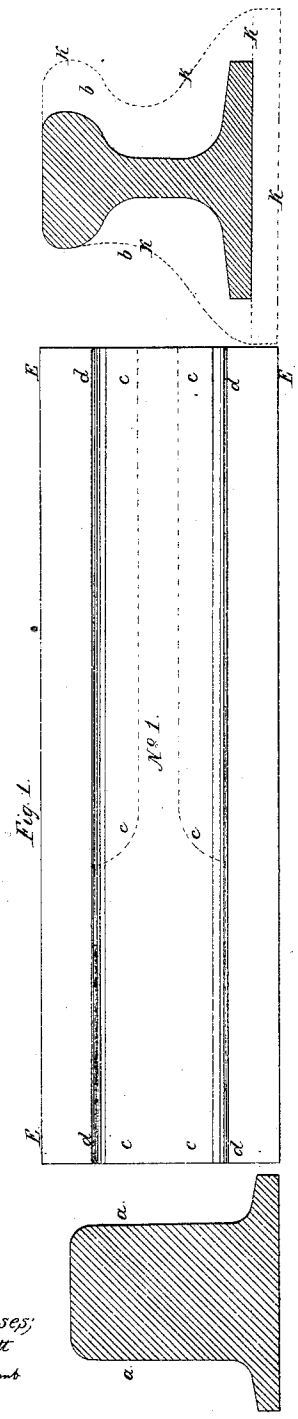


L. B. Tying

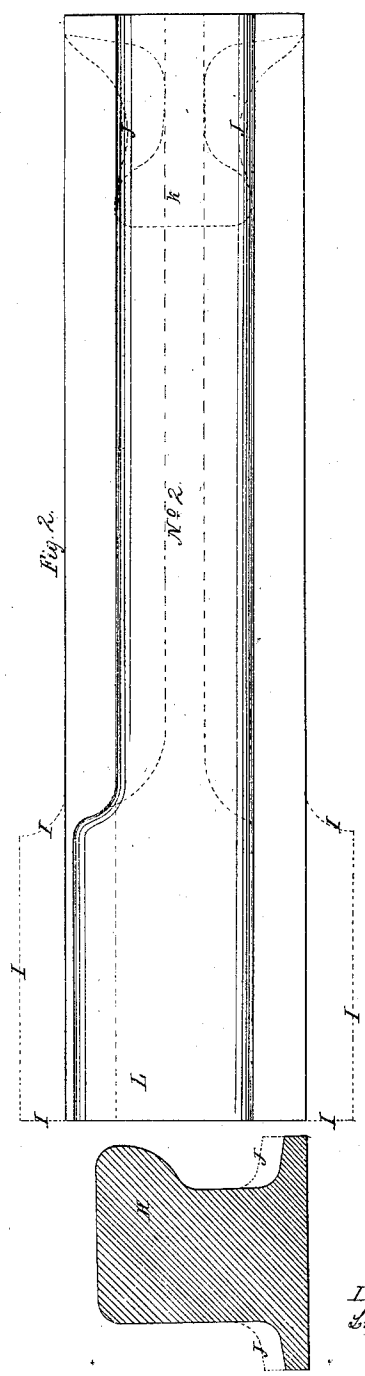
Railroad Rails

No 19,053.

Patented Jan 5, 1858.



Witnesses;
C. W. Clark
J. H. Lamb



Inventor;
L. B. Tying

L. B. Tyng.
Railroad Rails.

N^o 19,053.

Patented Jan. 5, 1858.

Fig. 3.

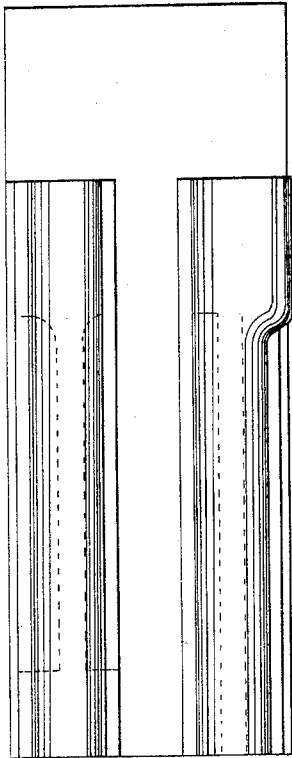


Fig. 4.

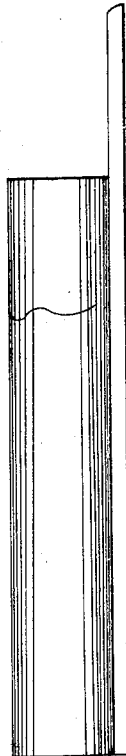


Fig. 6.

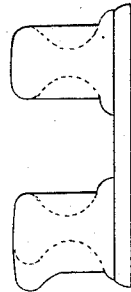
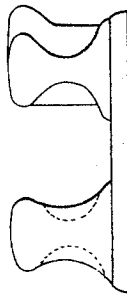


Fig. 5.



Witnesses,
C. W. Scott
J. M. Lamb

Inventor,
Levi B. Tyng

UNITED STATES PATENT OFFICE.

LEVI B. TYNG, OF JERSEY CITY, NEW JERSEY.

RAIL FOR RAILROADS.

Specification of Letters Patent No. 19,053, dated January 5, 1858.

To all whom it may concern:

Be it known that I, LEVI B. TYNG, of Jersey City, county of Hudson, and State of New Jersey, have invented a new and useful Improvement in Railroad-Rails, which I verily believe was never used or known before and whereby a great saving may be made in the expense of maintaining rails and rolling-stock of railroads.

It is well known that railroad rails, as they are now made and put in use, are soon crushed and battered at their ends, by the weight and action of the wheels passing over them, thus making an uneven rail surface at the rail joints and imparting constant and destructive shocks to the cars and machinery and rendering it necessary frequently to remove the rails and repair or remove the ends before they are otherwise worn out, thereby causing a great expense in maintaining the rails and rolling stock of railroads. To remedy this defect, I make the stem or web of the rails, at each end, thicker than at the middle part, thus giving the ends of the rails a greater solidity and strength, to resist and sustain the weight and action of the cars and locomotive rolling over them, and also preventing the rails from being battered and crushed down at their joints, and preserving a true rail surface and a smooth, easy, and safe motion for the rolling stock passing over them.

The following I declare to be a full, clear and exact description of my invention, reference being had to the accompanying drawings, making a part of this specification.

Figures 1 and 2 represent a top plan of the rail, *a, a*, Fig. 1, being a cross section taken at the ends, and *b, b*, being a cross section of the middle parts of the same rail, *c, c, c, c*, dotted lines, represent a top plan of the stem of the same rail, *d, d, d, d*, shows a top plan of the head of the rail and *e, e, e, e*, represent a top plan of the base of the rail. Fig. 3 denotes another plan of portions of two rails, one with and one without the top being enlarged; Fig. 4, a side elevation, Fig. 5, one end view of these two rails, and Fig. 6, an opposite end view, the last three figures showing the elevations of some of the different shapes which may be given for solid enlargement, for more fully illustrating the nature of my invention.

My improvement is constructed as follows: I have bars of iron rolled of the requisite length or shape to fit the stem of the

rail. The outside of these bars are rolled flat and the bars are of the right thickness that two of them added to the stem of the rail, will make its thickness equal to the width of the head of the rail, as shown in cross section Fig. 1, (*a, a*.) I do not however confine myself to a particular thickness of stem for the ends of the rail. When the bars of iron are prepared of the desired form and thickness, I cut them into pieces 5 or 6 inches long, or of such length as may be desired. To give an increased solidity to the stem of the rail, I then place two of these pieces in their proper positions, one on each side of the stem of the rail, at its end, and in that position weld them solid to the rail. I also propose to give the same form and solidity to the rail ends, by the process of rolling or hammering, when the rails are first made, or re-rolled. When a very heavy traffic is to be borne over the rails, I increase the thickness of the pieces, which are to be welded on the outside ends of the rails, so as to give an additional bearing or width for the wheels, as shown in Fig. 2 (*H*) representing a cross section of the rail at its end, and (*k*) a cross section of the same rail at its middle part, (*L*) being a top plan of the end of the rail.

The red lines seen at I, Fig. 2, denote an enlargement of the base of the rail at its ends, in order that it may rest more firm on its foundation, by such increased width, and the red lines J denote an additional thickness of the base at the end of the rails, to prevent its being bent or turned up by the tremendous weight and transverse and horizontal shock of the locomotive and train, specially at curves, which bending would allow the rails to rock or tip on their foundation at their ends, thereby causing the ends or joints to become uneven both laterally and vertically, the effect of such cause being to rapidly increase the wear and destruction of the ends of the rails, while the remaining part continues good, to say nothing of the wheels running upon them. The red lines K, Fig. or No. 1, denote an increased thickness of the web of the rail, an increased width of its top or tread and base, and an increased depth of its base, all combined, the length upon the rails of such enlargement being of course sufficient for the desired object or solidity, at least four inches lengthwise of the rail where they are used severely. The other enlargements

may be formed on the rail the length indicated in top view Fig. 2, to produce a beneficial effect, but more or less length may be given any of the indicated enlargements if
5 desired.

I claim—

A solid enlargement of the ends of rail road rails in order that they may rest more firm on their foundation, and for increasing
10 their strength and solidity, thereby render-

ing them less liable either to fractures, wear, unevenness or destruction at their ends or joints essentially in the manner described and set forth.

July 20th, 1857.

LEVI B. TYNG.

Witnesses:

JOHN M. SANBORN,
OTIS B. PERKINS.