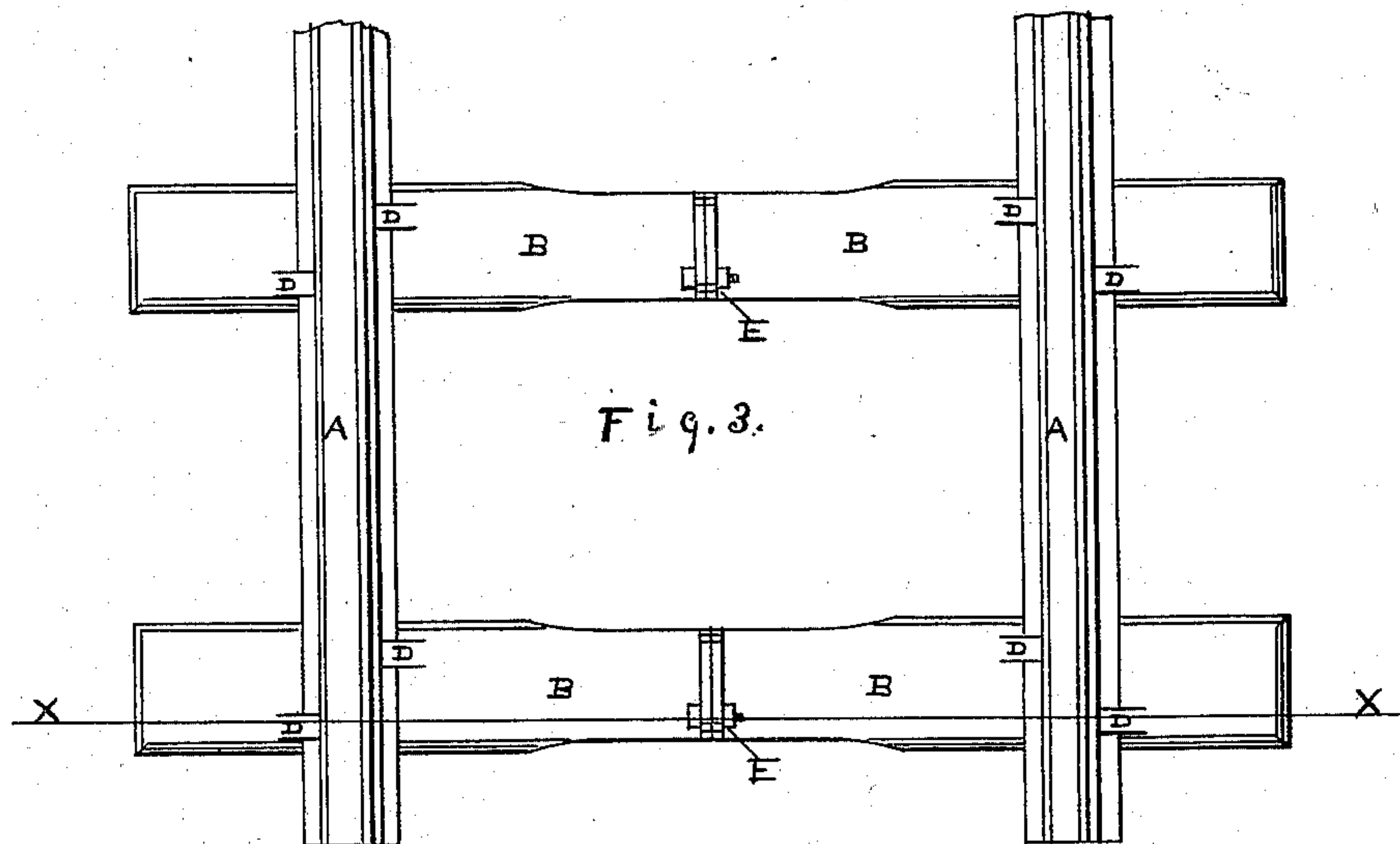
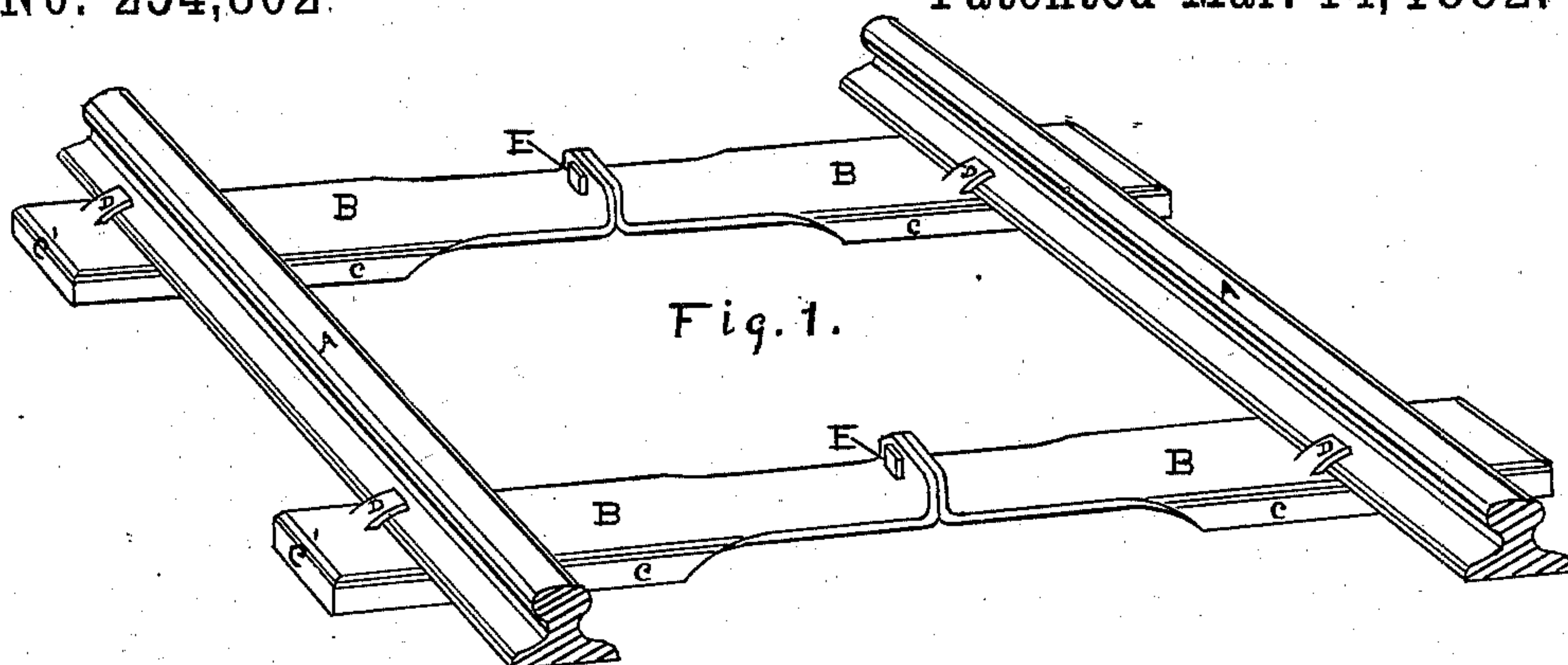


(No Model.)

J. CONLEY.  
RAILWAY TIE.

No. 254,802.

Patented Mar. 14, 1882.



Witnesses:

E. S. Stowe,  
Theo. M. Carpenter.

Inventor:

John Conley.



# UNITED STATES PATENT OFFICE.

JOHN CONLEY, OF NEW BUFFALO, ASSIGNOR OF ONE-HALF TO LUTHER V. MOULTON, OF GRAND RAPIDS, MICHIGAN.

## RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 254,802, dated March 14, 1882.

Application filed March 13, 1880. Renewed November 10, 1880. Renewed August 13, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CONLEY, of New Buffalo, in the county of Berrien and State of Michigan, have invented a new and useful Improvement in Railway-Ties, of which the following is a specification.

The invention relates to the ties used in the construction of railways, which are placed under the rails, and to which said rails are secured.

10 The railway-ties in common use, made wholly of wood, are objectionable for the following reasons: They decay in a short time, and therefore require frequent renewal. The spikes by which the rails are secured to said ties are liable to draw out and allow the rails to cant over, to the injury of both the rail and tie, by the passage of trains, and also cause great danger of derailment of said trains. Said ties are also by their form necessarily embedded in the earth in such a manner that the vibration caused by passing trains has a tendency to form an open space in the earth alongside or under said tie, in which water is liable to collect, in which case a passing train will forcibly eject the water by pressing down the tie, which water will carry with it more or less of the earth, to the injury of the road-bed. Some of the ejected earth and water is also liable to be thrown upon the locomotives and cars, to their injury.

30 The ties made wholly or in part of metal heretofore used have been too expensive, and the bolts or other fastenings by which the rails were secured, having no relief from the concussion caused by passing trains, were liable to be either loosened or broken; also, having no transverse projection into the earth, the track might be moved laterally by passing trains. All ties heretofore used have also been in one continuous piece throughout their length, rendering it necessary when repairing one side of the track to disturb the other more or less; also, when one end of a tie needed replacing with new, the whole had to be removed.

The object of my invention is to provide a more durable tie than one of wood; also, to provide a more secure fastening for the rails; also, to secure a track of uniform gage without the use of track-gages; also, to provide means to prevent the removal or displacement of the earth underneath the ties; also, to provide

means for securing the rails at a number of points simultaneously by the use of only one bolt or fastening; also, to protect said bolt or fastening from the force of the concussion caused by passing trains; also, to provide means whereby either side of the track may be repaired without disturbing any part pertaining to the other; and, also, as a consequence of the use of my invention, a means of saving labor and materials for repairs.

The invention consists in constructing the tie of metal and divided transversely at or near the middle into two or more parts; and, further, in turning down the sides and ends, thus forming a cavity in the under side of said tie; also, in providing suitable lugs or hooks at opposite sides of the tie and opposite sides of the rail, together with a bolt or other suitable fastening through or upon the inner ends of the tie.

In the accompanying drawings, Figure 1 is a perspective, Fig. 2 a cross-section on the line *x x*, Fig. 3, and Fig. 3 a ground plan, of a device embodying my invention.

Like letters refer to like parts in each figure.

A A are the ordinary T-rails. B B is my improved tie, which consists of two plates of iron or other suitable material, either plain or corrugated. Said plates are turned down at the sides and ends, as shown at C C C', thus forming a cavity in their under sides. Said plates are also provided with lugs or hooks at D D D D, of suitable form to clasp the bottom of the rails A A, and located on opposite sides of the said rails and opposite sides of the tie, as shown. The plates B B are also turned up at right angles at E, and secured to each other by a bolt or other suitable fastening.

The operation of my invention is as follows: By placing the plates B B under the respective rails A A in a diagonal position and then bringing them into a position at right angles to said rails and opposite each other, the lugs or hooks D D D D will clasp said rails firmly, and a single bolt or other fastening at E will secure both the tie and rails in position. The plates B B, being cut away and turned up at right angles at their inner ends, are thereby made elastic, and thus protect the fastening at E from the force of the concussion produced by the wheels of passing trains. The parts turned



down at the sides C C serve to render the tie more rigid under heavy loads, and also at the ends C' C', to anchor the track to the road-bed and prevent said track from being moved laterally by passing trains. The cavity thus formed also enables the tie to rest upon earth that is protected from rain, and is also higher than the surrounding earth, thereby effectually preventing its disturbance by the action of water. It also operates to dispense with labor, tools, and materials now required to lay and repair the road. The position of the lugs or hooks D D D D determines the gage of the road, which will be uniform and certain, without the use of track-gages. No spikes are used and no spike-mauls required.

By loosening the fastenings at E one side of the track may be raised or one-half of the tie removed without disturbing the other, and also, as the earth is more effectually retained

under the ties, less labor is required to keep the track and road-bed in order.

What I claim and wish to secure is as follows:

1. The combination of the half-sleepers provided with the hooks D D D D and fastening E, substantially as and for the purposes specified.

2. The combination of the fastenings E with the plates B B, substantially as and for the purpose specified.

3. The combination of the plates B B with the hooks D D D D and the fastening E, substantially as and for the purpose specified.

4. In combination with the rails A A, the plates B B, hooks D D D D, and fastenings E, substantially as and for the purpose specified.

JOHN CONLEY.

Witnesses:

THEO. M. CARPENTER,  
E. A. STOWE.