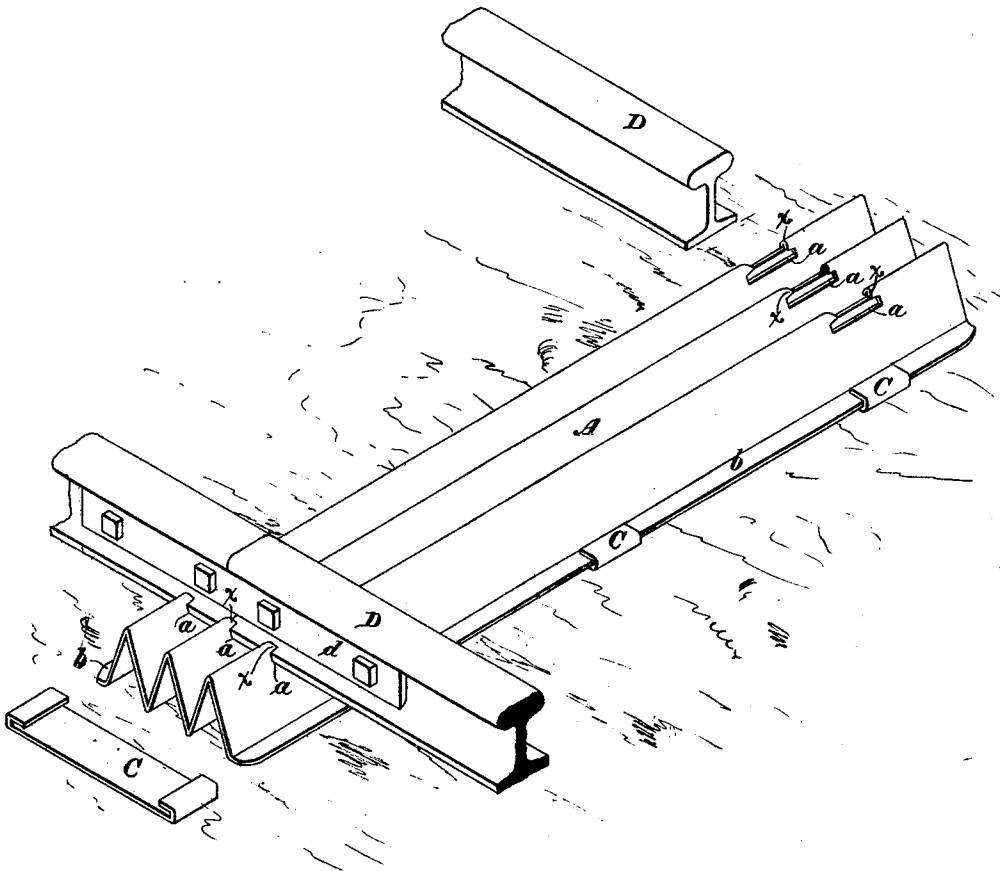


D. S. WHITTENHALL.

RAILROAD TIES.

No. 185,808.

Patented Dec. 26, 1876.



WITNESSES

Wm A. Skinkle
J. Smith

INVENTOR

Daniel S. Whittenhall.
By *his* Attorneys,
Baldwin, Hopkins, and Peyton.

UNITED STATES PATENT OFFICE.

DANIEL S. WHITTENHALL, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF
AND A. HALSEY MILLER, OF SAME PLACE.

IMPROVEMENT IN RAILROAD-TIES.

Specification forming part of Letters Patent No. **185,808**, dated December 26, 1876; application filed
October 17, 1876.

To all whom it may concern:

Be it known that I, DANIEL S. WHITTENHALL, of the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Railroad Cross-Ties, of which the following is a specification, that will enable those skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings.

The object of my invention is to provide, as a substitute for the cross-ties of wood and other material now in use upon railroads, a metal cross-tie and chair for securing the rails in place upon the road-bed.

My invention consists in a cross-tie made of a single piece of metal, corrugated in the process of manufacture, and provided with a series of fitting transverse apertures near its opposite ends for receiving and seating the track-rails.

The drawings exhibit a view of my invention in perspective.

A indicates my metal cross-tie, ribbed or corrugated longitudinally from end to end. *a a* indicate the rail seats or chairs, which consist of suitably-shaped transverse slots or openings in and through the ribs of the tie. Those illustrated are adapted to receive the bases of common T-rails; but other forms of rail-seats may be used, adapted to other forms of rails. *b b* indicate flanges on the opposite sides of the tie, which serve to widen its base and increase its stability; but these may, in some cases, be dispensed with. *CC* indicate adjustable clamps or stays, that may be employed, when desirable, to prevent spreading of the base of the tie. When these stays are used less metal may be employed for the ties. *DD* indicate the ordinary T-rails, and *d* an ordinary fish-plate at the junction of two rails.

I prefer to form my ties of wrought sheet-iron, by heating and punching or cutting the chair-seats, and then rolling or crimping the plates into the ribbed or corrugated form illustrated; but the chair-slots may be formed after the crimping or rolling has been accomplished. However, my invention is not dependent upon any particular method of manufacture.

The utility of my invention rests in its economy, durability, efficiency, and the special attributes it possesses, owing to the form and material combined in its production.

By the use of my ties in the work of laying track, no gaging is necessary, because each tie is to be applied upon the bases of the rails, and thus becomes itself a true gage for the track. Their use also dispenses with chairs (although chairs might be employed) and spikes, because, in lieu of the latter, a blow upon the tips (marked *x x* in the drawings) will drive them down in contact with the rails, and firmly hold the rails in place. They also serve as an effective drain for the surface of the road-bed, as water will be conducted off at each end of every tie through the troughs formed between the ribs or corrugations. Furthermore, they are not destructible by fire or liable to be floated out of place by water, and, therefore, save much labor and expense in keeping the track in order. They can be galvanized to protect them from rust; but if disabled from that cause, they can be rerolled, and the cost of metal for new ties thus saved. Finally, they effect a great saving of life and property by preventing those frequent accidents which result from the spreading of the tracks. When my ties are used the tracks cannot spread.

Having thus set forth the nature and utility of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A longitudinally ribbed or corrugated sheet-metal cross-tie, provided with slots or rail-seats.

2. A longitudinally ribbed or corrugated sheet-metal cross-tie, provided with slots or rail-seats, and with lateral flanges at its base.

3. The combination of a longitudinally ribbed or corrugated sheet-metal cross-tie with base stays or clamps.

In testimony whereof I have hereunto subscribed my name.

DANIEL S. WHITTENHALL.

Witnesses:

E. C. DAVIDSON,
H. T. EARNEST.