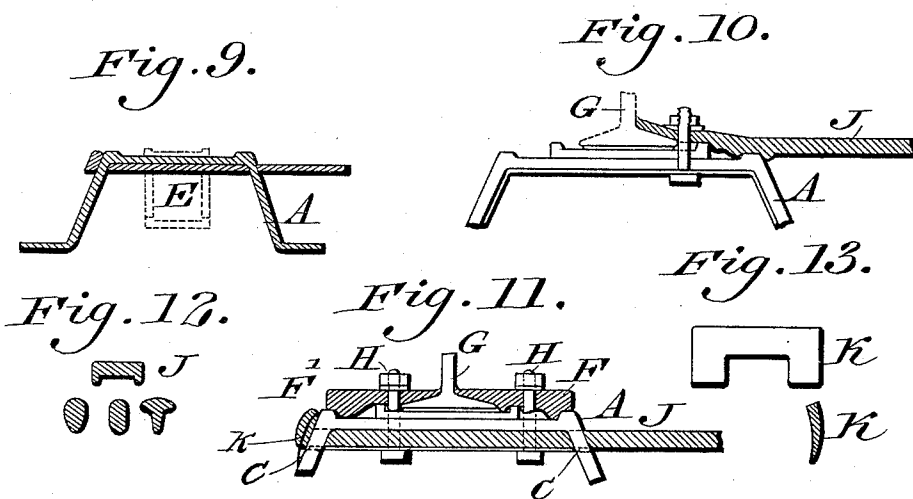
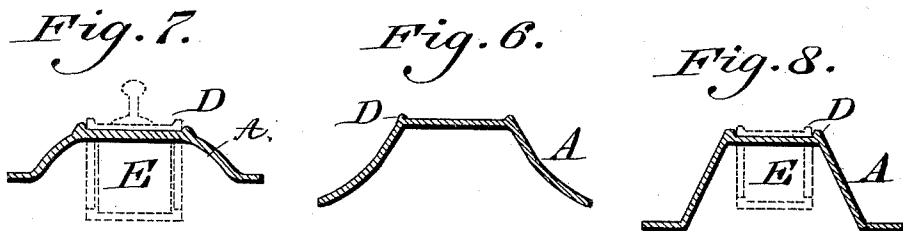
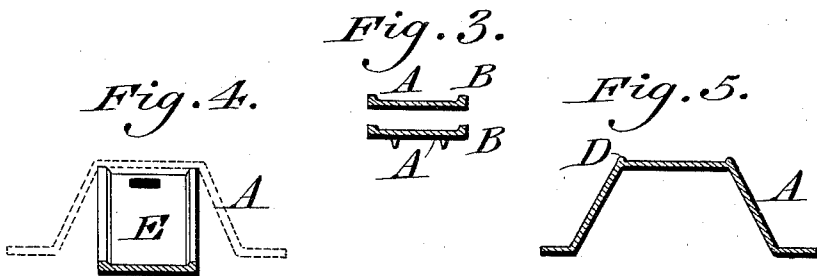
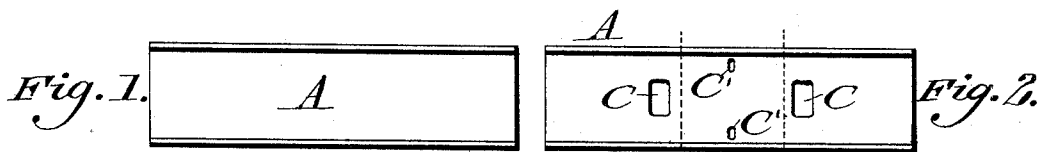


J. M. PRICE.
METALLIC RAILWAY SUPPORT.

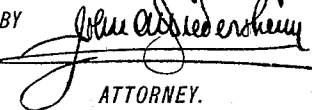
No. 467,432.

Patented Jan. 19, 1892.



WITNESSES:

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INVENTOR,
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 14.

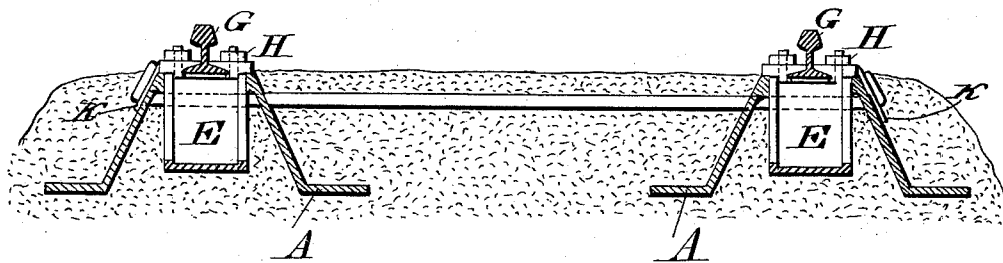
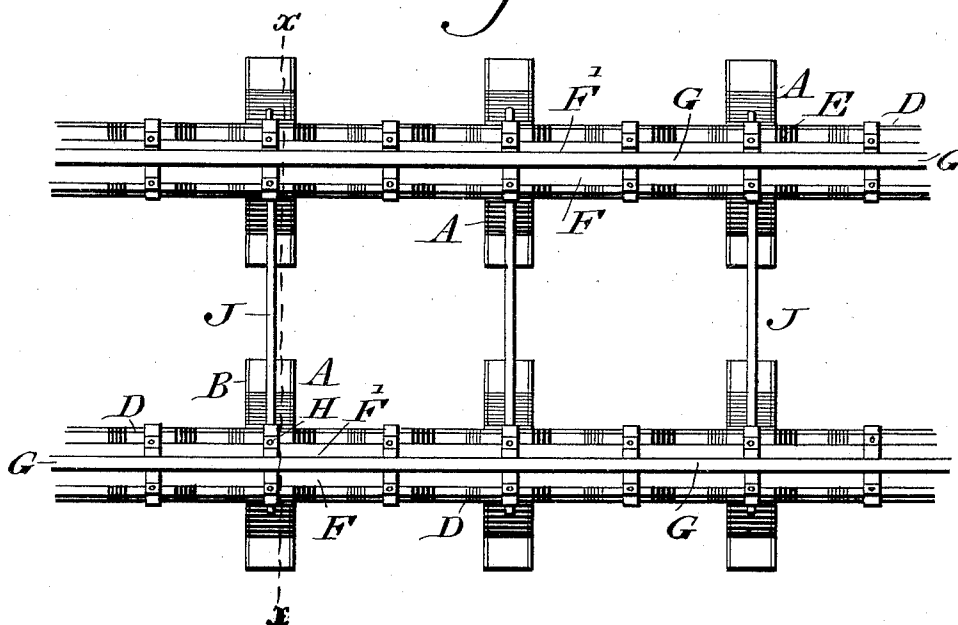


Fig. 15.



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UNITED STATES PATENT OFFICE.

JAMES M. PRICE, OF PHILADELPHIA, PENNSYLVANIA.

METALLIC RAILWAY-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 467,432, dated January 19, 1892.

Application filed December 31, 1890. Serial No. 376,354. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. PRICE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Metallic Railway-Supports or Cross-Ties, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in railway-supports or cross-ties; and it consists, first, of a pyramidal base with raised edges and ridges thereon and a stringer with a head resting on said base; further, of two transverse metallic plates formed into a truncated pyramid, the upper adapted to uphold a rail, and seated between ribs or ridges on the summit of the lower; further, of metallic plates with ridged edges underlying at intervals the heads of a continuous metallic stringer, to which the plates are firmly fastened.

It further consists of the combination of parts hereinafter described.

Figure 1 represents a rectangular plate of metal from which a stringer-support is formed. Fig. 2 represents the same metal plate with openings or holes therein. Fig. 3 represents cross-sections of the same. Fig. 4 represents a vertical sectional view of a stringer with a support. Figs. 5, 6, and 7 represent transverse sections of different forms of the metallic support. Figs. 8 and 9 represent transverse sectional views of a metallic support with and without a clamp. Figs. 10 and 11 represent transverse sections of a metallic support with rail and cheek-piece, also a clamp for the rails. Fig. 12 represents cross-sections of the clamp. Fig. 13 represents sectional views of a wedge adapted to be located between the clamp and base. Fig. 14 represents a section on line $x x$, Fig. 15. Fig. 15 represents a plan view of a railway embodying my invention.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a base or support formed of a rectangular plate of metal, having the raised edges B thereon when first rolled and cut into lengths and provided with the openings or holes C C and C' C' for a purpose hereinafter explained. The said plate is, by drop-forging or any other

mechanical action, bent or formed into either of the shapes shown in Figs. 5, 6, and 7, or in other suitable shape having a summit and side portions, and has stamped or otherwise formed thereon the ridges D transversely to the raised edge or ridges B, the portions of the latter between the said ridges D being depressed so as to form a flat bed on the summit of the said support for a section of the stringer E to rest therein and on the said support. The stringers E are pyramidal in form, having head and foot portions, being of the character described and claimed by me in United States Letters Patent No. 430,590, of date June 17, 1890, and when employed in connection with the base A, herein described, are cut in sections and placed crosswise on said base A, so as to form a quadrilateral support for the rail, the latter being placed in the bed on the top of the stringer or over said stringer, as shown in Fig. 4. Cheek-pieces F F' bind the rail G firmly to the stringer by means of the screw-bolts H, which are secured to the base A, passing through the openings C' C' therein.

J designates a clamp having its end portions passing through the openings C C in the sides of the base A, and its heads, which are slanting, bearing against the outer side of the pyramidal base, said clamp having the sections near each end flattened and ribbed at the edges to embrace and confine the heads of traversing bolts. It will be noticed that the bolts H also pass through openings in the clamp, whereby the entire structure is securely and reliably connected.

To provide for the wear of the rail, a wedge K, formed of a thin and tapering piece of metal adapted to straddle the end of the clamp between the same and the side of the base A, is employed, the said wedge when in place being covered by the projecting end of a cheek-piece, thereby preventing either its rattling or displacement.

The construction herein described is adapted to be used without heavy supporting-ties, bent with the bars J for maintaining the ballast, and, as set forth, is to place under the rails a quadrilateral or four-footed structure of unusual strength and elasticity. Either a single section or convolution of a stringer may be separately employed in connection with

each base portion or a series of two or more convolutions connected at the base and a pyramidal base placed under each head of the stringer as a support to it and the rail upon it. By enlarging all the parts, however, the underlying pyramidal bases may be fewer than the heads of the stringer, forming a structure which may be advantageously employed where the travel and traffic are relatively light.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a pyramidal base with raised edges and ridges thereon and a stringer with a head resting thereon, said parts forming a quadrilateral rail-support, substantially as described.

2. The combination of an angular base, a stringer, substantially as described, having a head portion resting thereon, cheek-plates bearing against ridges on the top of the base-piece, and bolts passing through said plates, stringer, and base, substantially as described.

3. The combination of a pyramidal base having ridges, a stringer having its head resting on said base, cheek-plates bolted to said stringer and base and bearing against said ridges of the base, and a clamp-rod connected with said base, substantially as described.

4. The combination of a pyramidal base, a stringer having a head portion resting on the summit of said base, cheek-pieces bearing against ridges on the edges of the said summit of the base, a clamp-rod connected with said base, and a wedge adapted to be inserted between the head of the clamp and the inclined outer face of the base, substantially as described.

5. A railway-support consisting of two metallic plates, usually rectangular, stamped into the shape of a truncated pyramid and crossing each other beneath the rail, one of said plates having raised edges and the other formed with ridges, as set forth, substantially as described.

6. A stout rectangular plate of metal ribbed at the edges, but stamped into a truncated pyramidal form with transverse ridges stamped upon the summit as a support for railway-rails, substantially as described.

7. Two plates of metal ribbed at the edges and stamped into the form of a truncated

pyramid, one across the other, between ribs formed by stamping, or the ends of ridges depressed by stamping, as a support for railway-rails, substantially as described.

8. Two transverse metallic plates formed into a truncated pyramid, the upper upholding a railway-rail and seated between ribs or ridges on the summit of the lower as a railway-support, substantially as described.

9. A truncated pyramidal support in the shape of a transverse metallic plate ridged on its edges and placed under and attached to every head of a longitudinal metallic stringer of the shape of a series of two or more truncated pyramids ridged at their edges and connected at their bases, substantially as described.

10. Transverse metallic plates with ridged edges underlying at intervals the heads of a continuous metallic stringer, to which the plates are firmly fastened, as a series of railway-supports, substantially as described.

11. Metallic plates underlying the heads of a metallic stringer of the shape of a series of truncated pyramids, in combination with the stringer, the rail, the cheek-pieces, the clamps traversing the track, and the bolts and nuts to bind all together, substantially as described.

12. A clamp with a head at each end larger than its body, with the sections near each end flattened and ribbed at the edges to embrace and confine the heads of traversing bolts, substantially as described.

13. A double-headed clamp across the track, flattened and ribbed near the ends to embrace the heads of traversing bolts, pyramidal plates secured in position by the clamps, thin wedges or washers crossing the neck of the clamp to accommodate the gage to the wear of the rail, cheek-pieces, and bolts and nuts, in combination with a higher pair of plates or section of a stringer of pyramidal shape as supports for rails resting upon the higher pair of plates, substantially as described.

14. Thin wedges or washers placed astride of metallic clamps as part of a structure of metallic railway-supports to adjust the gage when the rail undergoes excessive wear, substantially as described.

JAMES M. PRICE.

Witnesses:

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A. P. JENNINGS.