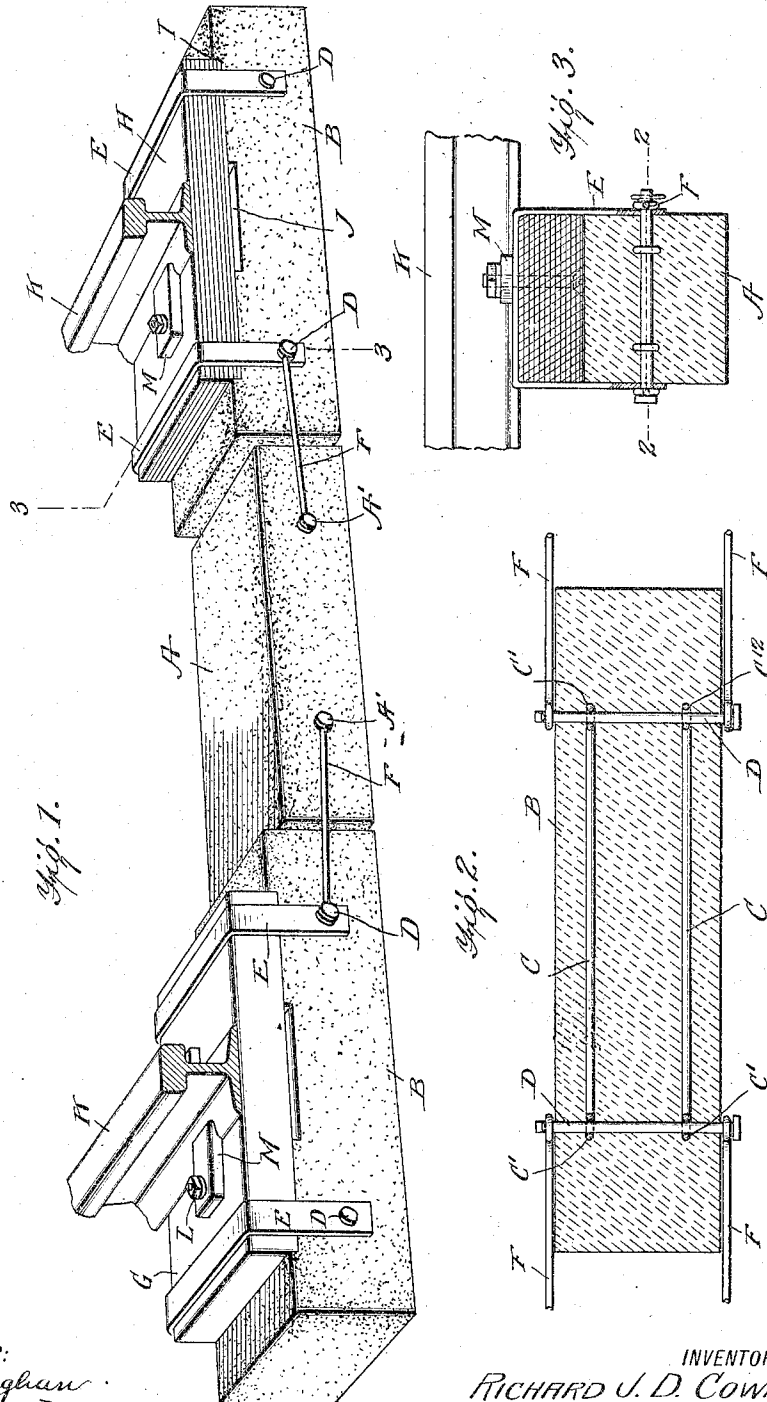


R. J. D. COWAN.
 CONCRETE RAILWAY TIE,
 APPLICATION FILED SEPT. 13, 1910.

976,726.

Patented Nov. 22, 1910.



WITNESSES:
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UNITED STATES PATENT OFFICE.

RICHARD J. D. COWAN, OF GREENVILLE, MISSOURI, ASSIGNOR OF TWO-THIRDS TO DANIEL W. HEILIG, OF PULASKI, ILLINOIS.

CONCRETE RAILWAY-TIE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RICHARD J. D. COWAN, a citizen of the United States, and a resident of Greenville, in the county of Wayne and State of Missouri, have invented certain new and useful Improvements in Concrete Railway-Ties, of which the following is a specification.

This invention is an improvement in railway ties and particularly in such ties of concrete construction; and the invention consists in certain novel constructions and combinations of parts as will be hereinafter described and claimed.

In the drawing Figure 1 is a perspective view of a tie embodying my invention. Fig. 2 is a horizontal sectional view of one of the end sections of the tie on about line 2—2 of Fig. 3. Fig. 3 is a cross section on about line 3—3 of Fig. 1.

My tie, as shown, is composed of three sections, an intermediate section A and the end sections B. These end sections B are alike so a description of one will answer for both and the several sections A and B are reinforced by longitudinal rods C as best shown in Figs. 2 and 3, said rods C extending in the direction of length of the sections B on horizontal lines and being provided at their ends with loops or eyes C' through which pass the cross rods or bolts D which operate to secure the yokes E. The cross rods or bolts A' of the intermediate section A form connections for the tie rods F which are secured at one end to the bolts A' and at their other ends to the bolts D at the inner ends of the end sections B. By this construction the tie sections of concrete are reinforced longitudinally and the reinforcing means coöperate in providing strong connections between the central and end sections of the tie as will be understood from the drawing.

The coupling rods F permit of the vibrating motion of the tie without varying the gage of the track so that it is possible to keep a perfect gage at all times and the yokes or clamps E are secured by the cross bolts of the reinforcing means. These clamps or yokes E have their arms secured by the bolts D of the end sections and their cross bars extend over the rail seats G and H as shown. These rail seats may each be formed of a single block as shown at G in Fig. 1 or they may be formed of a series of

layers as shown at H in Fig. 1, and the block may be of wood or other suitable material and the layers H may be of wood, paper or other suitable material and this sectional construction as shown at H enables me to vary the sections employed in order to secure the desired height of rail as may be necessary in any particular case.

In supporting the rail seats G or H, I provide in the upper faces of the sections B recesses I from which subrecesses J extend at a point directly below the rails K, thus increasing the resilience of the rail seat. The recess I prevents any longitudinal displacement of the rail seats and the yokes or clamps E secure the rail seats firmly in their recesses.

In securing the rails, bolts L may be employed to secure rail clamps or blocks M which overlap the rail base as shown.

By constructing the tie in three sections and uniting the intermediate section with the end ones by the loose flexible joints secured through the aid of the coupling rods F, I furnish a novel construction of tie and the clamps or yokes for securing the cushioning rail seats permit of the cushions being fitted loosely therein thereby providing for expansion of rail and allowing the vibrating motion desirable for the preservation of the rolling stock.

It will be noticed that the reinforcing rods or plates are embedded in the concrete with no parts exposed thereby prolonging materially the life of the tie.

I claim:

1. A tie substantially as described, composed of a central section and end sections consisting of concrete, reinforcing rods therein having eyes at their ends, cross bolts extending through the said eyes, coupling rods connecting the cross bolts of the central section with the adjacent cross bolts of the opposite end sections, the end sections being provided in their upper faces with recesses and with sub-recesses intermediate the ends thereof to underlie a rail, cushioning rail seats in the recesses of the said end sections and clamps securing said rail seats and having their end arms secured by the cross bolts of their respective sections, substantially as and for the purposes set forth.

2. A tie composed of an intermediate section, end sections on opposite sides of the intermediate section, coupling rods connect-

ing the end and intermediate sections, cushioning rail seats on the end sections, and clamps securing the rail seats to their respective sections, substantially as set forth.

5 3. The combination with a concrete tie section having longitudinal reinforcing rods provided at their ends with eyes and cross bolts passing through the eyes of said reinforcing rods, of clamps having end arms secured by said cross rods and a cross bar extending from side to side above the tie and
10 a cushioning rail seat secured by said clamps, substantially as set forth.

15 4. The combination of a concrete tie composed of an intermediate section and end

sections having longitudinal reinforcing rods provided with end eyes, bolts extending through said eyes and projecting beyond the tie sections, coupling rods connecting the adjacent bolts of the end and intermediate
20 sections whereby to secure the intermediate and end sections in connection, rail seats on the end sections and yokes securing said rail seats and held by the cross bolts of their respective tie sections, substantially as set
25 forth.

RICHARD J. D. COWAN.

Witnesses:

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