

No. 849,798.

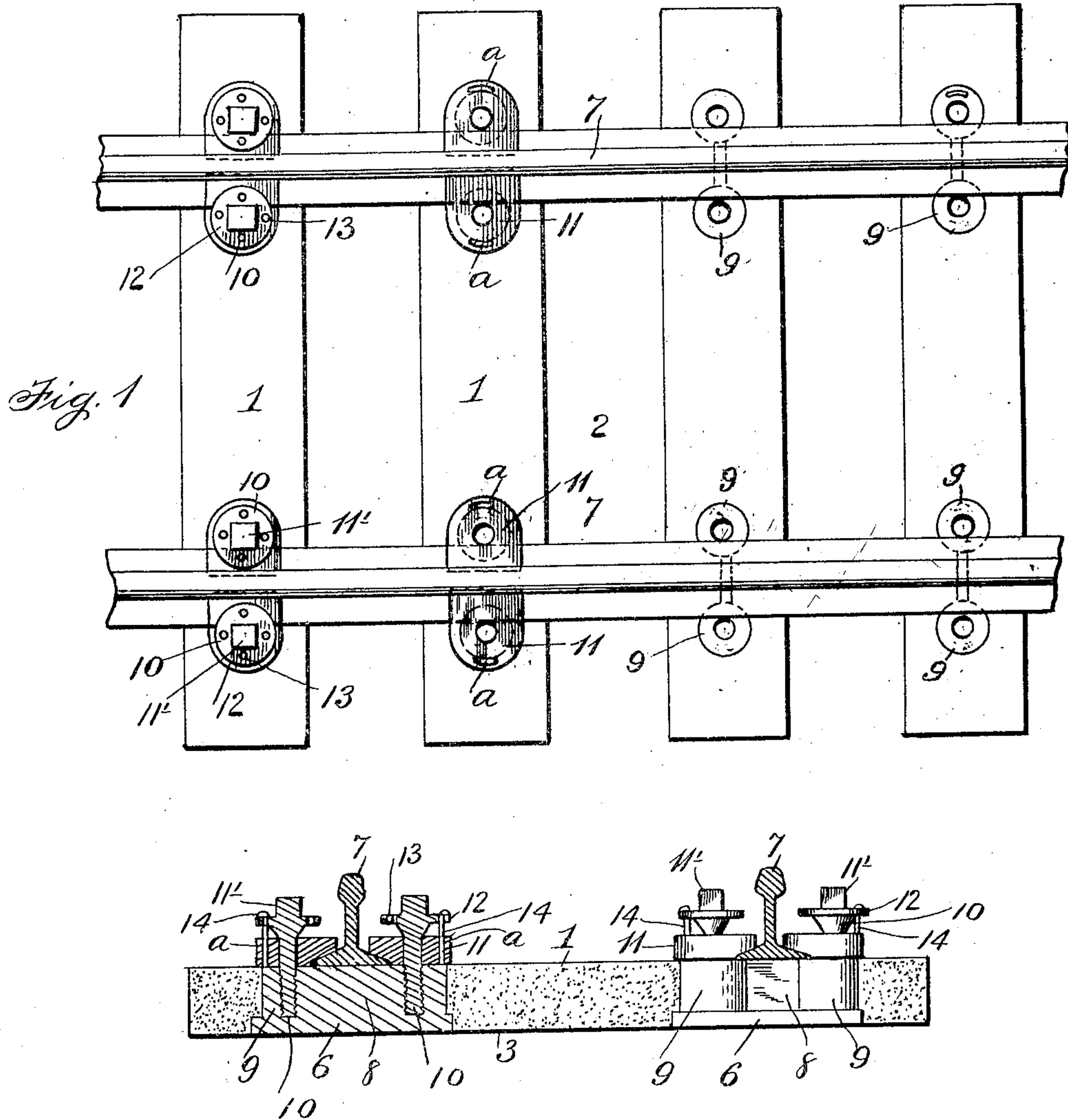
PATENTED APR. 9, 1907.

J. LE FAVOUR & R. F. BRAMMER.

COMPOSITION RAILROAD TIE.

APPLICATION FILED NOV. 5, 1906.

2 SHEETS—SHEET 1.



Witnesses
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2 SHEETS—SHEET 2.

Fig. 3.

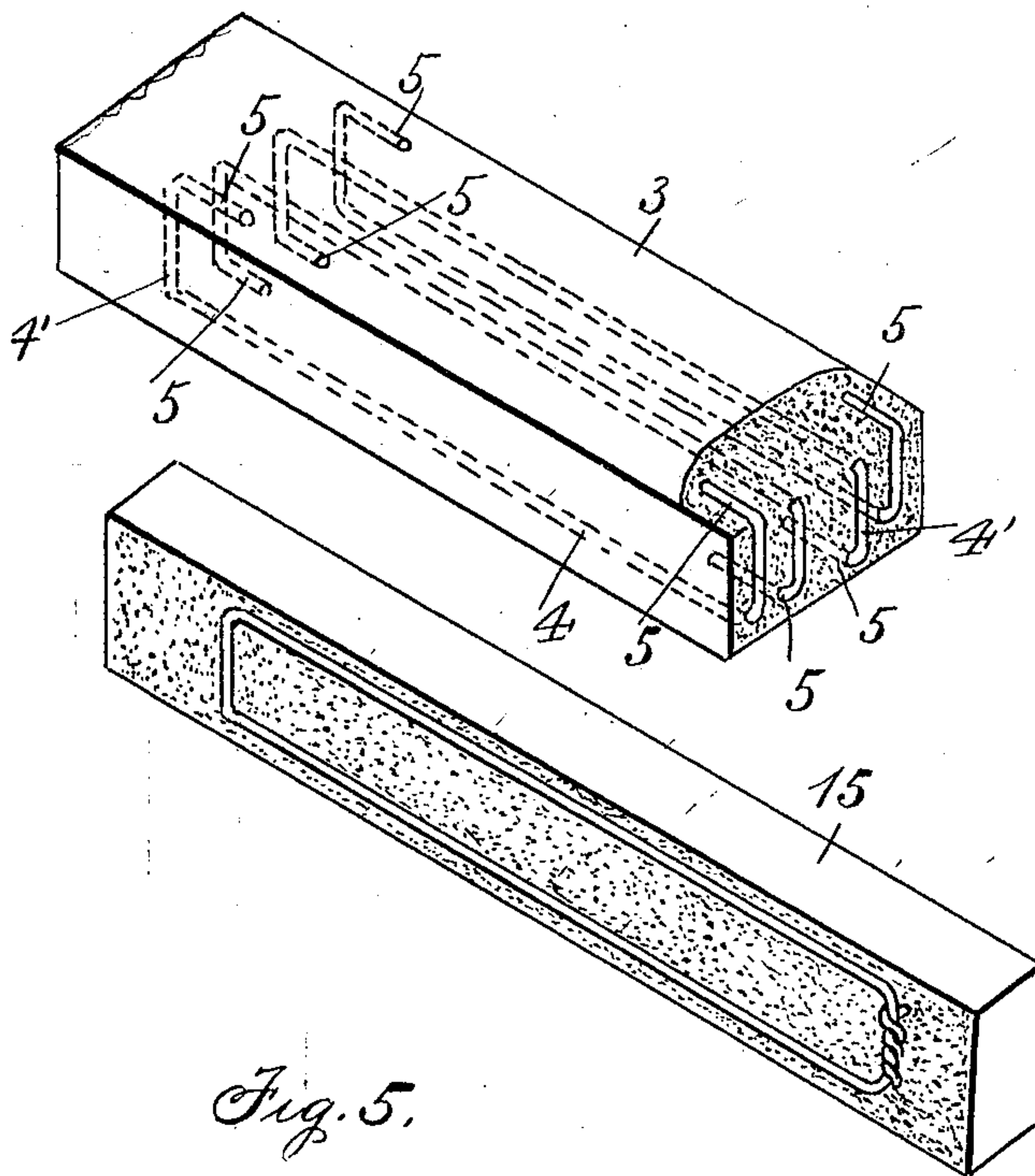
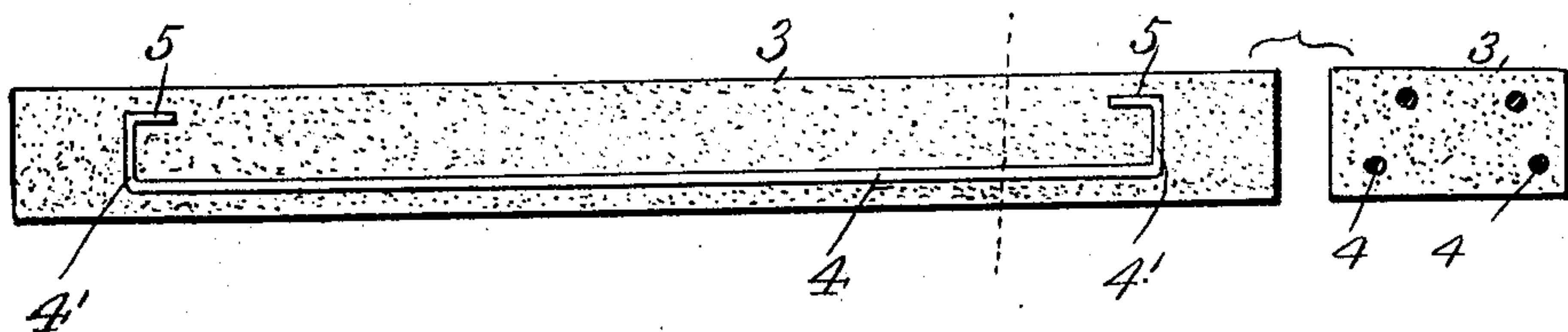


Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOSEPH LE FAVOUR AND ROBERT F. BRAMMER, OF ALBANY, INDIANA.

COMPOSITION RAILROAD-TIE.

No. 849,798.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed November 5, 1906. Serial No. 342,119.

To all whom it may concern:

Be it known that we, JOSEPH LE FAVOUR and ROBERT F. BRAMMER, citizens of the United States, residing at Albany, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Composition Railroad-Ties, of which the following is a specification.

Our invention relates to improvements in railways. Its object is to provide a composite tie comprising concrete-and-metal reinforce, principally in the form of wires, which shall be durable and furnish a smooth-running road, practically indestructible, readily manufactured, placed in position with facility, and capable of being effectively anchored in place.

Said invention consists of certain structural features or instrumentalities substantially as hereinafter fully disclosed, and specifically pointed out by the claims.

In the accompanying drawings, illustrating the preferred embodiment of our invention, Figure 1 is a plan view of a railway-track section. Fig. 2 is a vertical transverse section produced in lines passing through a tie and a fastening for securing a rail-section thereto. Fig. 3 is a vertical central longitudinal section of a separate tie. Fig. 4 is a perspective view also of a separate tie with portions of the concrete removed to disclose the embedded metal reinforce in the form of wires and the manner of inturning the ends of said wires. Fig. 5 is a modification of the tie as relates to the metal reinforce or arrangement of the embedded wires.

In carrying out our invention we suitably form the tie 1 of the railway-track section 2 of a composite nature, comprising concrete 3 in the main, and metal reinforce principally in the form of wires 4. These wires are arranged in layers longitudinally within the concrete or body of the tie adjacent to its bottom or lower surface and its top or upper surface, with the end portions of the upper and lower layers of wires extended or bent at right angles to their lengths, as at 4', and then bent or inturned, as at 5, the whole of the course being concealed or embedded in the concrete or body portion of the tie, thus rendering it durable and practically indestructible, with the several other characteristics before mentioned attaching thereto.

A plate or casting 6 is also embedded in the tie from its underneath surface near each end and about in vertical alinement with each

rail-section 7, the purpose of which will be presently apparent. Said plate or casting has an upstanding reinforcing central portion or extension 8 extending from end to end thereof, said extension itself being formed with tubular internally-screw-threaded terminals 9 reaching upward to the upper or top surface of the tie and opening clear through from end to end to permit the ready dislodgment of any material entering the same.

A screw-bolt 10 is inserted through a washer 11, having its underneath surface resting or bearing upon the rail flange or base, chamfered or beveled to conform to the corresponding surface of the latter, said screw-bolt and washer being duplicated for each side of each rail and the screw-bolts upon opposite sides of the latter being screwed into the screw-threaded tubular terminals 9 of the extensions of the plates 6, thus providing for securing or fastening the rails to the ties. The bolt 10 has a suitable or angular head 11' for the application of a wrench thereto for conveniently turning it, and below said head it is provided with an outstanding or offset portion or ledge 12, having a preferably flat upper surface and a beveled lower surface, whereby the same may conform to the corresponding upper surface of the rail flange or base when dispensing with the washer, as may be done in fastening the rail in place.

Through the offset or outstanding portion or ledge 12 of the bolt are made a number of apertures 13, arranged practically entirely around the same and into the required one of which is inserted a key or pin 14, according to the position or relation the same may assume to the rail flange or base or the washer, when used, as the bolt is turned to its final position, said pin or key being designed to engage or bear therein to guard against the accidental turning or unscrewing of the bolt, as will be appreciated. Said washer has an elongated hole or slot *a* therein to provide for the reception of the lower end of the pin or key for its effective retention against displacement.

In the modified form of tie 15, as suggested by Fig. 5, it will be noted that in addition to the aforesaid arrangement or disposition of the metal reinforce or wires, each one may be so looped or doubled upon itself as to allow the upper and lower longitudinal portions or members thereof to extend practically the whole length of the tie, the meeting ends of the thus-provided continuous wire being

suitably twisted together. It is apparent, however, that the metal reinforce or wires may be bent or caused to assume any other practical form of outline which would insure suitably reinforcing the same or serve as a preventive against the disintegrating tendency of the concrete, as will be apparent.

The advantages of our invention will be appreciated, we believe, from what has been disclosed above, and therefore the same may not be further dwelt upon herein, while its practical value or merits and utility will, we are convinced from our practical knowledge thereof, be demonstrated in its practical application upon railroads generally.

We claim—

1. As an improvement in railways, a composite tie of concrete-and-metal reinforce, equipped with a metal plate having an upstanding central portion or extension provided with interiorly-screw-threaded tubular terminals, and fastening means adapted to cooperate with the latter for securing the rail in place.

2. As an improvement in railways, a composite tie equipped with a plate having a central upstanding portion provided with interiorly-screw-threaded end tubular portions, and a screw-bolt engaging a tubular portion and effective to engage the rail base or flange.

3. As an improvement in railways, a composite tie equipped with a plate having an upstanding central portion provided with tubular terminals having interiorly-screw-

threaded surfaces, a fastening-bolt engaging a tubular terminal and having a ledge or offset portion effective to engage the rail flange or base and provided with apertures extending therethrough and a pin or key insertible through any one of said apertures for engagement with the rail-flange.

4. As an improvement in railways, a composite tie equipped with a plate having an upstanding central portion or extension provided with interiorly-screw-threaded tubular terminals, a fastening-bolt effective for engagement with a tubular terminal, a washer having an elongated hole or slot therein, and adapted to engage the rail flange or base, and a pin or key insertible through an offset of said fastening-bolt and entering the elongated hole of said washer.

5. As an improvement in railways, a composite tie, comprising concrete-and-metal reinforce in the form of series of wires having right-angled end portions with rebent or in-turned terminals embedded in said concrete, said series of wires having their respective upper and lower longitudinal portions alternating each other throughout said concrete.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOSEPH LE FAVOUR.
ROBERT F. BRAMMER.

Witnesses:

E. L. LEWIS,
THOS. F. BARRETT.