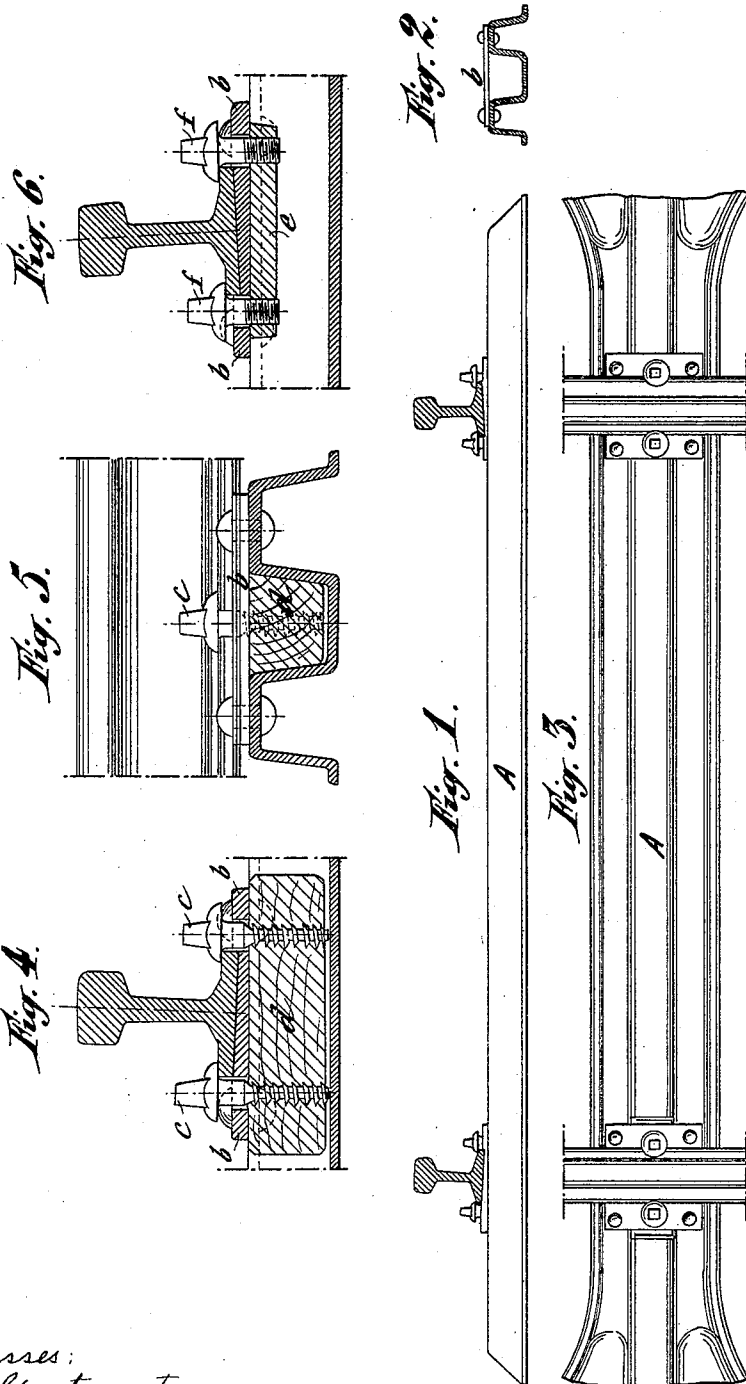


(No Model.)

A. PONSARD.
PERMANENT WAY FOR RAILWAYS, &c.

No. 496,133.

Patented Apr. 25, 1893.



Witnesses:
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UNITED STATES PATENT OFFICE.

AUGUSTE PONSARD, OF PARIS, FRANCE.

PERMANENT WAY FOR RAILWAYS, &c.

SPECIFICATION forming part of Letters Patent No. 496,133, dated April 25, 1893.

Application filed August 17, 1892. Serial No. 443,337. (No model.) Patented in Belgium August 22, 1884, No. 66,090; in France August 22, 1884, No. 163,961; in England November 26, 1884, No. 15,522; in Italy December, 1884, No. 23,512; in Austria-Hungary March 6, 1885, No. 44,349 and No. 11,253, and in Spain December 7, 1887, No. 12,374.

To all whom it may concern:

Be it known that I, AUGUSTE PONSARD, metallurgist, residing at Paris, in the Republic of France, have invented new and useful
5 Improvements in Permanent Ways for Railways and Tramways, (for which no patent has been obtained except in Belgium, August 22, 1884, No. 66,090; in France, August 22, 1884, No. 163,961; in England, November 26, 1884,
10 No. 15,522; in Italy, December, 1884, No. 23,512; in Austria-Hungary, March 6, 1885, No. 44,349 and No. 11,253, and in Spain, December 7, 1887, No. 12,374,) of which the following is a specification.

15 This invention relates to the construction of metallic crosssleepers for railways or tramways, and their attachment to the rails.

In order to fully explain the nature of the said sleeper, and of its attachments to the
20 rails, I will now proceed to describe its construction reference being made to the accompanying drawings in which:

Figure 1 is a longitudinal view of the sleeper with its riveted inclination plates and its
25 attachments either entirely metallic or with bolts screwed in wooden blocks. Fig. 2 is a transverse section of the sleeper. Fig. 3 is a plan view of the same. Figs. 4, 5 and 6 are detail sections.

30 A is a metallic sleeper either of iron or steel rolled or hammered in the form shown in Fig. 2. It can be seen that the distinctive feature of this sleeper consists in its being wholly corrugated lengthwise in the shape of a straight
35 and inverted U. Upon the upper surface of the sleeper in proper position to receive the respective rails are riveted two metal plates *b* having the same inclination as the rails, as indicated in Figs. 1, 4 and 6. The rails
40 are fixed by means of bolts *c c* passing through the holes of the inclination plate *b* and screwed in a wooden block *d* which is placed below the inclination plate *b* within the central groove or channel. This is what
45 I call the attachment by bolts screwed in wood as is shown in Figs. 4 and 5. Or the rail may be fixed to the sleeper by a metallic attachment composed of a nut plate *e* and two screws
50 *ff*. This nut plate *e* is placed under the inclination plate *b* and always within the groove

or channel that is formed in the center of the sleeper and of two screws *ff* passing through the holes of the inclination plate *b* and screwed in the nut plate *e*, Fig. 6.

In the two systems of attachment, the rails
55 are fastened by the heads of the bolts or of the screws which bear upon the foot of the rail.

The body of the sleeper may be flattened or not at its ends as preferred. In the case a
60 double headed rail is employed and has to be held by chairs either in cast iron, iron or steel, these should be either directly riveted upon the sleeper or fastened by bolts.

It will be noticed that the tie as shown in
65 Fig. 5 has a central U shaped portion and on each side of this are parts 3, 4 of inverted U shape terminating in flanges. The chairs *b*, extend across the central part and rest on the inverted portions 3, 4 and rivets 5, are run
70 through the said chairs and through the inverted U shaped parts the lower heads lying against the under sides of the inverted portions. It will be further seen that the outer
75 inverted portions are flared at the ends 6, and thus they maintain their position in the road bed against longitudinal displacement.

Having thus fully described my said invention and in what manner the same has to be
80 performed, I declare that what I claim is—

1. In combination the rail, the chair therefor, the tie comprising a central U shaped part and outer parts 3, 4 of inverted U shape, the rivets 5, passing through the inverted U shaped portions and through the chair, the
85 filling in the central part of the tie and the screws passing through the said chair and rail and into the central filling block, substantially as described.

2. In combination, the rail, the chair and
90 the tie comprising the central U shaped portion and the outer inverted U shaped parts said outer parts being flared at their ends on each side of the central part, substantially as described.

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Witnesses:

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