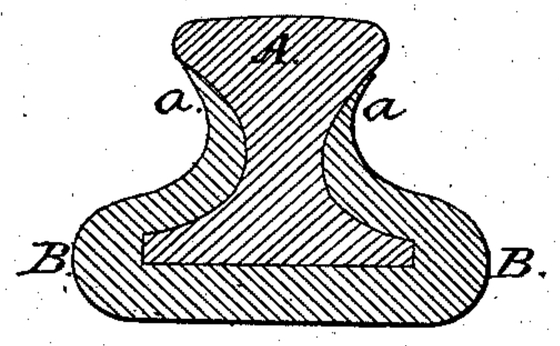


Fig. 2.



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UNITED STATES PATENT OFFICE.

RAYMOND FRENCH, OF SEYMOUR, CONNECTICUT.

JOINT OF RAILROAD-RAILS.

Specification of Letters Patent No. 32,057, dated April 16, 1861.

To all whom it may concern:

Be it known that I, RAYMOND FRENCH, of Seymour, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in the Manner of Securing Chairs, More Especially to the Joints of Railroad-Rails; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, represents in perspective, portions of two rails forming a joint with a chair placed under the joint. Fig. 2, represents a vertical cross section taken through the rail and chair.

Many plans for strengthening and uniting the ends of rail road rails, and making a firm joint that, will not yield to the rolling stock, have been devised, but the evil still exists, though in a lesser degree than heretofore.

The object of my invention is to strengthen and unite the ends of the rails where they meet, by some simple and cheap means that, will be efficient, and that will prevent, or lessen the jarring or pounding of the passing wheels, which is so destructive to the rails, or their joints.

Heretofore, so far as I know, bolts spikes, keys, or wedges, have been universally used to fasten the ends of rails to their chairs, and in whatever way these bolts, spikes, keys, or wedges may be used, their tendency is to take away from the surface contact between the rail and the chair, while the security and strength of the chair support, is in proportion to the surface contact (friction) between it and the rails. If a key or wedge be driven in between one of the jaws of the chair, and the rail, there is but little over one half of the surface of the chair that touches the rail. If two keys or wedges are used there is still less contact surface, and hence keys or wedges destroy the means by which the chair could hold tightest to the rails.

My invention consists in shrinking the chair to the rails at their joints, and thus preserving the whole surface bearing of the chair and rails, and making an extremely solid and firm joint, without the necessity of keys or wedges for holding the rails and chair together.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

One of the rails (A) having been laid in any of the usual well known ways, and fastened to the sills, a chair B, is heated, and driven onto its end; a second rail C, is then driven into the chair B, or the chair may have been driven far enough onto the rail A, so that the end of the rail C, may be laid up close to that of the rail A and then the chair B be driven back over the end of C, and when the chair cools, it will shrink up tight to the rails, holding them with a firmness second only to that of welding. A gage plate may be inserted at the joints, to keep the rails from close contact, and to provide for expansion of the rails. A slip joint may be occasionally made to, to provide for the expansion and contraction of the rails. When double tracks are used, and the trains always run in the same direction spikes or bolts may be used in connection with this joint to prevent the rails from "creeping" under the force of the driving wheels of the locomotive. As the jaws of the chair have less metal in them and would not possess so much shrinkage as the other parts of the chair, and are more likely to spread than the other portions, a clamping tool may be used to take against the jaws *a*, *a* while hot, and bring them tight up against the waist or web of the rail, and thus almost the entire surface of the rail below its face or top, may be in contact with the chair, and hold to it with great tenacity, making a very rigid joint.

Having thus described the nature and object of my invention, what I claim is—

Strengthening the joints of rail road rails, by heating, and shrinking the chair onto the joints, substantially as herein described.

RAYMOND FRENCH.

Witnesses:

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