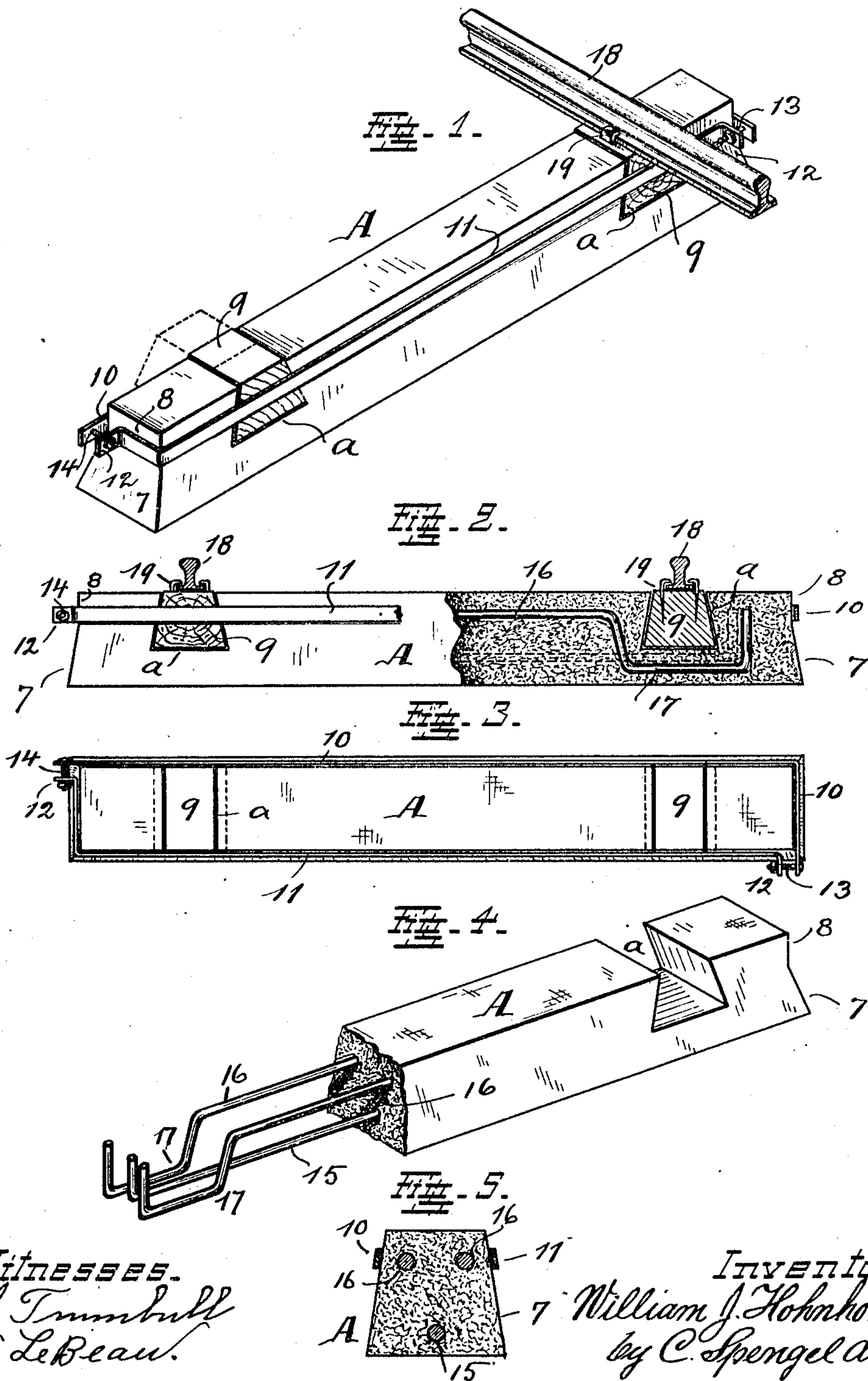


W. J. HOHNHORST.
COMPOSITE RAIL TIE.
APPLICATION FILED DEC. 29, 1910.

992,130.

Patented May 9, 1911.



Witnesses.
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UNITED STATES PATENT OFFICE.

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COMPOSITE RAIL-TIE.

992,130.

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To all whom it may concern:

Be it known that I, WILLIAM J. HOHNHORST, a citizen of the United States, and residing at Covington, Kenton county, State of Kentucky, have invented a certain new and useful Composite Rail-Tie; and I do declare the following to be a clear, full, and exact description of the invention, attention being called to the drawing which accompanies this application and forms a part thereof.

This invention relates to certain improvements in rail ties, constructed of decay-resisting material like cement or concrete and combined with wood.

In the following specification and particularly pointed out in the claims at the end thereof, will be found a full description of my invention, together with its parts and construction, which latter is also illustrated in the accompanying drawing, in which:—

Figure 1, is a perspective view of the tie and illustrates manner of its use. Fig. 2, is a side-view of it, with parts in longitudinal section. Fig. 3, is a top-view. Fig. 4, shows part of it in perspective view and illustrates manner of its construction. Fig. 5, is a cross-section of it.

The body A of the tie consists of a suitable material having moisture-proof and decay-resisting properties like cement, or concrete for instance, or similar materials.

The particular material used is treated and worked according to its character, and in case of cement or concrete, is formed to shape while in plastic condition, a suitable mold being used. This shape is prismatic, but by preference all or the larger part of the vertical sides, having reference to the completed tie when in position, are sloping to form an enlarged base to insure a stable position. Accordingly, these sides are tapered as shown at 7, with the exception of the narrow sides at the ends, the upper part of which is left straight as shown at 8.

Cement or concrete is the material here presumed and when the tie is formed provision is made to produce two recesses *a* in it which extend from the upper side partly through the body and transversely entirely through the same from side to side.

Rail-bolsters 9 in form of wooden blocks are fitted to these recesses and sized to be flush with the sides and top of the tie-body so that, when in position, a tie with intact

sides results. These blocks if closely fitted remain readily in position within the recesses, but holding means may be added for instance such having adhesive or cementing properties. These means may involve the use of coal-tar, that is the blocks might be dipped before insertion, so that the wood receives at the same time a protective coating.

They may also be held down by being made wider at their lower side as shown and dove-tailed into the recesses, these latter being formed accordingly. In this case the blocks are slipped into position endwise, note dotted lines in Fig. 1, after which means are used to retain the blocks endwise in position. These means consist of a band preferably made of two angular sections 10 and 11, each fitted against one of the long sides and one of the short sides of body A, as best shown in Fig. 3. The ends of these sections are connected to each other by suitable means. By preference the connection is so as to permit the band to be drawn tight. A way of doing this is by turning the ends of the two parts of one section, section 11 for instance, outwardly to form flanges 12, 12 and by extending the ends of section 10, so as to project beyond the tie-body at diagonally opposite corners and be opposite flanges 12, 12, as shown, to permit the use of tie-bolts, one 13 being used at one corner while another one 14, is used at the other corner. As will be seen, the band may now be drawn tight lengthwise by tightening bolt 13 and it may be closed transversely by tightening bolt 14. To prevent any possibility of this band from slipping up on the tapering side of the tie, the short parts of it are set against the straight part 8 of the ends of the tie.

The entire structure is reinforced by a suitable iron skeleton which may consist of rods embedded into body A. Three are used, an inner one 15 near the bottom of the tie and two outer ones 16 close to the top. These latter rods are bent at 17, so as to pass around the recesses *a*, *a*, as best shown in Fig. 2.

It will now be seen that a rail 18 may be put down in position and attached by use of spikes 19, the same as is done when the usual wooden ties are used.

If bolsters 9 are worn out, they may be readily replaced by new ones without requiring taking up of the tie-body. This latter is

practically indestructible and need never be disturbed so that as far as the ties are concerned repair and maintenance is limited to the renewal of these wooden blocks.

5 Having described my invention, I claim as new:

1. A rail-tie consisting of a concrete-body having recesses in its upper side, one near each end, which recesses extend transversely
10 entirely through the tie, being contracted in width from their bottoms upwardly, wooden rail-bolsters fitted to these recesses and a tie-band consisting of two connected sections drawn around the sides of the body in a position
15 to be opposite the ends of the bolsters, to confine them in the recesses.

2. A rail-tie consisting of a concrete body

having recesses in its upper side, one near each end, which recesses extend transversely
entirely through the tie, and are of contract- 20
ing width from their bottoms upwardly, wooden rail-bolsters fitted to these recesses, a tie-band consisting of two parts which come together at diagonally opposite corners of the tie and pass over the ends of the bolsters
25 to confine them in position and bolts to connect the two parts of the tie-band to each other.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

WILLIAM J. HOHNHORST.

Witnesses:

C. SPENGEL,

T. LE BEAU.

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