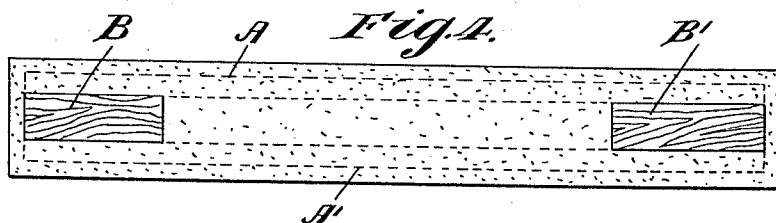
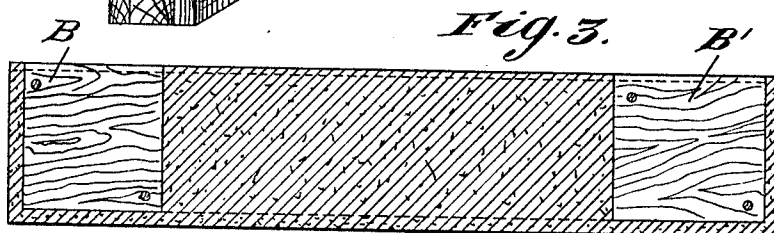
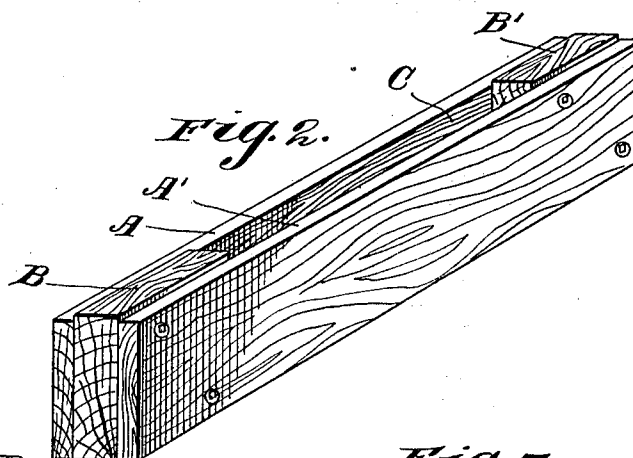
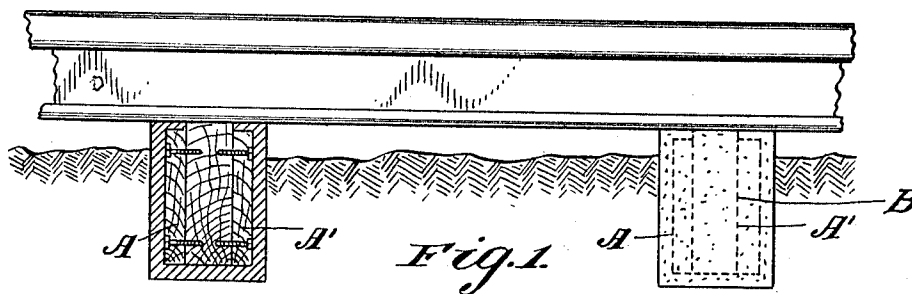


J. W. ILLINGWORTH.
RAILWAY TIE.
APPLICATION FILED OCT. 4, 1911.

1,054,418.

Patented Feb. 25, 1913.



Witnesses:
Hans L. Kellig
Minnie S. Miller

John Warren Illingworth Inventor
By his Attorney
Frank W. Schlegel

UNITED STATES PATENT OFFICE.

JOHN WARREN ILLINGWORTH, OF DORSEY, MARYLAND, ASSIGNOR OF ONE-HALF TO SARAH J. YOUNG, OF EASTON, PENNSYLVANIA.

RAILWAY-TIE.

1,054,418.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed October 4, 1911. Serial No. 652,747.

To all whom it may concern:

Be it known that I, JOHN WARREN ILLINGWORTH, a citizen of the United States, and a resident of Dorsey, in the county of Howard and State of Maryland, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification.

My invention relates to railroad ties and the object of my invention is to provide a tie made of a plurality of pieces of wood united together in such manner as to form a serviceable and durable tie.

A further object of my invention is to provide a tie comprised of wood which wood is protected from the atmosphere to prevent it from decaying.

A further object is to provide a tie which may be made at a low cost.

Referring to the drawings which form a part of this specification Figure 1 is a side view of a rail resting on ties embodying my invention, one of which is shown in cross section and the other an end view. Fig. 2 is a perspective view of the wooden portions of the tie as it appears before it is incased in concrete or other suitable cement covering. Fig. 3 is a longitudinal sectional view through the middle of the tie. Fig. 4 is a plan view of the finished tie.

A and A' indicate two wooden slabs respectively, which may be made of any kind of wood but which I prefer to make of second growth spruce or pine or other cheap wood in order to reduce the cost of the tie as far as possible. After the slabs are cut to proper length and thickness, I prefer to soak them in water to remove the water soluble gums and acids and then soak them in strong lime water and then dry them, thereby impregnating the wood with lime which protects it from decaying. I then bolt or otherwise fasten the slabs to the end pieces B and B' respectively on opposite sides thereof, which pieces are made of hard durable wood and extend from the ends of the slabs toward each other as illustrated and preferably project above the top edges of the slabs a short distance. This construction provides an opening C between the

slabs and end pieces which I fill with concrete or cement, which concrete or cement I preferably mix with a liberal portion of slaked lime to further assist in preventing the wood from decaying. I then place the wood portion of the tie in a suitable mold and pour cement concrete or other such suitable plastic hardening material around the wood to incase the same, leaving the top surfaces of the end pieces B and B' exposed so that the bottoms of the rails may rest directly on the wood, and the spikes may then be driven into the end pieces to hold the rails thereto as in the usual manner. After the cement has become set the tie is removed from the mold and is then ready for use.

By using woods of the character mentioned for the slabs, I am enabled to provide the ties at a low cost since these woods are usually wasted due to their tendency to easily decay, but by treating them with lime and incasing them as set forth or by incasing them in cement containing a considerable amount of lime, they will be preserved and last indefinitely.

Having thus described my invention, I claim as new:—

1. A tie comprising two slabs, wooden blocks held between said slabs at the end thereof, a filling material in the opening formed between the slabs and end pieces, and a protecting and reinforcing envelop covering said slabs and blocks.

2. A tie comprising two slabs, wooden blocks held between said slabs at the ends thereof, said blocks projecting for a short distance above the slabs, and filling and reinforcing material between said slabs and forming a protecting envelop for covering the exterior of the slabs and blocks and substantially flush with the projecting ends of the blocks.

3. A tie comprising two wooden slabs, wooden blocks held to said slabs at the ends thereof, a concrete filling and reinforce between said slabs and blocks, and a concrete casing enveloping said slabs and blocks while leaving the tops of said blocks exposed.

4. A tie comprising two wooden slabs, an
end piece held between said slabs at each
end thereof, the top surface of which ex-
tends above the top edges of the slabs, and
5 a cement material incasing said slabs while
exposing the top surface of said end piece.
Signed at New York city, in the county

of New York and State of New York this
3rd day of October A. D. 1911.

JOHN WARREN ILLINGWORTH.

Witnesses:

FRANK M. ASHLEY,
MINNIE S. MILLER.

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