S. FORMAN.

RAILROAD JOINTS.

No. 186,552. Patented Jan. 23, 1877.

FIG. 1.

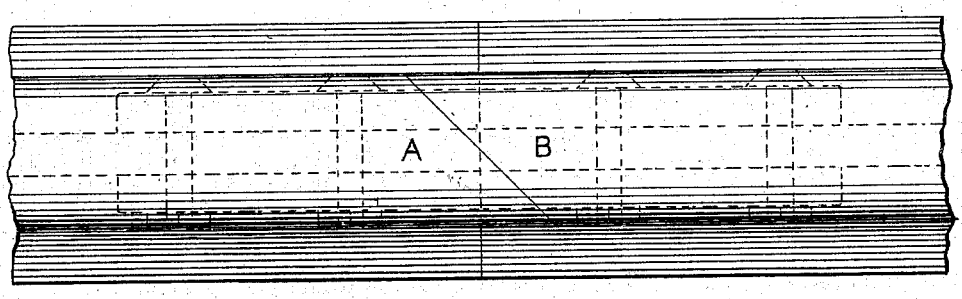


FIG. 2.

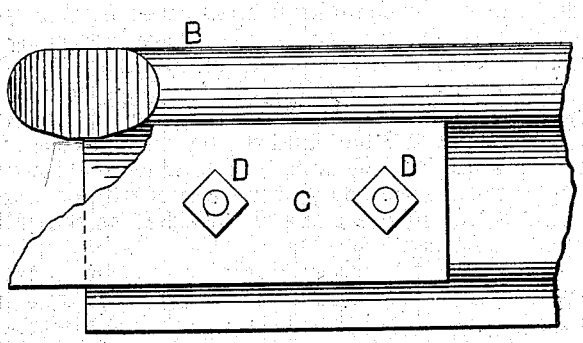
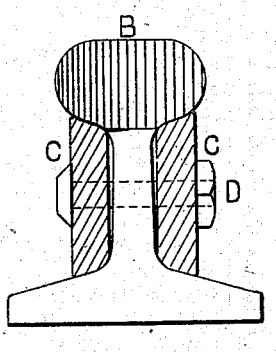


FIG. 3.



WITNESSES:

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IMPROVEMENT IN RAILROAD-JOINTS.

Specification forming part of Letters Patent No. **186,552**, dated January 23, 1877; application filed October 26, 1876.

To all whom it may concern:

Be it known that I, SANDS FORMAN, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Railway-Rail Joints, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

This invention pertains to the method of forming the joints between railway-rails; and the invention consists in forming the end of the head or "tread" of a T-rail at an angle of about forty-five degrees with the line of the rail, while the web and base are left at a right angle, as usually made, so that, when the ends of the rails are abutted together, the tread will lap over past the other to the extent of the angle, and thereby form to that extent a continuous rail, while the lower portions, as the web and base, will form a square joint, and thereby prevent the running of the rails or throwing the track out of line, as will hereinafter appear.

Figure 1 is a plan of such a joint, as seen above it. Fig. 2 is a side elevation of one end of a rail, with a portion of the fish-plate attached, and Fig. 3 is an end view of a rail with the fish-plates in section.

At A and B are represented portions of two rails, showing their ends abutted together, as in Fig. 1. These ends are formed at the rolling-mill, by having two cut-off saws so mounted that one shall cut off the base and the web of the rail at a right angle to the line of the rail, and the other saw will cut the head or tread of the rail at an angle of about forty-five degrees to the line of the rail, or to the other saw, said angle extending from side to side of the head, as shown at A and B. The fish-plates are shown at C, and the bolts for holding them in position at D.

It is intended that by such a construction of the rail ends, where they are abutted together, or as nearly so as can be, to allow for expansion, that a continuous track of metal will be formed for the wheels to roll upon, and that, at the same time, the square portions of the ends will, when expanded, prevent the rails from being shoved sidewise past each other, as would be the case were the rails cut at an angle from top to bottom—a thing that has been done and is found impracticable for the reason here stated.

Various other forms have also been devised for giving a continuous track, as by tenons, dovetails, &c., but these have all been attended with great additional expense in their construction; whereas, by my method, the only additional cost will be the running of two saws instead of one, and having said saws set to cut a wide kerf—say, of one quarter of an inch. The two kerfs crossing each other will completely sever the web where they meet.

It is evident that the angles named may be varied considerably without departing from the nature of my invention, but those mentioned will be found the best in practice, and it will also be found preferable to form the acute angle, so that its center will be intersected by the plane of the other, as shown in the drawings.

To give greater durability to the ends, it will be found, in practice, when the rails are made of steel, to slightly chill or harden them as soon as they are formed by the saws, and which can be accomplished without additional heating.

I therefore claim—

A railway-rail joint made of T-rails, whose ends are cut with the head or tread at an acute angle, and the web and base at a right angle, to the line of the rail, substantially as described, and for the purposes set forth.

SANDS FORMAN.

Attest:

JOHN W. RIPLEY,

BOYD ELIOT.