

(No Model.)

W. L. VAN HARLINGEN, Sr.

RAILROAD CROSS TIE.

No. 369,755.

Patented Sept. 13, 1887.

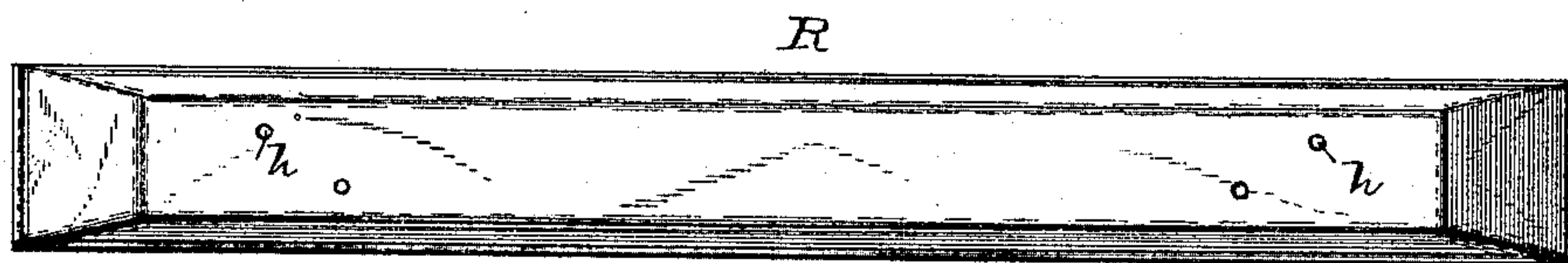


Fig. 2

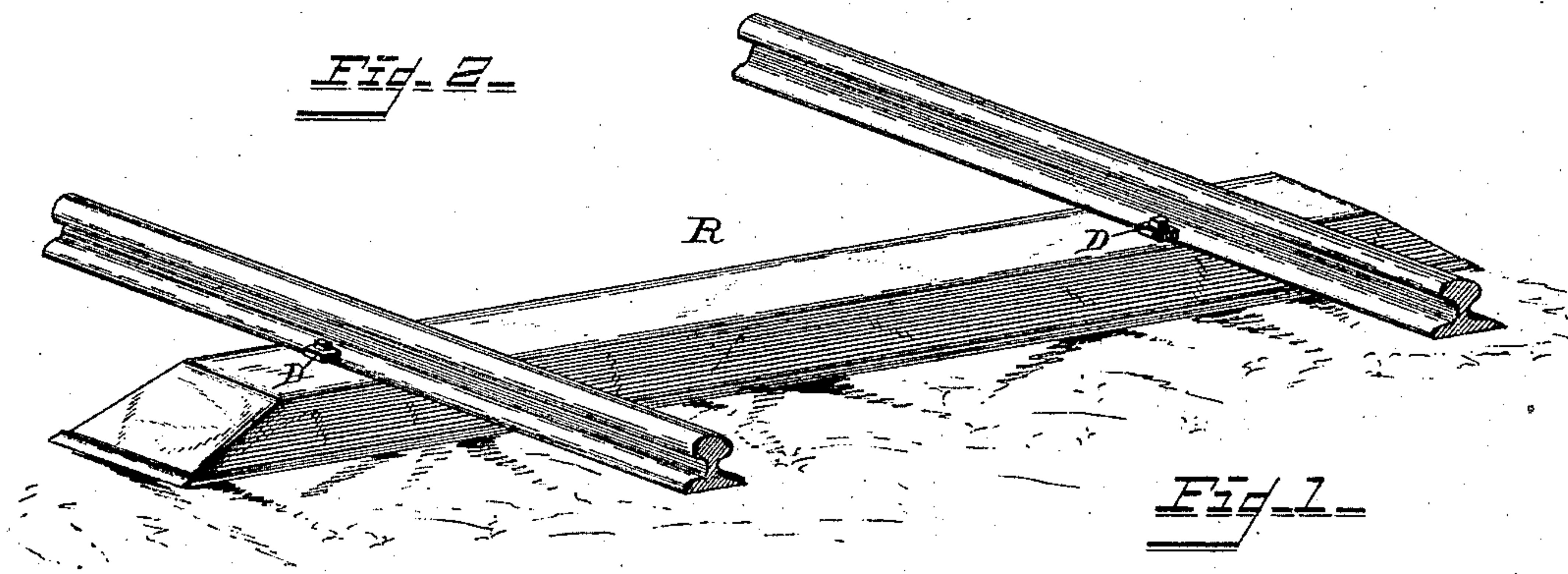


Fig. 1

Fig. 3

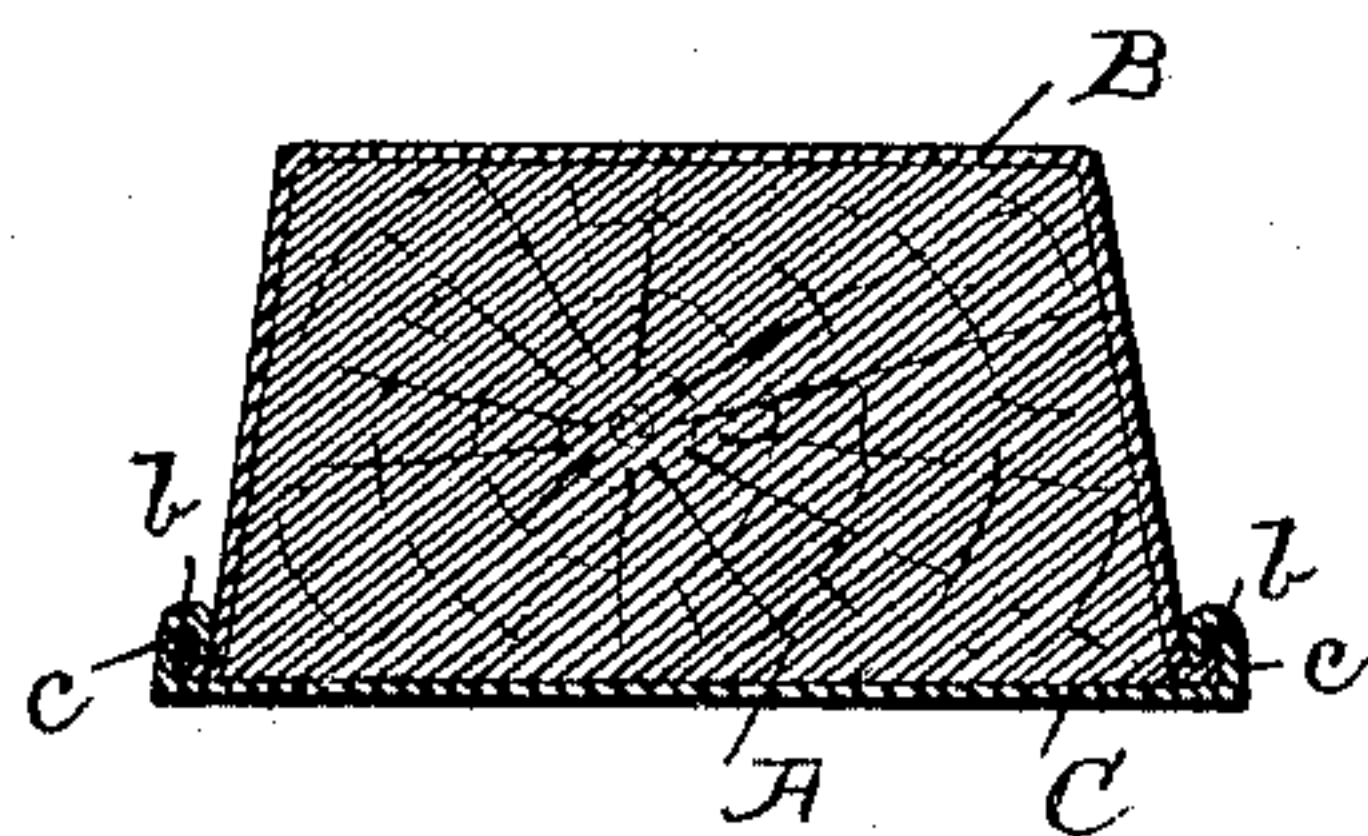


Fig. 4

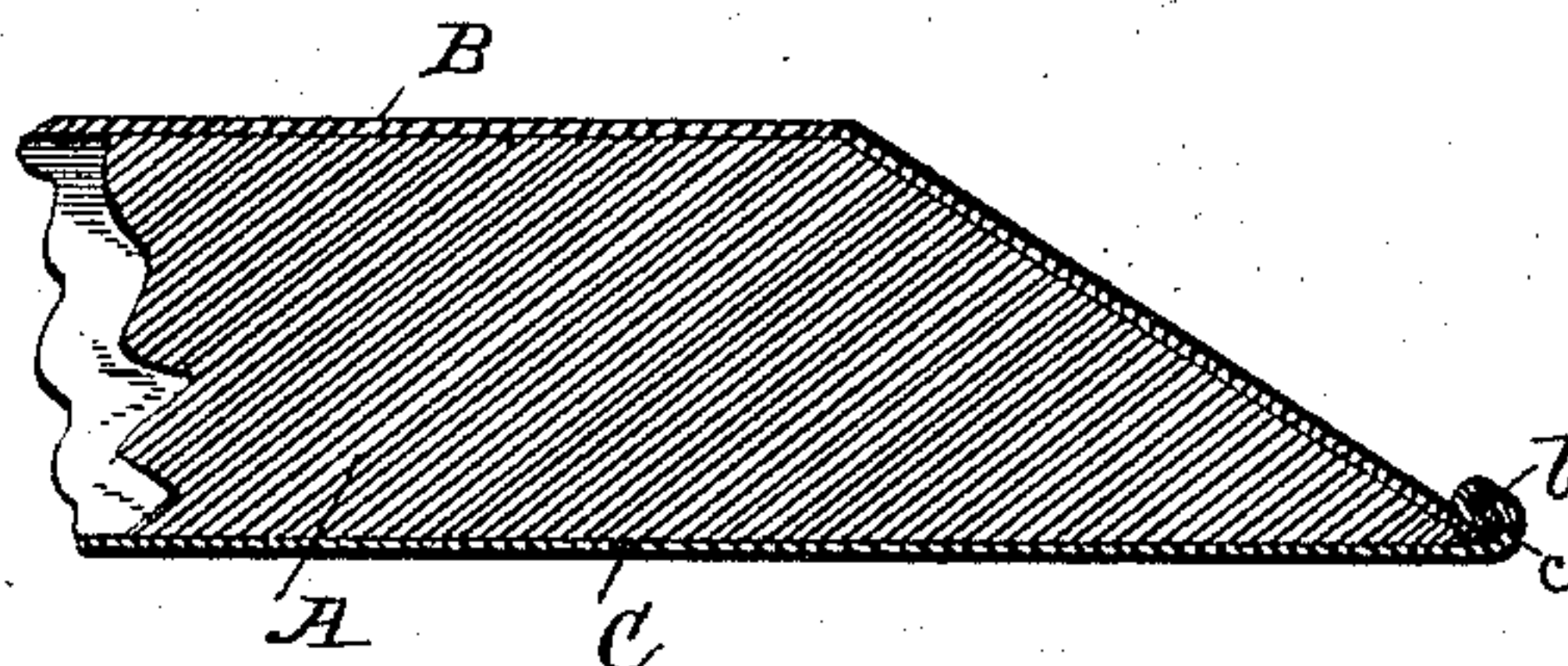
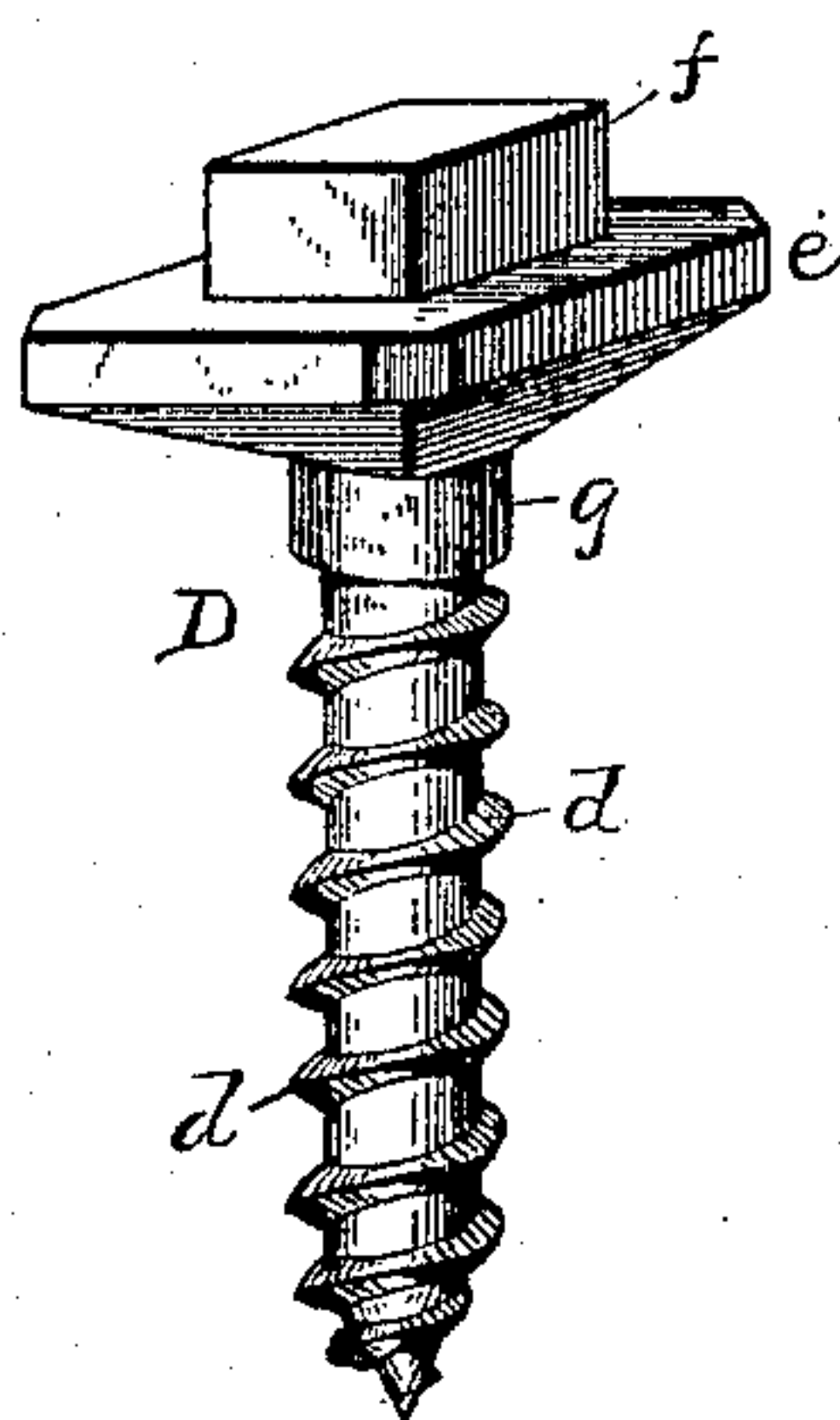


Fig. 5



Witnesses

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WILLIAM L. VAN HARLINGEN, SR., OF SAN FRANCISCO, CALIFORNIA.

RAILROAD CROSS-TIE.

SPECIFICATION forming part of Letters Patent No. 369,755, dated September 13, 1887.

Application filed May 18, 1887. Serial No. 238,668. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. VAN HARLINGEN, Sr., a citizen of the United States of America, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Railroad Cross-Ties, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to railroad cross-ties; and it has for its object the production at a low cost of a tie possessing the elasticity of wood and the durability of metal, and by the use of which the necessity for gage-measurements while laying the track may be avoided.

The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 of the drawings is a perspective view of a tie made in accordance with my invention, showing the rails attached. Fig. 2 is a plan view of the tie ready for the rails. Fig. 3 is a cross-section of the tie. Fig. 4 is a broken longitudinal section of the same. Fig. 5 is an enlarged perspective view of one of the screw-threaded spikes employed in securing the rails to the tie.

A represents the wooden or body portion of my improved tie, which, preferably, is in one solid piece, but which may, if desired, be composed of two or more pieces.

B C represent a water-tight metallic casing completely enveloping the wooden portion of the tie, which casing is constructed of any suitable metal, but preferably of galvanized iron, the part B comprising the top, sides, and ends, and the part C the bottom. The lower edges of the sides and ends of part B are turned upward, as seen at *b*, and the edges of part C are bent upward and then downward, as seen at *c*, so as to fit over the upturned edges of the sides and ends, as clearly shown in Figs. 3 and 4, in order to form a close joint. The wood is placed in the part B of the casing. The bottom C of the casing is then attached to part B, and finally the seams are hammered down, and, if deemed necessary, are closed by solder, water-proof paint, or in any other well-known way calculated to render the casing water-tight. I wish it distinctly understood, however, that while I have thus described a

cheap and effective metal casing I do not limit my invention to simply the wooden body of a cross-tie inclosed in a water-tight metal casing constructed precisely as above set forth, as the gist of the invention resides in the production of a cross-tie possessing the desirable features of the elasticity of a wooden tie and the durability of a metal tie, in which the wood forms the body and the metal forms a water-tight casing for the wood.

In order to avoid the necessity for gage-measurements, and to thereby greatly facilitate laying the rails, one set of spike-holes, *h*, may be formed in each end of the tie at the factory, the inner holes being so disposed as to give the exact measurement between the rails R and the outer holes being located the width of the base of the rail beyond. I prefer to arrange the holes in the order shown in Fig. 2, so as to give room for additional spikes when the ends of two rails meet on the tie, the holes for these spikes being readily formed by any suitable punch.

In lieu of the ordinary spike used for securing the rail to the tie, I prefer to use a screw-threaded spike, D, like that shown in Fig. 5. This spike is round in cross-section, and is threaded the greater part of its length, as at *d*. The head *e* is beveled on the under side in such manner as to fit squarely down upon the base of the rail, and upon the upper side of the head is formed an elevation, *f*, which serves as a hold for a wrench in screwing the spike into the tie. The thread *d* terminates a short distance below the head, leaving a round portion, *g*, of the full diameter of the thread of the spike, in order that when the spike is screwed home into the tie the portion *g* will neatly fill the hole made in the metal of the tie and exclude moisture. If a spike of any other shape in cross-section were used, the edges of the holes in the casing would be very apt to be broken down in driving it into the tie.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A railroad cross-tie constructed of wood and metal, the wood forming the body of the tie and the metal forming a water-tight casing for the wood.

2. A cross-tie constructed of wood and metal,

the former constituting the body of the tie and the latter a water-tight casing for the wood, the top and sides of said casing being formed of one piece of metal and the bottom of another piece, the edges of the two pieces being seamed together, substantially as described, and for the purposes stated.

3. A cross-tie constructed of wood and metal, the former constituting the body of the tie and the latter a water-tight casing for the wood, the top of the casing being perforated for the spikes, as described, and for the purpose stated.

4. In combination with a cross-tie constructed of wood and metal, as described, and

a rail, of a spike round in cross-section and screw-threaded for a portion of its length, the head of the spike being beveled on the under side and having an elevation on top for the application of a wrench, substantially as described.

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

WILLIAM L. VAN HARLINGEN, SEN.

Witnesses:

ALBERT SPEIDEN,
G. W. BALLOCH.