

O. E. MULLARKY.
Railway-Tie.

No. 221,596.

Patented Nov. 11, 1879.

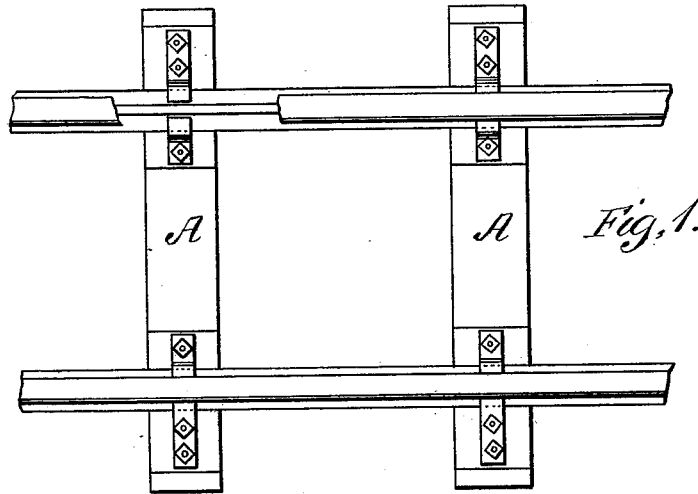


Fig. 1.

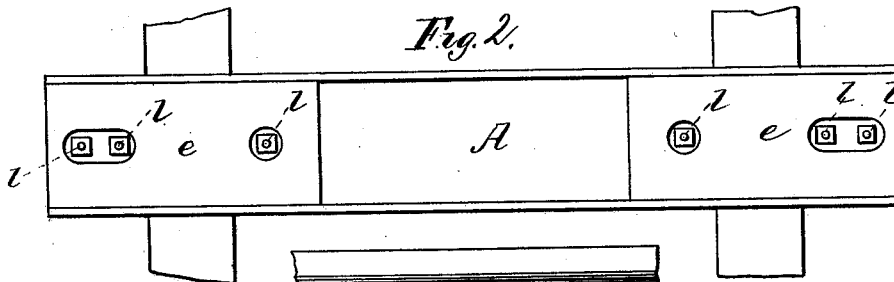


Fig. 2.

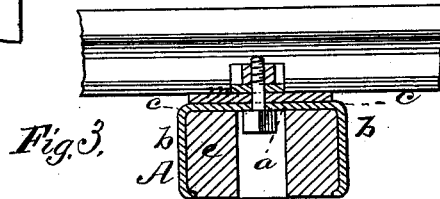


Fig. 3.

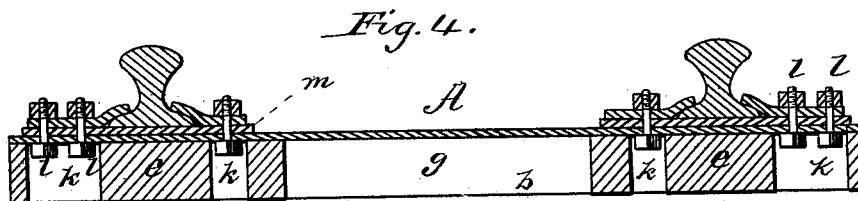


Fig. 4.

WITNESSES
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OWEN E. MULLARKY, OF CEDAR FALLS, IOWA.

IMPROVEMENT IN RAILWAY-TIES.

Specification forming part of Letters Patent No. **221,596**, dated November 11, 1879; application filed April 7, 1879.

To all whom it may concern:

Be it known that I, O. E. MULLARKY, of Cedar Falls, in the county of Black Hawk and State of Iowa, have invented a new and valuable Improvement in Railway-Ties; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of my improved railway-tie applied. Fig. 2 is a bottom view of the same. Fig. 3 is a cross-sectional view thereof, and Fig. 4 is a longitudinal section of the same.

This invention has relation to railway-ties; and it consists in the construction and novel arrangement of an iron shell, bent longitudinally to form a flat top and vertical, or nearly vertical, sides, and filled from below from the outer ends past the rail-bearings, leaving the middle portion in a recessed or hollow form to grasp the material of the road-bed; also, in the novel combination, with a hollow metallic tie, of wooden bearing-plates under the rails, all as hereinafter shown and described.

In the accompanying drawings, the letter A designates the iron shell or hull, formed of wrought or malleable iron, having but little thickness compared with the depth of the tie, the form of which is given by bending down the sides *b* along the longitudinal lines *c*, these sides being bent at right angles, or nearly so, with the top *a* of the shell, the bend, however, being made in gradual or rounded form, in order to avoid injury to the fiber, and to secure the full strength of the metal. From each end past the rail-bearing the shell is filled with cast-iron or other metal, wood, cement, grout, stone, or terra-cotta, these end fillings *e* serving to give solidity and strength to the rail-bearings, and to relieve the hollow central portion, *g*, from undue strain.

The end fillings may be secured in various ways, according to the character of the filling substance. When cement is employed the

lower ends of the side flanges of the shell may be slightly bent inward, and this form of fastening will serve very well for any filling. Wood may be conveniently secured by means of spikes passing through the sides of the shell. The lower surface of the filling will be flush with the bottom edges of the side flanges, *b*, so that a firm base will be formed under each rail-seat. Through the metallic shell or hull and the filling at each end vertical holes *k* are made for the reception of the bolts *l*, which hold the rail-chairs; and to relieve the jar a cushion or plate of wood, *m*, is fastened on the upper surface of the tie at each end, forming the rail-bearing. These wooden bearings relieve the shock of the rail and take the strain off the bolts. Between the filled ends of the tie there is a hollow bottomless portion, bounded by the top and sides of the hull and by the inner ends of the fillings. When the tie is laid this recess serves to grasp the foundation or bed and steadies the tie, effectually preventing lateral or endwise motion, while the hull-connection forms a sufficient brace between the end bearings.

I am aware that it is not new in metallic ties to fill end recesses which open upward, so that the rails or chairs bear directly on the fillings, and I do not claim such devices.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The railroad-tie consisting of the soft-iron shell or hull A, bent longitudinally downward to form side flanges, *b*, and having the end under fillings, *e*, under the rail-bearings, and the hollow bottomless center *g*, substantially as specified.

2. The combination, with a soft-iron railway-tie, having a hollow center, *g*, and under filled ends *e*, of the wooden cushions or bearing-plates *m*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

OWEN EMMET MULLARKY.

Witnesses:

SYLVESTER H. PACKARD,
JOHN R. MARKLEY.