(No Model.)

W. McMANES & G. E. LUM.

RAILROAD TIE.

No. 420,352. Patented Jan. 28, 1890.

Fig. 1.

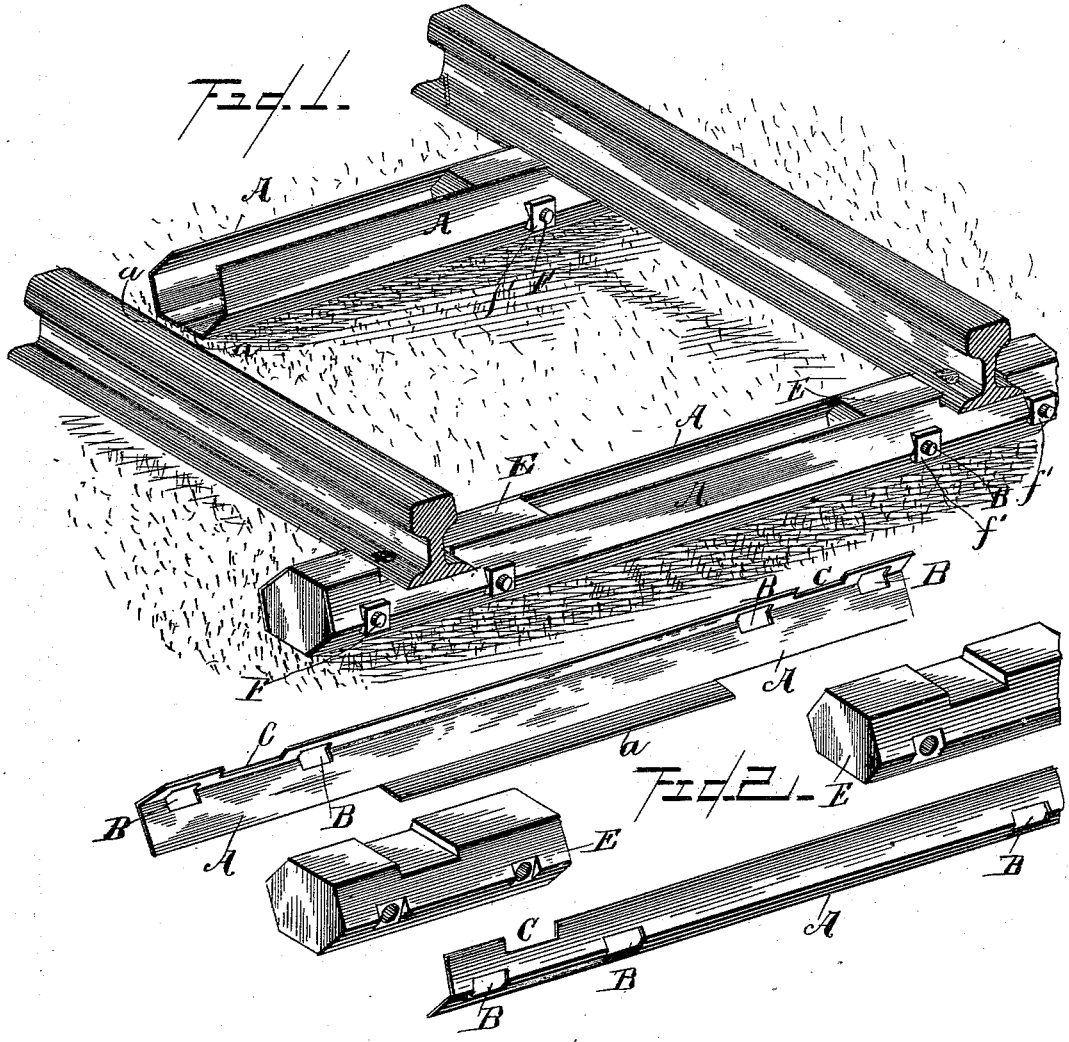
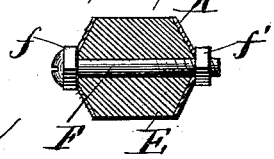


Fig. 2.

Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM McMANES, OF SUMMIT, AND GEORGE E. LUM, OF CHATHAM, NEW JERSEY.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 420,352, dated January 28, 1890.

Application filed November 11, 1889. Serial No. 329,921. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM McMANES and GEORGE E. LUM, citizens of the United States, residing at Summit and Chatham, respectively, in the counties of Union and Morris, respectively, and State of New Jersey, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to an improvement in railroad-ties; and it consists in the construction and arrangement of parts hereinafter described and claimed.

The object of our invention is to provide a cheap and durable tie for railways which will to a large degree dispense with the use of wood. We attain this object by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate corresponding parts in the several views, and in which—

Figure 1 is a perspective view of a section of track with our improved ties in place, one partly broken away. Fig. 2 is a perspective view of the parts detached, and Fig. 3 is a cross-section through the bolted end of the tie.

In the drawings, A and A represent two V-shaped metallic strips of galvanized iron or other suitable metal, formed with a central web *a*, which extends out from their lower edges. The outer ends of these pieces have a series of openings or rectangular apertures B cut therein, preferably two at each end. The upper edge of the metal between these openings is grooved, as at C, the size of the groove being sufficient to admit the base of a rail.

E represents two wooden blocks of hexagonal shape, their upper and lower faces being larger than their side faces, the latter being formed to coincide with the shape of the interior or the inner face of the metal strips. These blocks are made to extend only part way the length of the strips, their inner ends being adjacent to the ends of the webs *a*.

F represents a series of bolts passing through the blocks, their butt-ends being passed through washers *f*, which rest in the openings in the metal strips, while the other ends are threaded and have nuts *f'* thereon, which are drawn down by turning the bolt into the opening in the plate and are thus locked, the turning of the bolt only releasing them.

When the several parts are united, the blocks are held between the metal strips and the space between the blocks is adapted to be filled with broken stone, cement, or dirt, the webs *a* forming a bottom to prevent the central filling from jarring out. The rails are spiked to the blocks over the grooves in the upper edge of the metal and the ties are anchored.

By the above construction it will be seen that as the blocks are rotted or split they may be readily replaced by withdrawing the bolts, their shape permitting them to be turned over when their upper face has become useless.

By making the metal in two pieces we are enabled to easily remove the blocks and also replace the separate strips when they are broken or damaged.

We are aware that it is not new to secure blocks in the ends of metal ties of a somewhat similar nature, and therefore do not broadly claim the same.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. A hexagonal tie formed of two angular metal strips having webs on their lower edges and openings in their ends, and removable blocks secured between the ends of the strips by bolts passing through the same, substantially as described.

2. A railroad-tie formed of two angular metal strips A, having webs *a* on their lower edge and openings B in their ends through the bent portion, their upper edges being grooved, as at C, blocks E, secured between the ends of the strips, and bolts passing through the strips and blocks, having washers on their butts and nuts on their threaded ends resting in said openings, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM McMANES.
GEORGE E. LUM.

Witnesses:
E. G. POTTER,
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