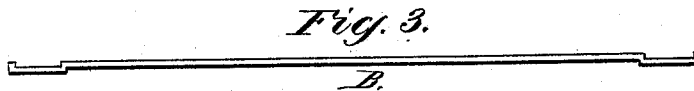
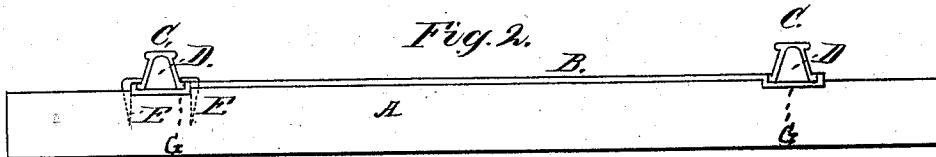
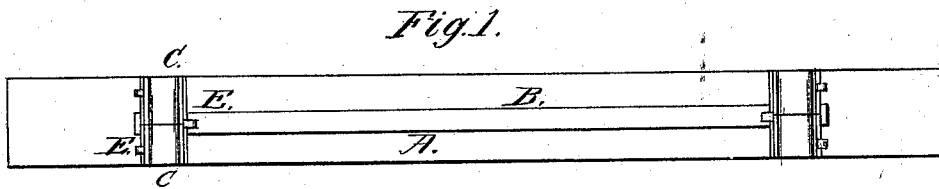


L. HALL.  
RAILROAD-TRACK.

No. 173,944.

Patented Feb. 22, 1876.



Witnesses:

James B. Willson  
Eben Smith

Inventor:

Lowell Hall.

# UNITED STATES PATENT OFFICE.

LOWELL HALL, OF GRAND RAPIDS, MICHIGAN.

## IMPROVEMENT IN RAILROAD-TRACKS.

Specification forming part of Letters Patent No. **173,944**, dated February 22, 1876; application filed December 19, 1873.

*To all whom it may concern:*

Be it known that I, **LOWELL HALL**, of the city of Grand Rapids, Michigan, have invented a new and Improved Mode of Laying Down the Hollow or **U** Rail for railroad purposes, of which the following is a full and sufficient specification, reference being had to the accompanying drawings and letters of reference marked thereon.

Like letters in the three figures denote the same parts.

The object of my invention is to obviate the spreading of the track at the joints, the pounding or abrasion of the rails at the joints consequent upon their resting upon iron, whether the common chair or fish-plates, nuts, and bolts, the vibration of the rails, which crystallizes and destroys them, and also to save a very large percentage in the cost of iron; and the invention consists in the combination and arrangement of parts, all as hereinafter more fully set forth.

I obviate the spreading of the track at the joints by means of my chair-bar **B** in combination with spikes **E**, as seen in Figures 1 and 2. This chair-bar is made of iron, of suitable width and thickness, and long enough to reach across the track at the joints, from outside to outside of the rails. It is swaged at the ends the width of the bottom of the rails, and the swaged portion is let into the tie, just its thickness, so that the top of the swaged portion is level with the surface of the tie. (See Fig. 2.) This chair-bar is secured in place by means of spikes **E** driven through it into the tie on the inside of the rails. (See right side of Figs. 1 and 2.)

My chair-bar not only obviates the spreading of the track at the joints, but it also dispenses with the common chair or fish-plates, nuts, and bolts, and tends greatly to relieve

the pounding or abrasion of the rails at the joints by resting their ends on the tie **A** evenly with the chair-bar **B**.

The constant vibration of rails by passing trains injures, by crystallization, the fiber of the iron, causing it to break easily, in severe frosty weather especially.

In the hollow or **U** rail, so called, the vibration of the rail through its entire length is obviated by filling the rail continuously with well-seasoned wood, (yellow or Norway pine, without sap, preferred,) as indicated at **D** in Fig. 2. I make the filling one-sixteenth of an inch flush at the bottom, so that the iron is drawn upon the wood filling by force of the spikes, imprinting the rail into the wood, making a solid mass of wood and iron, rendering vibration impossible. The wood-filling should be of equal length with the rail and break joints in the center of it, which, in effect, is better than the continuous rail. This, with the chair-bar described, obviates entirely the pounding or abrasion of the rails at the joints.

The hollow rail to be thus filled with wood may be made much lighter than the **T**-rail, thus saving a large percentage in the cost of rails, and still securing a much more durable iron.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent, is—

The combination, with the tie **A**, having grooves **G**, of the chair-bar **B**, swaged at the ends thereof for fitting in said grooves, as described, and for the reception of the rails **D**, secured therein in the manner substantially as and for the purpose specified.

LOWELL HALL.

In the presence of—

JAMES B. WILLSON,  
EBEN SMITH.

*7/60 words.*