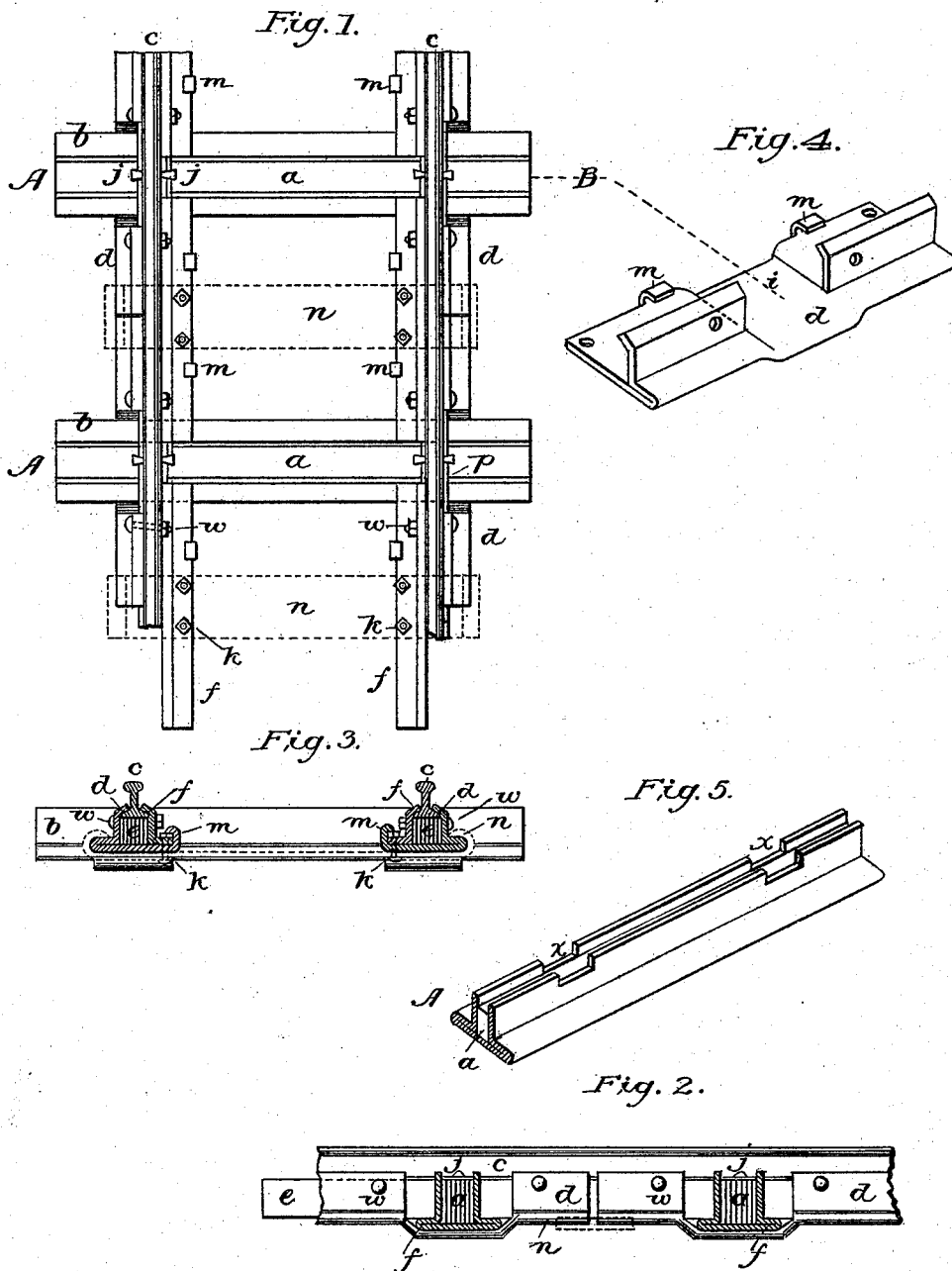


(No Model.)

R. OSBORNE.
RAILROAD TIE.

No. 470,700.

Patented Mar. 15, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

RUFUS OSBORNE, OF TEKONSHA, MICHIGAN.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 470,700, dated March 15, 1892.

Application filed March 25, 1891. Serial No. 386,405. (No model.)

To all whom it may concern:

Be it known that I, RUFUS OSBORNE, of Tekonsha, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification.

My invention relates to that class of railroad-ties in which longitudinally-arranged cushions or sleepers of wood or other fibrous material for holding the T-rail; are secured in place by a metallic casing, hereinafter described as "wings," and held in position by cross-ties composed of wood and iron crossing said casings at right angles, and is more especially an improvement on United States Patent No. 439,174, granted to me October 28, A. D. 1890; and the objects of my improvement are, first, to more firmly secure the T-rail; second, to do away with about two-thirds ($\frac{2}{3}$) of the timber used for sleepers; third, to protect the sleepers from the decaying effect of the elements; fourth, to reduce the amount of spikes used; fifth, to make the cross-tie in such construction that it may be used independently of the wings or casings. I attain these objects by mechanism illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of my improvement, the dotted lines showing the old device. Fig. 2 is a side view. Fig. 3 is an end view. Fig. 4 is a detail of that portion of the casing or wings where the cross-tie crosses it. Fig. 5 is a cross-tie separate from the wings.

Like marks of reference refer to corresponding parts in the several views.

In Figs. 1 and 5, A represents a cross-tie which forms the connection with the wings *d d*. The cross-tie A is composed of wood and metal, of which *a* represents the wood and *b* the metal. The metallic portion *b* is made of rolled or forged iron or steel having two perpendicular ribs—one on either side and at a distance from the edge of the metal composing its flattened or bottom side and running parallel to each other—between which a space is formed for securing the wooden portion *a*. These perpendicular ribs are somewhat higher than the thickness of the wooden portion *a*, as will be noticed especially in Figs. 2 and 5, and are cut away at *x* down to a line equal to or greater than the height of the wooden por-

tion *a* and the width of the bottom flange on the T-rail *c*. This portion of the tie is where the T-rail *c* crosses, and the objects of cutting the metal away at this point is, first, to let the T-rail down on the wooden tie *a*, and second, to form a shoulder either side of the T-rail *c* to prevent the rails from spreading. Spikes *j j* are driven either side of the rail *c* and into the wooden portion of the tie *a*. This wooden tie *a*, as it becomes worn where the T-rail crosses, may be slid either way, thereby forming a new bearing for the T-rail. This process may be repeated, whereas it would be impracticable with common wooden ties, as the road-bed would soon get out of line.

In Fig. 4 is shown a portion of the casing or wings *d*, illustrating that part on a line with B where the cross-tie A crosses. This portion of the wings is bent downward and underneath the tie A the thickness and width of the material used in their construction. Previous to crimping the wings *d* they are cut into on their outside edge the desired depth of the crimp, and opposite to the width of the crossing this portion *i* of the iron is bent flat upon itself. *e e* represent cushions or stringers of wood or fibrous material underlying the T-rail *c* and extending from cross-tie to cross-tie. These stringers are square-cornered in their transverse section and are as wide, or a trifle wider, than the bottom flange of the T-rail, and are incased by the union of the wings *d* and clamps *f*. Along one edge of the wings lugs *m m* are turned up for securing the lower edge of clamps *f*, hereinafter described, on their inner sides, and near their ends bolt-holes are made for receiving bolts *k*, connecting the coupling-plate *n* and clamp *f*, Fig. 1.

In Figs. 1, 2, and 3, *f* represents a clamp of like material to the wings and tie-plate *b*, having a Z-shaped transverse section, the upper flange overlapping one edge of the flanged bottom of the T-rail *c* and its opposite or bottom flange lying flat with the inner edge of the wings *d* and interlocking the lugs *m m*. This clamp extends from cross-tie to cross-tie, and through its perpendicular and transverse section near its upper rib or flange pass bolts *w*, connecting it with the side rib of the wings *d d*, thereby forming a rigid connection for the parts *c d e f*.

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

1. The combination, with the cross-tie A, of
5 the wings *dd*, clamps *ff*, and bolts *ww*, adapted to engage the T-rail *cc* and stringers *ee*, substantially as described.

2. The combination, with the cross-tie A, of

the wings *dd*, clamps *ff*, and bolts *ww* of the T-rail *c*, and stringers *e*, all substantially as 10 and for the purposes hereinbefore set forth.

RUFUS OSBORNE.

Witnesses:

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