

P. HEBERT.
RAIL TIE.

APPLICATION FILED FEB. 20, 1911.

1,042,343.

Patented Oct. 22, 1912.

3 SHEETS—SHEET 1.

Fig. 1

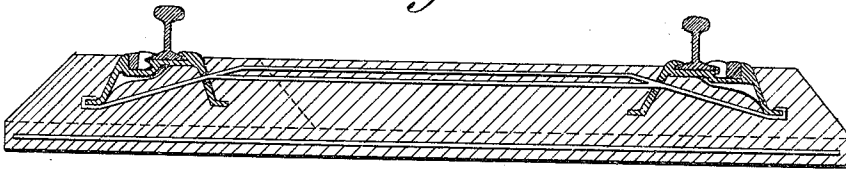


Fig. 2

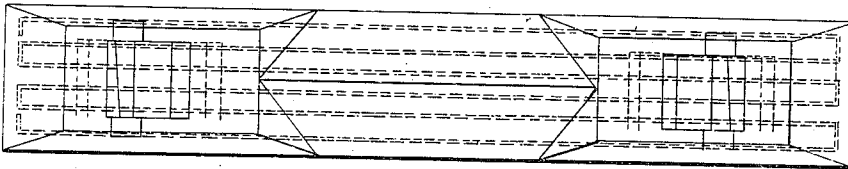
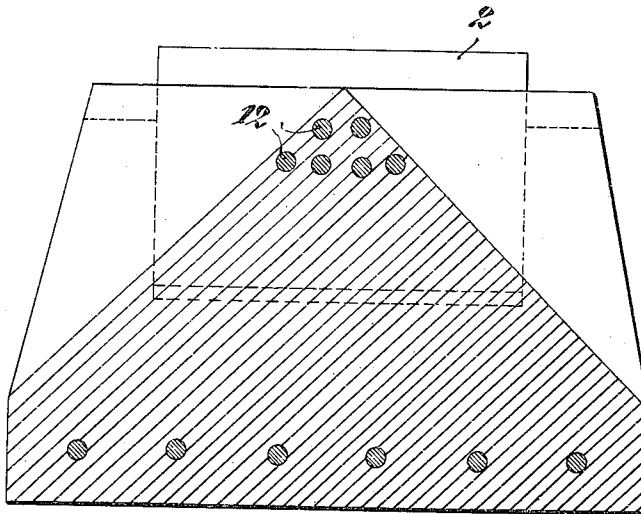


Fig. 3



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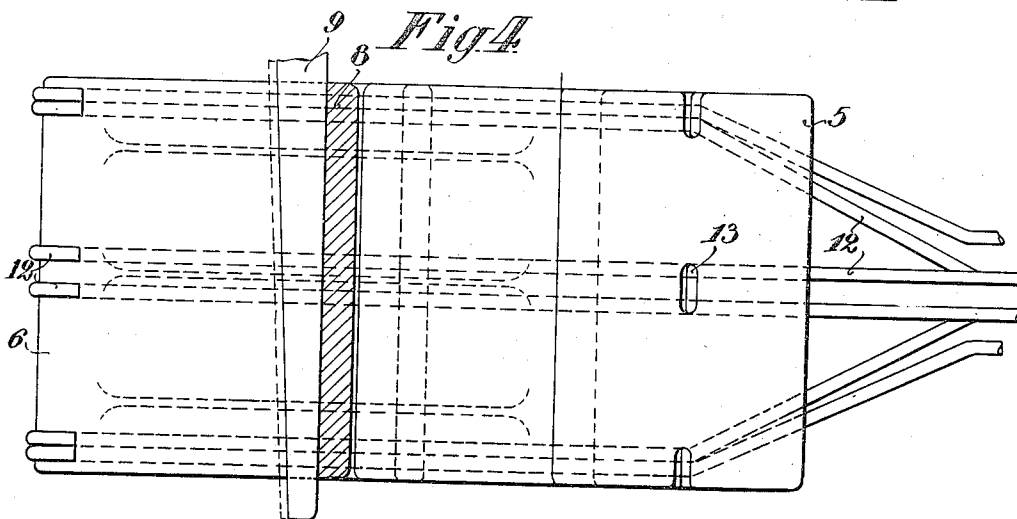
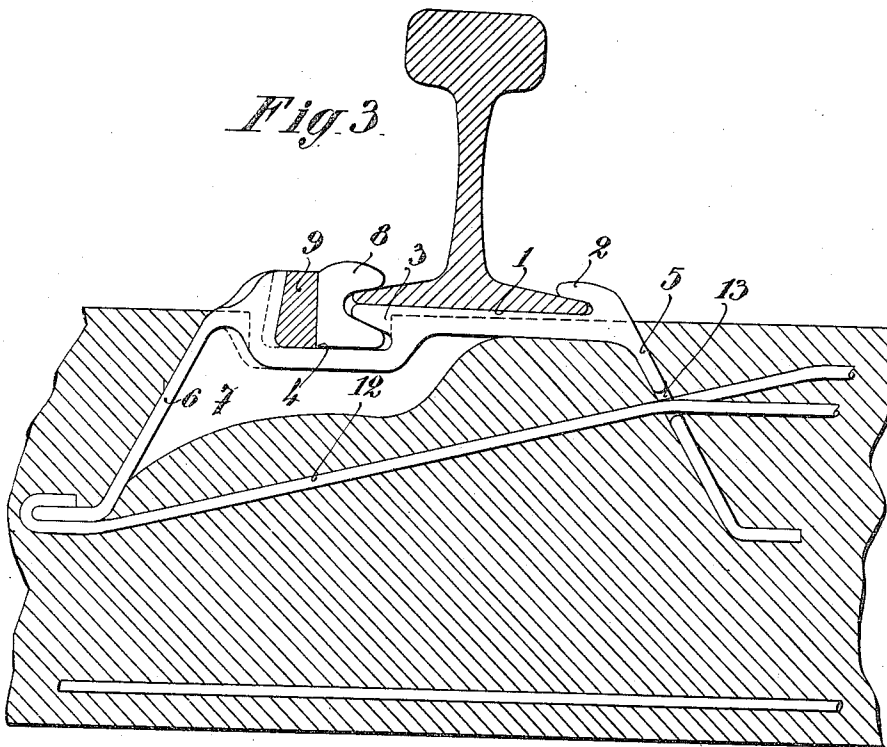
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig 6

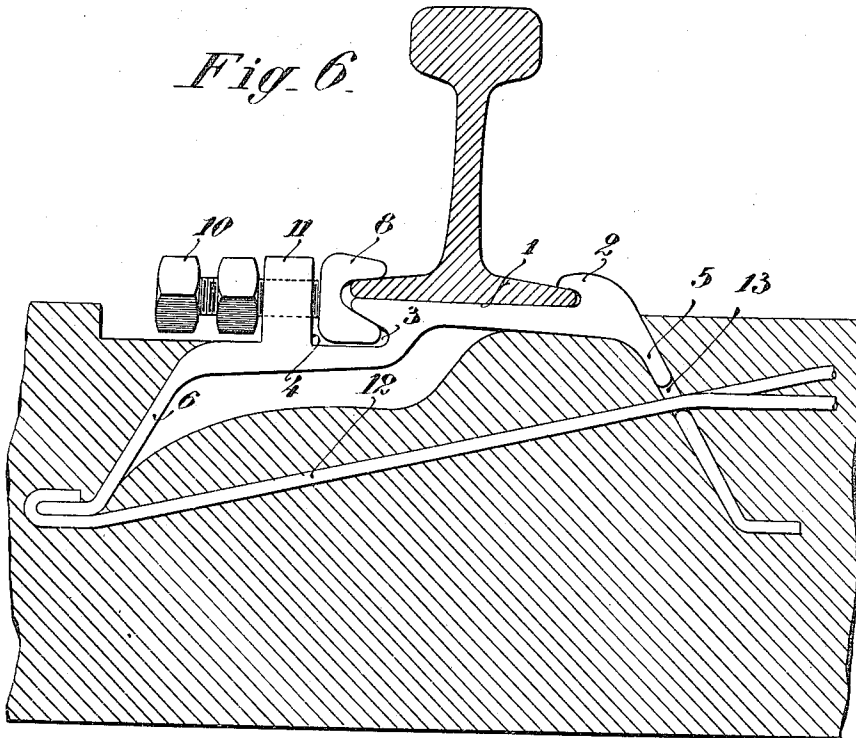
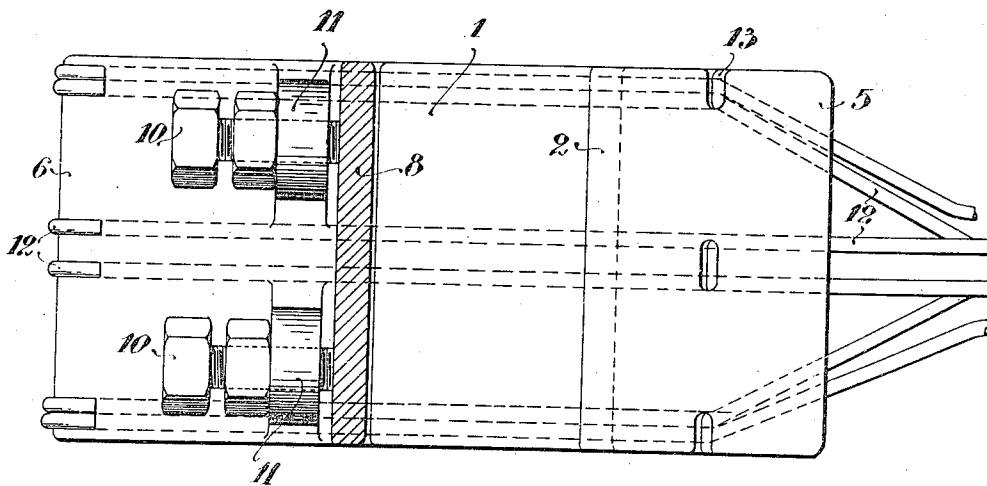


Fig 7



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UNITED STATES PATENT OFFICE.

PAUL HEBERT, OF BENRATH, GERMANY.

RAIL-TIE.

1,042,343.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Application filed February 20, 1911. Serial No. 609,763.

To all whom it may concern:

Be it known that I, PAUL HEBERT, a subject of the German Emperor, and residing at Benrath, Germany, have invented certain new and useful Improvements in Rail-Ties, of which the following is a specification.

This invention relates to novel railway ties or sleepers of concrete or like material, and an improved construction for permanently anchoring the chair to the sleeper and reinforcing the sleeper.

In the accompanying drawing which shows, by way of example, possible embodiments of the invention Figure 1 is a cross section through the railway track showing the several parts, the concrete sleeper, the castings and their anchoring in section. Fig. 2 is a plan view of the sleeper. Fig. 3 is a fragmental sectional view, drawn to a larger scale, showing more clearly the construction of the casting and the means for anchoring it. Fig. 4 is a plan view, partly in section corresponding to Fig. 3. Fig. 5 is a cross section of the concrete sleeper showing the distribution of the reinforcing and anchoring rods and representing the casting in side elevation. Figs. 6 and 7 illustrate a modified form of casting in views similar to Figs. 3 and 4.

In the construction here selected by way of example a general idea of which is given in Figs. 1 and 2, the sleeper consists of two thick lateral concrete blocks connected by an intermediate part of smaller cross section. A rail chair is embedded in each of the concrete blocks, these blocks are connected by a reinforcement of framework of iron rods extending throughout the whole of the concrete sleeper. The concrete sleeper is further reinforced by a separate iron framework situated at a lower level. The castings are of metal and preferably steel is employed. Beside the bearing face 1 for the rails a claw-shaped lug 2 is formed on one side of the casting which engages over the rail foot and here secures it to the sleeper. On the other side the rail is connected with the casting owing to the fact that a recess 3 is formed in it which comes beneath the rail foot and is continued as a housing 4 for the fixing members for the rails. The casting is embedded in the concrete by means of its lateral portions 5 and 6 also by means of the ribs 7 running from

the upper part toward the side walls and which greatly contribute to security and fixing.

In the construction illustrated in Figs. 1 to 5 the fixing members consist of U-shaped clamps 8 which are forced by a wedge 9 into the recess 3 and over the rail foot. A firm seat for the clamps is insured by giving the inner flange side of the clamps a form corresponding to the inclination of the recess.

Figs. 6 and 7 illustrate a different form of clamp fixing. In this case the fixing is obtained by means of screw bolts 10 which are adjustable in a lug 11 on the rail support 4. This means for fixing the clamps renders some slight modification of the casting necessary, this modification consisting of carrying the lateral wall 6 somewhat lower down than the wall 5, as clearly shown in Fig. 6.

Instead of the claw-shaped lug 2 on one side of the casting which engages over the rail foot a housing 4 like that upon the other side of the casting and comprising a recess 3 beneath the rail foot can be provided. The rail is then secured to the bearing surface 1 by means of U-shaped clamps on both sides these clamps being forced into the recess and over the rail foot by means of wedges or screw bolts as already described.

A framework of iron rods 12 is employed for anchoring the castings in the present case (Figs. 1 to 5) the rods of the framework running through two openings 13 in the inner side wall 5 toward the other side wall 6, thus constituting a connection between the two oppositely situated castings. The rods are secured to the walls 6 in the manner shown in the drawing, the end of the bars 12 which is bent to form clamps engaging over the foot of this wall or being secured in any other convenient manner. In order that the strains communicated to the concrete by the bars 12 may be distributed as far as possible after these bars have been carried through the openings 13 they are conducted through the sleeper on different levels.

In addition to the possibility of mounting the rails speedily in the castings by wedging or screwing the clamps without making any special provision, this form of the rail chair in accordance with the present invention presents the additional advantage in

connection with concrete sleepers, that the shaking necessarily produced by driving the wedge 9 cannot be transmitted directly to the concrete while owing to the mounting of the fixing members in the housing of the casting it is not strained by the permanent powerful pressure of the wedge.

The anchoring for the casting which is carried throughout the entire length of the concrete foundation largely contributes to a uniform distribution of all strains.

Claims:

1. In a rail tie; a concrete sleeper; rail chairs, each having an outer and an inner wall embedded in said sleeper; and rods embedded in said sleeper and loosely engaging the intermediate part of said inner walls and connected to the lower part of the outer walls.

2. In a rail chair, a sleeper composed of concrete, metallic castings embedded in said sleeper and formed for coöperation with rail-fixing members to hold rails in engagement with the castings, each casting having an inner wall having an opening therethrough and an outer wall, and a metallic rod embedded in the body of the concrete sleeper, said rod passing through the openings in

the inner walls of both castings and connected with their outer walls.

3. In a rail tie, the combination of a concrete sleeper, castings embedded in the sleeper and each having an outer and an inner lateral portion, the inner portions being provided with openings near the upper part thereof; and iron rods passing longitudinally of the sleeper through said openings, the ends of said rods being inclined downwardly and secured to the lower edges of the outer portions.

4. In a rail tie, the combination of a concrete sleeper, castings embedded in the sleeper and each having an outer and an inner lateral portion, the inner portions being provided with openings near the upper part thereof; and iron rods passing longitudinally of the sleeper through said openings the ends of said rods being inclined downwardly and hooked under around the lower edges of the outer portions.

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

PAUL HEBERT. [L. s.]

Witnesses:

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ALFRED HENKEL.