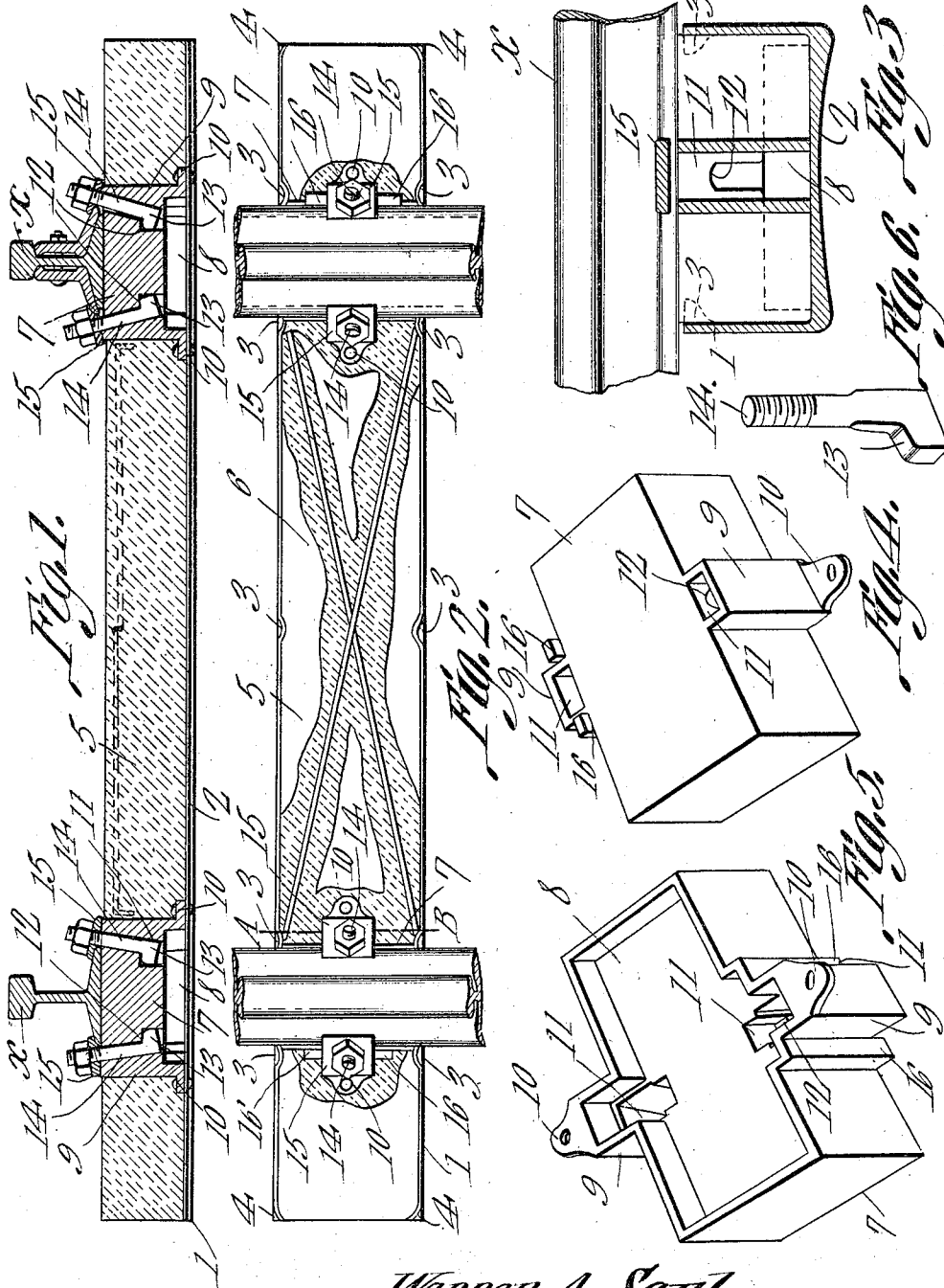


1,014,726.

Patented Jan. 16, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

WARREN A. SAUL, OF BRIDGEPORT, CONNECTICUT.

RAILWAY-TIE.

1,014,726.

Specification of Letters Patent.

Patented Jan. 16, 1912.

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To all whom it may concern:

Be it known that I, WARREN A. SAUL, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and useful Railway-Tie, of which the following is a specification.

This invention relates to composite railway ties and is more particularly an improvement upon the structure disclosed in Patent No. 1,001,894, issued to me on August 29, 1911.

One of the objects of the present invention is to provide a composite railway tie in which the concrete body is provided with a novel arrangement of reinforcing elements, whereby the tie is rendered more durable.

A further object is to provide a tie of this type having rail supporting blocks of novel form including integral means for preventing the rails from spreading, there being rail fastening devices cooperating with these blocks for the purpose of securely attaching rails to them.

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 central longitudinal section through a tie embodying the present improvements, rails being shown in position thereon. Fig. 2 is a plan view of the parts shown in Fig. 1, parts being broken away. Fig. 3 is an enlarged section on line A—B Fig. 2. Fig. 4 is a perspective view of one of the rail supporting blocks. Fig. 5 is a similar view of said block inverted. Fig. 6 is a detail view of one of the fastening bolts.

Referring to the figures by characters of reference 1 designates a metallic trough, said trough being open at its ends and the bottom face thereof being concaved transversely, as indicated at 2, said lower face merging, along curved lines into the outer faces of the sides of the trough, as clearly indicated in Fig. 3. By forming the bottom

of the trough with a concaved surface such as described, the said trough will more firmly engage the road bed and will thus prevent the tie from shifting transversely. Projections are struck inwardly from the walls of the trough 1, as indicated at 3 and the upper corners of the walls of the trough are bent inwardly, as shown at 4. These inwardly struck projections 3 and corner portions 4 thus engage a concrete filling 5 which fills the trough and they therefore prevent said filling from becoming dislodged relative to the trough. This filling adds both weight and strength to the tie and in order that the filling may be properly reinforced, crossed metal braces 6 are embedded within the upper portion of the plastic filling, the ends of these braces being extended under certain of the projections 3, as clearly shown in Fig. 2.

Seated within the trough 1 at a distance apart equal to the distance between the rails, are rail supporting blocks 7 formed of metal and the ends of which fit snugly against the side walls of the trough 1. Each of these blocks has a recess 8 formed in the bottom thereof and formed along each side wall of the block is an extension 9. Each extension is hollow and preferably rectangular, there being an ear 10 at the lower end of the extension for the reception of a rivet or other device for securing the block to the bottom of the trough 1. A shoulder is formed in the passage 11 in each extension 9, said shoulder being indicated at 12 and extending under the upper surface of the block 8. Above this shoulder the passage is preferably inclined so that the passages in the two extensions 9 converge downwardly toward the shoulder.

Each of the passages 11 is adapted to receive the L-shaped head 13 of a fastening bolt 14, this head being so shaped as to be readily inserted into the upper end of either passage 11 and, after passing below shoulder 12, be free to turn so as to swing under and into engagement with the shoulder. The upper or outer end portion of the bolt 14 is adapted to extend through a fastening plate 15 which bears on the extension 9 and engages one edge of a base flange of a rail X. The fastening plate 15 engaging the outer base flange of the rail is seated between two retaining lugs 16 which are integral with the blocks 7 and are located at opposite sides of the outer extension 9. These lugs constitute abutments for the rail and as each of

the blocks 7 has lugs 16 upstanding from the outer sides thereof, it will be apparent that when the rails are assembled on the blocks, spreading thereof is prevented by the lugs.

5 Attention is called to the fact that the shoulders 12 converge upwardly and that they extend up to the angle of the heads of the bolts, thus positively eliminating any danger of the bolts slipping off of the shoulders and thus releasing the rails.

10 It is to be understood that the length of each bolt 14 is slightly greater than the depth of the passage 11 so that, when the bolts are placed into the passages, they can be dropped to the bottom thereof and the upper ends of the bolts will then project slightly above the top face of the tie where they can be easily grasped.

What is claimed is:—

20 1. A composite railway tie including a metallic trough open at its ends, a plastic filling within the trough, said trough having means extending inwardly therefrom for anchoring the filling therein, and metallic
25 braces embedded within the filling and having their terminals extending under and retained by certain of said anchoring means.

2. A composite railway tie including a metallic trough open at its ends and having

depressions in the walls thereof, the free 30 corner portions of the walls being inturned, a plastic filling within the trough and anchored by said depressions and inturned corner portions, and crossed metallic braces 35 embedded within the filling and having their terminals extending under and retained by certain of the depressions.

3. A composite railway tie including a metallic trough, rail supporting blocks seated therein and secured thereto, said blocks 40 abutting against the walls of the trough, hollow extensions upon the sides of each block, there being shoulders within the blocks and converging upwardly away from the extensions, projections upon the blocks 45 for engaging the outer base flanges of the rails to hold them against spreading, rail fastening plates mounted on the extensions, and bolts engaging the plates and extending into the extensions, each bolt having a head 50 engaging the shoulder in the block.

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

WARREN A. SAUL.

Witnesses:

FRANK B. OCHSENREITER,
A. C. BURKE.