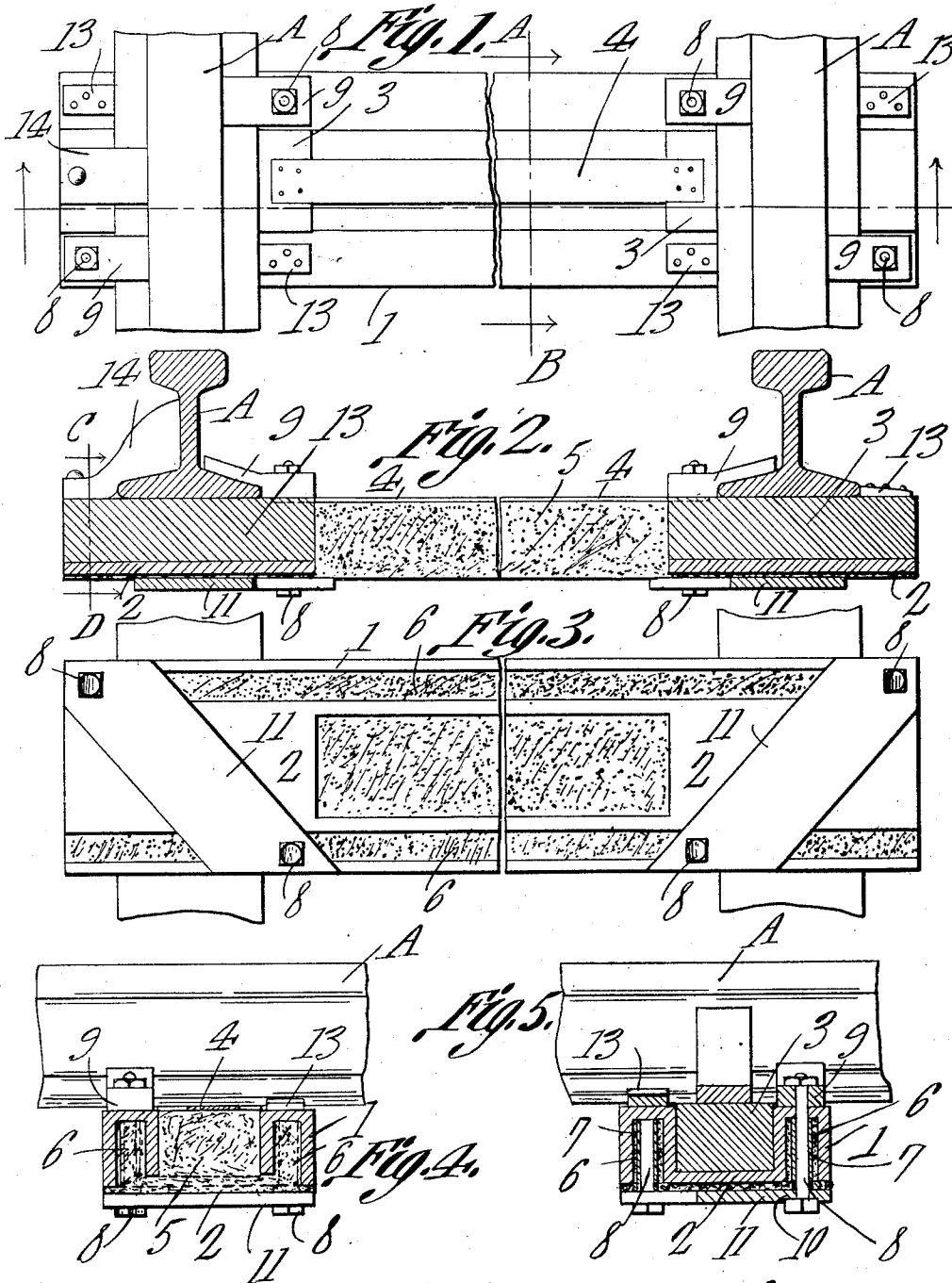


W. B. HOUCK.
RAILROAD TIE.

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1,002,991.

Patented Sept. 12, 1911.



Witnesses

J. P. [Signature]
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UNITED STATES PATENT OFFICE.

WILLIAM B. HOUCK, OF ENHAUT, PENNSYLVANIA.

RAILROAD-TIE.

1,002,991.

Specification of Letters Patent.

Patented Sept. 12, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM B. HOUCK, a citizen of the United States, residing at Enhaut, in the county of Dauphin and State of Pennsylvania, have invented a new and useful Railroad-Tie, of which the following is a specification.

This invention relates to composite railway ties, the object of the invention being to provide a simple and durable tie made up of a metallic structure having fillings of plastic material, there being suitably disposed pockets for holding cushioning blocks designed to support the rails.

Another object is to provide a tie of this character which is cheap to manufacture, is much more durable than the ordinary tie, and which has cushioning blocks removably mounted so that they can be easily replaced should they become unduly worn.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a plan view of a tie embodying the present improvements, the middle portion of the tie being removed. Fig. 2 is a central vertical longitudinal section through the tie and showing rails fastened thereon. Fig. 3 is a bottom plan view of the tie with the bottom covering of concrete removed. Fig. 4 is a section on line A—B Fig. 1. Fig. 5 is a section on line C—D Fig. 2, the concrete being broken away at one side of the figure so that both bolts are shown in elevation and their wear sleeves in section.

Referring to the figures by characters of reference 1 designates parallel inverted channeled members of rolled steel or the like connected at their ends by webs 2 arranged along the lower edges of said members and forming supports for cushioning blocks 3 of wood or other suitable material. The upper faces of these blocks project slightly above the upper faces of the inverted channeled members 1 and constitute rests or cushions for the rails A. Under

some conditions, as where the tie is placed at a curve, the blocks 3 are preferably connected together by tie plates 4 or the like bolted or otherwise fastened to the blocks. The space between the blocks 3 and the members 1 and between the webs 2 is filled with concrete, such as indicated at 5 and which adds to the weight of the tie and strengthens it without the use of an undesirable amount of metal.

The members 1 are filled with concrete, as shown at 6 and wear sleeves 7 extend through this concrete filling and receive bolts 8 which project upwardly through openings in the tops of the members 1. These bolts engage rail fastening blocks 9 which bear downwardly on the members 1 and also on the base flanges of the rails A. The heads of the bolts are located under the members 1 and project into angular recesses 10 formed within plates 11 which are secured to the bottom portion of the tie by the bolts. The bolts are thus held against rotation. Holding blocks 13 are riveted or otherwise secured upon the members 1 directly opposite the blocks or fasteners 9 and cooperate with them to prevent rails from spreading on the tie.

Wherever it may be desired to brace the rails, blocks, such as shown at 14, may be secured upon the cushioning blocks 3 so as to bear against the outer faces of the webs of the rails.

It will be apparent that a tie such as herein described is much heavier and more durable than ordinary ties, but, by providing it with cushioning blocks 3, it yieldingly supports the rails. These blocks can be readily removed should they become worn or injured and new ones may be quickly substituted therefor.

It is designed to extend the concrete under the entire body of the tie.

What is claimed is:—

1. A composite railway tie including inverted channeled members, webs connecting the lower edges thereof at the ends of the members, a plastic filling interposed between the members and between the webs, and cushioning blocks abutting against the filling and supported by the webs.

2. A composite railway tie including inverted channeled members, webs connecting the end portions thereof, cushioning blocks interposed between said members and supported by the webs, a plastic filling inter-

posed between the blocks and the members, and projecting devices on said members for holding rails against lateral displacement.

3. A composite railway tie including inverted 5 channeled members, webs connecting the end portions thereof, cushioning blocks removably mounted between the members and upon the webs, a plastic filling interposed between the members and the blocks, 10 rail fastening devices above the members, means extending through the members for fastening them to the said members, and a plastic filling within the members and surrounding said means.

15 4. A composite railway tie including inverted channeled members, plastic fillings therein, webs connecting the end portions of the members, cushioning blocks interposed between the members and supported by the

webs, said blocks being removable, and a 20 plastic filling interposed between the members and between the blocks.

5. A composite railway tie including inverted channeled members, plastic fillings 25 therein, webs connecting the end portions of the members, cushioning blocks interposed between the members and supported by the webs, said blocks being removable, a plastic filling interposed between the members and between the blocks, and a tie con- 30 necting the blocks.

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

WILLIAM B. HOUCK.

Witnesses:

JOHN KNOCH,
JOSEF JGALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."