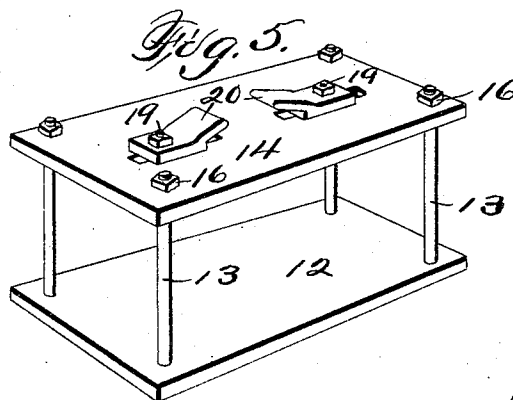
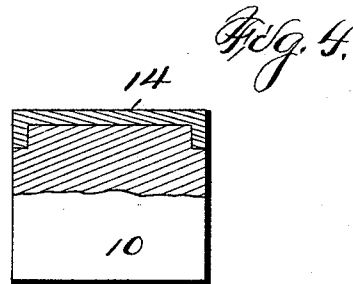
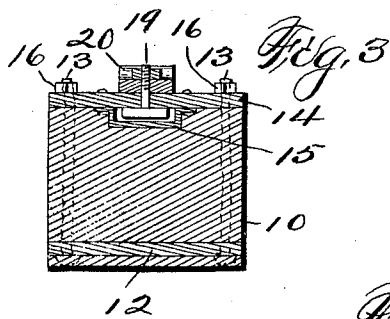
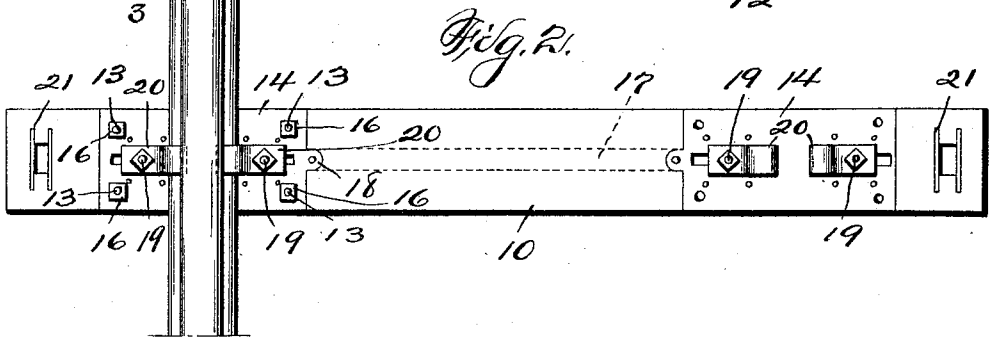
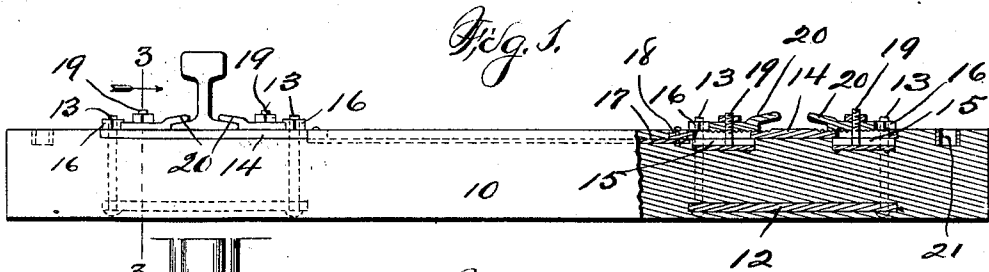


No. 807,313.

PATENTED DEC. 12, 1905.

C. PELMULDER.
CONCRETE RAILROAD TIE.
APPLICATION FILED MAR. 29, 1905.



Witnesses: } Inventor: Charles Pelmulder,
R. H. Orwig. }
R. H. Orwig. } By Thomas G. Orwig, Attorney.

UNITED STATES PATENT OFFICE.

CHARLES PELMULDER, OF GRANT CITY, IOWA.

CONCRETE RAILROAD-TIE.

No. 807,313.

Specification of Letters Patent.

Patented Dec. 12, 1905.

Application filed March 29, 1905. Serial No. 253,378.

To all whom it may concern:

Be it known that I, CHARLES PELMULDER, a citizen of the United States, residing at Grant City, in the county of Sac and State of Iowa, have invented a new and useful Concrete Railroad-Tie, of which the following is a specification.

My object is, first, to prevent the dangers, accidents, and loss of life incident to the decay of wooden railway-ties and the consequent loosening of track-rails; second, to provide ties made of concrete that will not decay; third, to reinforce the concrete ties by means of metal embedded therein; fourth, to combine adjustable metal clamps with the end portions of the concrete ties for detachably fastening track-rails on the ties.

My invention consists in the concrete tie and the metal embedded therein and the adjustable rail-clamps combined therewith, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the tie, partly in section, that shows the positions of the embedded metals and the adjustable rail-clamps relative to each other and the concrete tie and a rail fastened thereon at one end portion of the tie. Fig. 2 is a top view of the tie and rail fixed thereon. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 1 and shows how the rail-clamps are connected with the top plate. Fig. 4 is an end view of the tie, partly in section, that shows the metal plate that serves as a rail-chair provided with flanges at its parallel sides. Fig. 5 is a perspective view that shows the manner of combining the two metal plates to place them in the mold to be embedded in the concrete.

The numeral 10 designates the concrete tie, that may vary in length, thickness, and weight, as required to be adapted for wide or narrow gage railways, and formed in a suitable mold.

Metal plates 12 are provided with bolt-holes at their corners, and bolts 13 are provided with shoulders at their end portions and terminate in screws that are passed through the holes in the plates and nuts fixed on the screws to produce rigid frames that can be placed in a mold and embedded by filling concrete in the mold. Metal plates 14 of corresponding shape are provided with metal boxes 15, fixed on their under sides by means of bolts and placed on top of the concrete to

be embedded in the surface of the end portions of the tie and securely fastened by means of nuts 16, placed on the tops of the bolts 13. The two top plates 12 are connected at their inner ends by means of a straight metal bar 17, fixed to perforated ears 18, integral with the plates, as shown in Figs. 1 and 2, or in any suitable way, as required to resist lateral pressure from the weight of trains passing over them and to prevent the track-rails fixed thereon from spreading. The plates 12 are provided with slots in their end portions, and bolts 19, having square heads in the boxes 15 that prevent the bolts from turning, are extended up through the slots and through perforations in rail-clamps 20, as required to adjustably connect the clamps with the plates 12, that serve as rail-chairs, upon which rails are fastened therewith, as shown in Figs. 1 and 2, and as required for practical use. Metal plates 21 are embedded in parallel position in the end portions of the tie and a cavity formed between them to admit iron hooks or bars to facilitate manually moving the ties without laying hands in direct contact with the ties.

Having thus set forth the purposes of my invention and its construction and manner of use, the practical utility thereof will be obvious to railroad men and persons familiar with the art to which it pertains.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a concrete railway-tie, a metal plate embedded in its bottom portion, a corresponding plate, provided with longitudinal slots in its end portions, embedded in the top portion and means for connecting the two plates.

2. A concrete railway-tie, having a metal plate embedded in the bottom part of its end portion, bolts fixed in the plate to project upward and a second plate fixed to the tops of the bolts and embedded in the top surface of the tie and a box fixed to the under side of the second and upper plate to inclose the head of a bolt, in the manner set forth.

3. A concrete railway-tie having a metal plate embedded in the bottom part of its end portion, bolts fixed in the plate to project upward, a second plate fixed to the tops of the bolts and embedded in the top surface of the tie, a box fixed to the underside of the second and upper plate, slots in the end portions of the second and upper plate, a bolt extended

up through the slot and provided with a square head to engage the box on the under side of the plate and rail-clamps adjustably connected with the top of the plate by means of the bolts in the manner set forth.

5 4. A concrete railway-tie having two metal plates embedded in each end at its top and a cavity between the plates, as shown and described.

10 5. A railway - tie comprising a concrete main portion, metal plates embedded in the bottom of its end portions, bolts fixed in the plates to project upward, metal plates fixed to the tops of the bolts and embedded in the
15 top surface of the tie and connected by a metal bar embedded in the tie, boxes fixed to the under sides of the top plates, bolts extended from the boxes up through slots in the plates, and rail-clamps adjustably connected with the plates by means of the bolts,
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in the manner set forth, for the purposes stated.

6. A railway - tie comprising a concrete main portion, metal plates embedded in the bottom of its end portions, bolts fixed in the
25 plates to project upward, metal plates fixed to the tops of the bolts and embedded in the top surface of the tie, boxes fixed to the under sides of the top plates, bolts extended from the boxes up through slots in the plates, rail-clamps adjustably connected with the plates
30 by means of the bolts and metal plates embedded in parallel position in the top and end portions of the tie and cavities between the plates, in the manner set forth for the purposes stated.
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CHARLES PELMULDER.

Witnesses:

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