

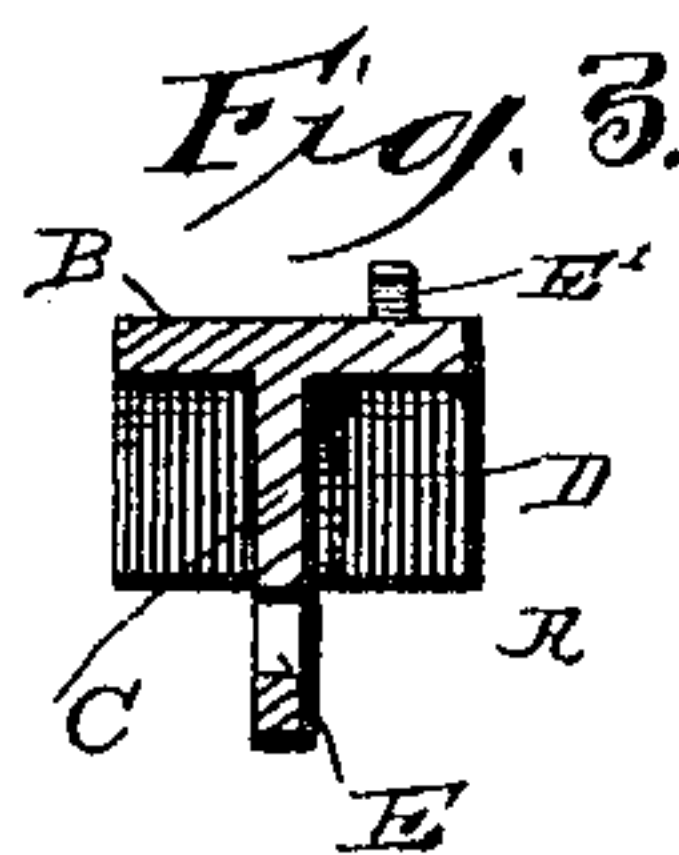
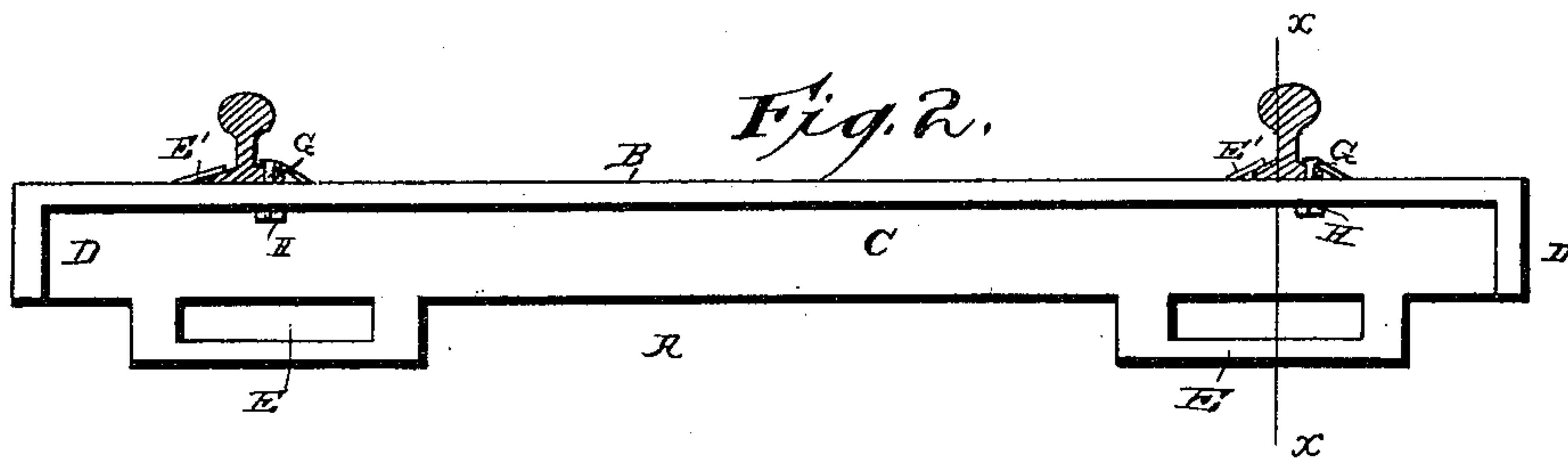
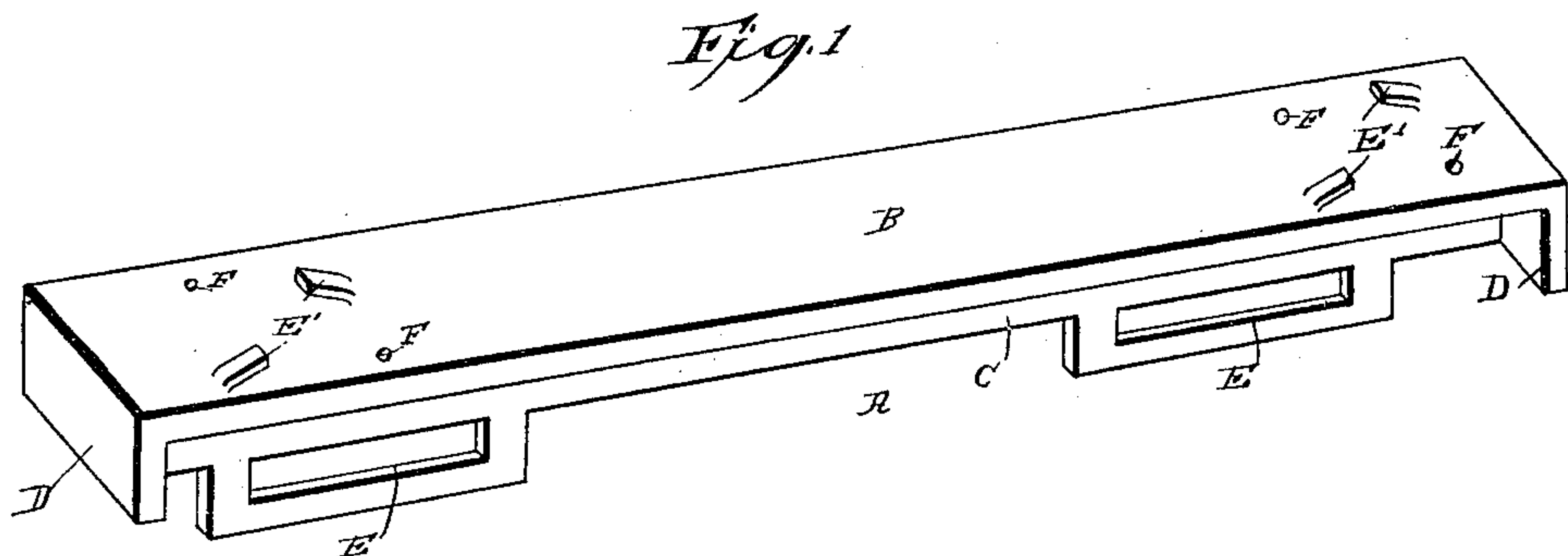
(No Model.)

R. C. LUKENS.

RAILWAY TIE.

No. 370,072.

Patented Sept. 20, 1887.



Witnesses  
*Henry G. Dietrich*  
*J. W. Garner*

Inventor  
*R. C. Lukens*  
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# UNITED STATES PATENT OFFICE.

RUDOLPH C. LUKENS, OF BROOMALL, PENNSYLVANIA.

## RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 370,072, dated September 20, 1887.

Application filed May 31, 1887. Serial No. 239,837. (No model.)

*To all whom it may concern:*

Be it known that I, RUDOLPH C. LUKENS, a citizen of the United States, residing at Broomall, in the county of Delaware and State of Pennsylvania, have invented a new and useful Improvement in Railway-Ties, of which the following is a specification.

My invention relates to an improvement in railway-ties; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a perspective view of a railway-tie embodying my improvement. Fig. 2 is an elevation of the same, showing the manner of connecting the track-rails thereto. Fig. 3 is a vertical transverse sectional view taken on the line *x x* of Fig. 2.

A represents the tie, which is made of a single piece of metal, either wrought or cast, and is T-shaped in cross-section, thereby providing the tie with the flat head or bearing-surface B, and the depending central web or flange, C, adapted to enter the ground. At the ends of the tie are formed depending transverse plates D, which are arranged at right angles with relation to the flange or web C and project from opposite sides of the ends thereof. The flange or web C is provided on its lower edge, near its ends, with depending loops or stirrups E, whereby weights or anchors may be attached to the tie, in order to hold the same firmly in the ground and prevent it from rising and falling when heavy trains pass rapidly over it.

The flange or web C enters the ground and prevents lateral motion of the tie, and the plates D, at the ends thereof, prevent longitudinal movement of the tie, and consequently the latter is held firmly in position. The head B bears upon the surface of the ground and sustains the weight of passing trains.

In order to secure the track-rails to the tie, I provide the head B, at suitable distances from its ends, with lips or tongues E', which are formed integrally therewith, and are adapted to engage opposite sides of the bases of the rails and to be clinched downwardly from the same, thus preventing the rails from moving on the tie. In order to attain additional security, I provide the head B with openings F, which are arranged opposite the lips or tongues E', and are adapted to receive bolts G, which engage the bases of the rails, and are provided at their lower ends with clamping-nuts H, though in practice said bolts will be very rarely, if ever, required.

A railway-tie thus constructed can be manufactured at a small advance over the cost of the ordinary wooden ties now in common use, is much stronger, and will last three or four times as long. Moreover, a tie thus constructed is adapted to be very readily placed in position and attached to the rails, and I estimate that after the rails and ties have been distributed three men may construct a mile of railroad, using my improved ties, in ten hours.

Having thus described my invention, I claim—

A railway-tie made of metal, and having the horizontal flat head B, the depending vertical flange or web C, and the loops or stirrups E on the lower edge of the web or flange, near the ends thereof, for the purpose set forth, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

RUDOLPH C. LUKENS.

Witnesses:

GARRETT E. SMEDLEY,  
FRANK B. RHODES.