J. F. HERBERT.

CONCRETE RAILWAY TIE.

APPLICATION FILED JAN. 17, 1911.

996,598. **Patented June 27, 1911.**

Fig. 1.

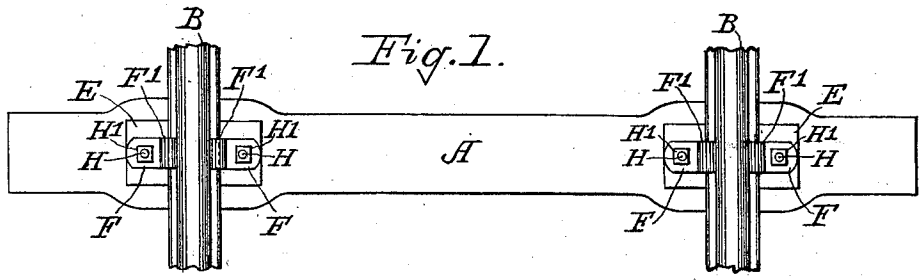


Fig. 2.

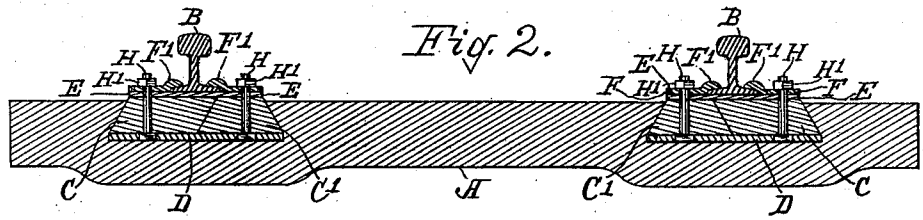


Fig. 3.

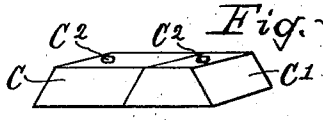


Fig. 4.

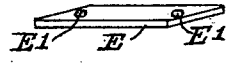


Fig. 5.

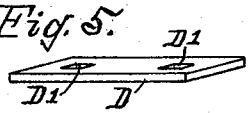


Fig. 6.

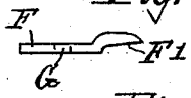
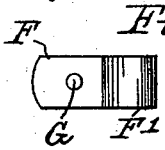


Fig. 7.



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UNITED STATES PATENT OFFICE.

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CONCRETE RAILWAY-TIE.

996,598. Specification of Letters Patent. Patented June 27, 1911.

Application filed January 17, 1911. Serial No. 603,175.

To all whom it may concern:

Be it known that I, JOHN F. HERBERT, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Concrete Railway-Ties, of which the following is a specification.

This invention relates to certain novel improvements in the construction of cross-ties for railways, the purpose thereof being to provide a tie formed or molded from concrete, cement, artificial stone, or asphalt, or from a mixture of two or more of said materials, or from any suitable plastic material which when hardened possesses the requisite strength.

It is my purpose, also, to provide a railway tie which may be strengthened in the direction of longitudinal strain by iron rods placed in the mold before the plastic material is introduced, whereby said rods are firmly embedded in said material.

It is my further purpose to provide a tie that will be nearly indestructible and which will provide a support for rails as elastic and practically the same as the ordinary wooden cross-tie, with improved means for fastening the rails down upon the tie in a manner at once secure and easily applied and removed, as will be hereinafter fully described, illustrated in the drawings and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a plan view of a cross-tie constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a perspective of wooden blocks upon which the rails rest. Fig. 4 is a perspective of a metal plate placed between the rail and block. Fig. 5 is a perspective of a pad formed of elastic material upon which the wooden blocks rest. Figs. 6 and 7 are detail views of a strap for securing the rails to the cross-tie.

In the said drawings, the reference letter A designates the tie or sleeper, which is formed of any suitable plastic material. It may be formed of cement, and sand, or from any plastic non-metallic material which may be molded into the required form. In length, width, and thickness it may conform to the dimensions of ordinary wooden ties, except the parts adjacent to where the rails B are supported should be expended wider and deeper, to compensate in strength for the dovetailed recesses which receive wooden blocks C and C^1, shown in detail in Fig. 3. The dovetailed ends of these blocks hold them in place in the concrete sleepers, and they extend above the recesses, supporting the rails out of contact with the concrete portion of the cross-tie.

The blocks of wood may be creosoted, or otherwise preserved, and are further protected by being incased in the concrete; so that they will not require to be renewed at very frequent intervals. Beneath these blocks is placed a pad D, preferably made of cypress shavings, pressed into a compact body, then thoroughly soaked in oil, it will yield slightly to the weight of passing cars, and the pressure thus applied exudes the oil, which will be absorbed by the blocks, tending to preserve them. I make the wood blocks in pairs fitted together as by this construction I provide a better cushion and permit of the ready renewal of any of the blocks when they become worn or useless.

The tie plates E are of the same size as the upper surfaces of the two blocks C and C^1, and serve a double purpose; one being in preventing the rail from cutting down into the blocks and striking the concrete portion, and the other in serving to bind the two sections of the block together as one solid piece, impossible of displacement from the recesses in the concrete.

The blocks and pads form elastic supports for the rails, and enable my concrete cross-tie to furnish as much elasticity or cushioning effect as the ordinary wooden tie.

The rails B are fastened in place by means of straps F, having portions F^1, which rest upon the base of the rails. Through perforations G in these straps, perforations E^1 in the tie plates, and perforations C^2, in the wooden blocks, pass bolts H, that extend up through the straps F, and receive nuts H^1, by which the rail is held securely in place without the use of spikes. The pads D have perforations D^1, in which the heads of bolts H rest, thus removing all iron portions out of contact with the concrete.

Changes in the form, proportion, and minor details of construction may be resorted to, also other obvious modifications are included within the scope of my patent.

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

The concrete railroad tie herein described, having the tapered recesses in each end, the pads fitting the bottom of the recesses, the tapered shaped wood blocks arranged in pairs and fitting in the recesses, the rail supporting plates, the rails having their feet resting on the supporting plates; the rail securing straps and the fastening bolts passing upward through the pad, blocks, plates and straps and the nuts on the threaded ends of the bolts.

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

JOHN F. HERBERT.

Witnesses:

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ALBERT E. JAMISON.