

C. A. PIERSON.
CONCRETE RAILWAY TIE.
APPLICATION FILED AUG. 26, 1921.

1,406,074.

Patented Feb. 7, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

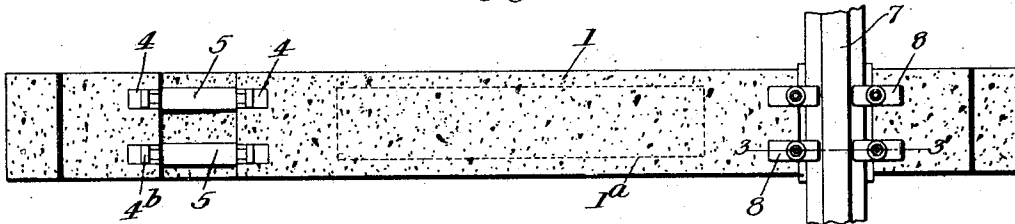


Fig. 2.

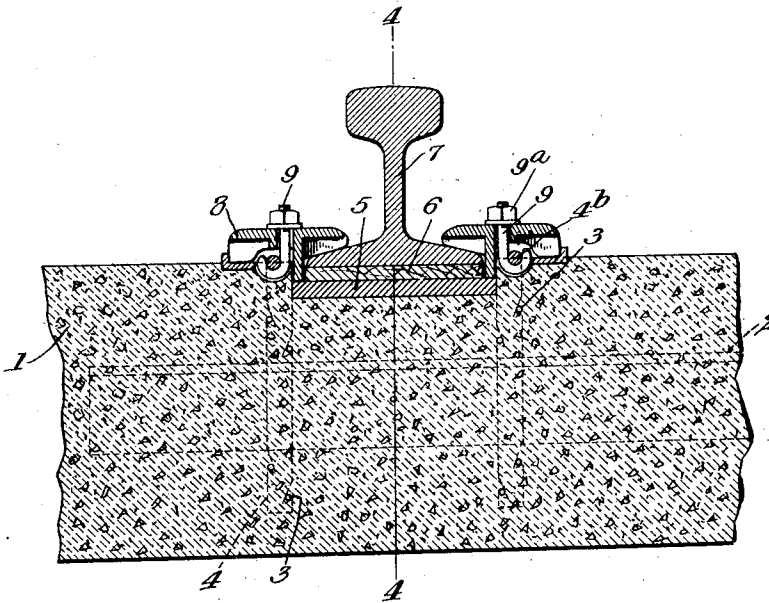
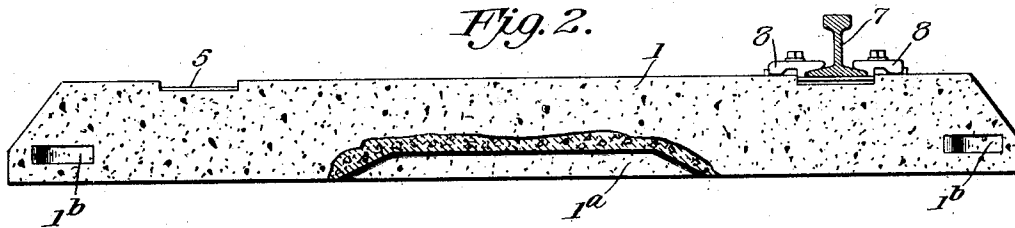


Fig. 3.

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2 SHEETS—SHEET 2.

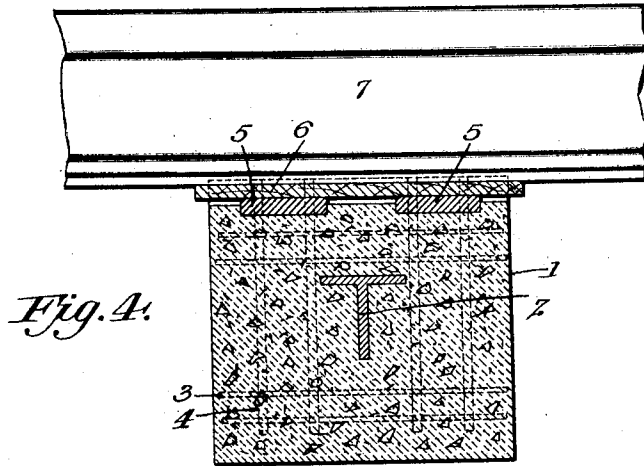


Fig. 4.

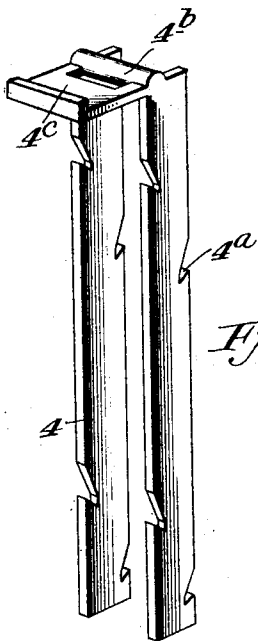


Fig. 5.

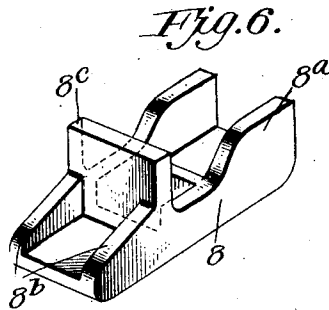


Fig. 6.

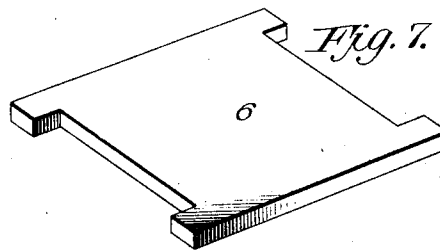


Fig. 7.

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UNITED STATES PATENT OFFICE.

CHARLES A. PIERSON, OF SHARON, PENNSYLVANIA.

CONCRETE RAILWAY TIE.

1,406,074.

Specification of Letters Patent.

Patented Feb. 7, 1922.

Application filed August 26, 1921. Serial No. 495,486.

To all whom it may concern:

Be it known that I, CHARLES A. PIERSON, a citizen of the United States, and resident of Sharon, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Concrete Railway Ties, of which the following is a specification.

My present invention relates to improvements in concrete railway ties or sleepers and aims to provide a construction which will be strong and durable, which will afford a cushion support for the rails, and which will embody easily operable means for firmly securing the rail to the tie.

With these and other objects in view the invention includes the novel features of construction and arrangement of parts hereinafter described and particularly defined by the appended claims.

An embodiment of my invention is illustrated in the accompanying drawing in which—

Figure 1 is a plan view of my improved tie showing a portion of a rail seated on one end portion thereof.

Fig. 2 is a side elevation with the rail shown in section.

Fig. 3 is an enlarged sectional detail the section being taken on line 3—3 of Fig. 1.

Fig. 4 is a section on line 4—4 of Fig. 3.

Figs. 5, 6 and 7 are detail views of the rail anchoring device, the clamping member and the rail supporting plate respectively.

Referring by reference characters to this drawing the numeral 1 designates the tie as a whole which may be molded into proper shape by the use of any suitable mold, and which is provided with a recessed portion 1^a in its under side to afford better seating on the ballast.

It is also preferably provided with hand hold recesses as indicated at 1^b.

The tie is preferably reinforced by means of a longitudinal T shaped bar 2 and transverse rods or members 3 which are molded into the tie in its manufacture, as also are the rail anchoring devices 3 which are in the shape of vertical bars 4 having notches in their sides which are engaged by the reinforce members 3 and having cross rods 4^b at their upper ends which are engaged by the rail fastening devices hereinafter described.

These bars 4 are preferably formed in connected pairs as shown in Fig. 5 being rigidly united at their upper ends by the integral

cross plate 4^c which serves as a bearing for the rail clamp as will hereinafter appear.

In order to provide resilient supports for the rail I provide rubber cushioning blocks, preferably two for each rail, as indicated at 5, which are seated in recesses in the upper surface of the tie and upon each pair of rubber blocks I provide a rail supporting plate of harder but still somewhat resilient material such as wood, as indicated at 6 and shown in detail in Fig. 7, upon which the base of the rail 7 is seated.

The flanges of the rail are engaged by clamping member 8 shown in detail in Fig. 6. Each of these is preferably of substantially channel shape formation having rounded lug portions 8^a designed to fulcrum on the bearing portions 4^c above referred to and having inclined contact portions 8^b designed to rest upon the upper surfaces of the base of the rail as clearly shown in Fig. 3.

Preferably also the clamping members are provided with transverse web portions 8^c which abut against the edges of the rail base and prevent any lateral shift thereof.

Each clamping member is provided with a vertical opening through which passes the shank of a hook 9 which hook engages the cross rod 4^b of the anchor device. The shanks of the hooks are threaded to receive nuts 9^a which may be locked in position by any approved means such as lock washers.

If desired additional T or other shaped reinforcement members may be provided the end portions of the ties beneath the rails.

Having thus described my invention what I claim is:

1. A concrete railway tie having a rubber block embedded in the upper surface thereof, a wooden wear plate superposed on said rubber block, and forming a seat for the rail, and means for securing the rail in place.

2. A concrete railway tie having a pair of longitudinally disposed rubber blocks seated in the upper face of the rail near each end, a wear plate bridging each pair of blocks and a pair of rail fastening devices located in proximity to each rubber block.

3. A concrete tie having an anchoring device embedded therein provided with a cross rod at its upper end, a clamping block for engaging the base of the rail, and a hook engaging said cross bar and having a shank passing through an opening in the block provided with a clamping nut.

4. A concrete tie having an anchoring de-

vice embedded therein, and a rail clamping device of substantially channel shape having a pair of webs at one end with inclined faces adapted to co-operate with the rail base and
5 a rounded fulcrum portion at the other end and with means located intermediate said ends for securing the clamping device to said anchoring device.

10 5. A railroad tie comprising a concrete body, vertically disposed anchoring bars embedded therein having notched edges, transverse rods embedded in the concrete and engaging said notched edges, and means for
securing the rail to said tie.

6. A concrete tie having a longitudinally 15 disposed reinforcing bar, vertically disposed anchoring bars on each side thereof having notched edges, and transverse rods embedded in the concrete and engaging said notched edges.

20 7. A concrete tie having a longitudinally disposed T shaped reinforcing bar, vertically disposed anchoring bars on each side thereof having notched edges, and transverse rods embedded in the concrete and en- 25 gaging said notched edges.

In testimony whereof I affix my signature.

CHARLES A. PIERSON.