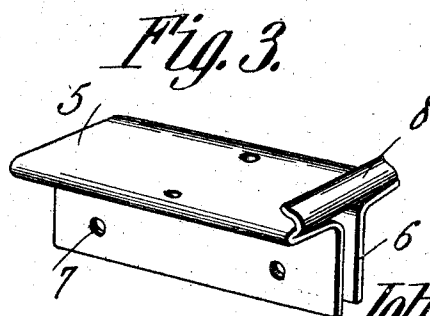
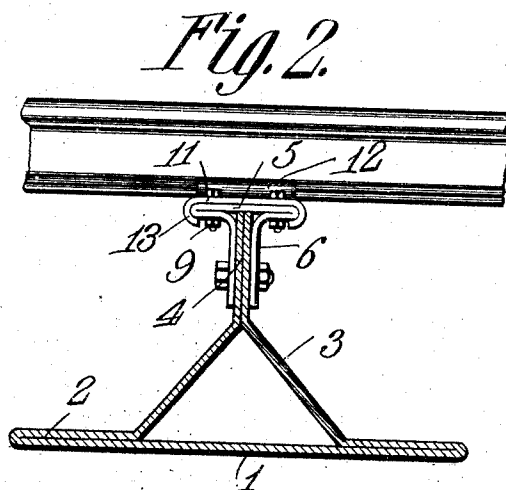
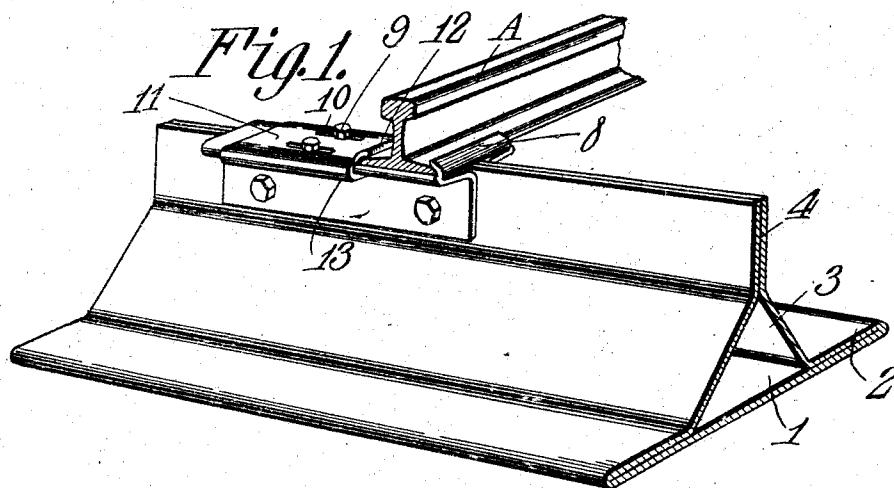


928,479.

J. STAATS.  
RAILROAD TIE.  
APPLICATION FILED APR. 17, 1909.

Patented July 20, 1909.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN STAATS, OF WASHINGTON, DISTRICT OF COLUMBIA.

## RAILROAD-TIE.

No. 928,479.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed April 17, 1909. Serial No. 490,533.

*To all whom it may concern:*

Be it known that I, JOHN STAATS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Railroad-Tie, of which the following is a specification.

This invention relates to metallic railroad ties and its object is to provide a device of this character formed entirely of sheet metal, the same being so shaped as to withstand the maximum weight and including means whereby it can be firmly anchored in the roadbed.

A further object is to provide a novel form of rail chair also formed of sheet metal and which constitutes not only the support for a rail but also a means for binding the longitudinal edges of the tie together.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a perspective view of a portion of a tie embodying the present improvement, a rail being shown secured in position thereon. Fig. 2 is a transverse section through the tie. Fig. 3 is a perspective view of the rail chair.

Referring to the figures by characters of reference 1 designates a flat metal base having its longitudinal edge portions folded inwardly onto the base as indicated at 2, these folds constituting anchoring flanges designed to be embedded within the roadway. Upwardly converging longitudinal members 3 extend from the inner edges of the folds 2 and merge into parallel flanges 4 extending throughout the length of the tie and contacting throughout the extent of their inner faces.

Mounted upon each end portion of the tie is a rail chair such as shown in detail in Fig. 3. Said chair is formed of heavy sheet metal and consists of an elongated base 5 substantially rectangular and having its side portions bent inwardly under the base and merging into parallel flanges 6. These flanges are formed with bolt holes 7 disposed in alinement and said holes are designed to register with corresponding openings, not shown, formed within the flanges 4. The flanges 6 are spaced apart a distance equal to the combined thicknesses of the

flanges 4 so that it is thus possible to place the said flanges 6 at opposite sides of the flanges 4 and to bolt all of said flanges together, the chairs thus serving to tightly bind together the longitudinal edge portions of the sheet metal constituting the tie. A lip 8 is formed at one end of the base 5 and overhangs said base, this lip forming a jaw for engaging a rail such as indicated at A. Threaded bolts 9 extend from the base 5 and are designed to extend through slots 10 arranged longitudinally within the base portion 11 of the adjustable rail engaging member. This base has a lip 12 at one end constituting a rail engaging jaw and arranged along the sides of the base are downwardly and inwardly extended retaining flanges 13 designed to embrace the side portions of the chair shown in Fig. 3 and thus guide the member 11 along the chair during the adjustment of the lip 12 toward or away from the rail. It will be noted that the bolts 9 extend through the side folds of the chair and thus serve to prevent these folded portions from spreading apart.

It is of course to be understood that when the chairs are secured upon the upstanding portions of the tie it becomes impossible for the longitudinal edges of said tie to spread apart. Moreover, the upwardly converging portions 3 of the tie constitute a fixed support and at the same time allow for any desirable resiliency of the tie.

To fasten the rail in position the base thereof is placed on the chair so as to bring one of the rail flanges into position beneath the jaw 8. The movable rail engaging member is then adjusted longitudinally of the base until its jaw 12 is brought into engagement with the rail after which bolts 9 are inserted through the chair and into the slots 10 and by tightening nuts thereon the members 5 and 11 can be clamped tightly together and the rail thus held against displacement. It will be seen that the chair presents a broad bearing surface for the rail and inasmuch as the rail engaging members are formed integral with the chair and the base 11 respectively they are not likely to work loose as a result of the constant jolting to which the parts are subjected.

It is of course to be understood that various changes may be made in the structure and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. A railroad tie comprising a flat metallic base having inwardly directed longitudinal folds at the sides thereof forming  
5 anchoring flanges, there being upwardly converging bracing portions along the inner edges of the folds and merging into upstanding flanges contacting throughout the extent of their inner faces.
- 10 2. A railroad tie comprising a flat metallic base having inwardly directed longitudinal folds at the sides thereof forming anchoring flanges, there being upwardly converging bracing portions along the inner  
15 edges of the folds and merging into upstanding flanges contacting throughout the extent of their inner faces, and a rail chair embracing the upstanding contacting portions of the tie and constituting binding means.
- 20 3. A railway tie comprising a flat sheet metal base having inwardly directed longitudinal folds at the sides thereof constituting anchoring flanges, there being upwardly converging bracing members at the inner edges  
25 of the flanges and merging into upstanding contacting flanges, and a rail chair straddling said flanges, said chair being formed of sheet metal and consisting of a base, longitudinal folds at the sides of the base, and  
30 depending flanges disposed at opposite sides of the upstanding flanges of the tie, there being fastened means extending through all of said flanges.
- 35 4. The combination with a sheet metal tie having upstanding contacting portions, of a rail chair straddling said portions and con-

stituting means for binding them together, said chair consisting of a base bearing upon said upstanding portions, said base being provided with longitudinally extending side  
40 folds, and depending flanges extending from said folds at opposite sides of the upstanding portions, and a rail engaging jaw integral with the base of the chair.

5. The combination with a sheet metal tie  
45 having upstanding contacting portions, of a rail chair straddling said portions, said chair being formed of sheet metal and having longitudinally extending side folds, a lip at one end of the chair and constituting a rail  
50 engaging jaw, a member embracing and slidably mounted upon the chair, and a rail engaging jaw carried thereby.

6. The combination with a tie having upstanding contacting portions, of a sheet  
55 metal rail chair straddling said portions and having longitudinally extending side folds, a lip at one end of the chair and forming a rail engaging jaw, a member embracing and slidably mounted upon the chair, said mem-  
60 ber and the folds of the chair having registering openings, securing means extending through the said openings, and a rail engaging jaw carried by the slidable member.

In testimony that I claim the foregoing  
65 as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN STAATS.

Witnesses:

E. HUME TALBERT,  
HERBERT D. LAWSON.