

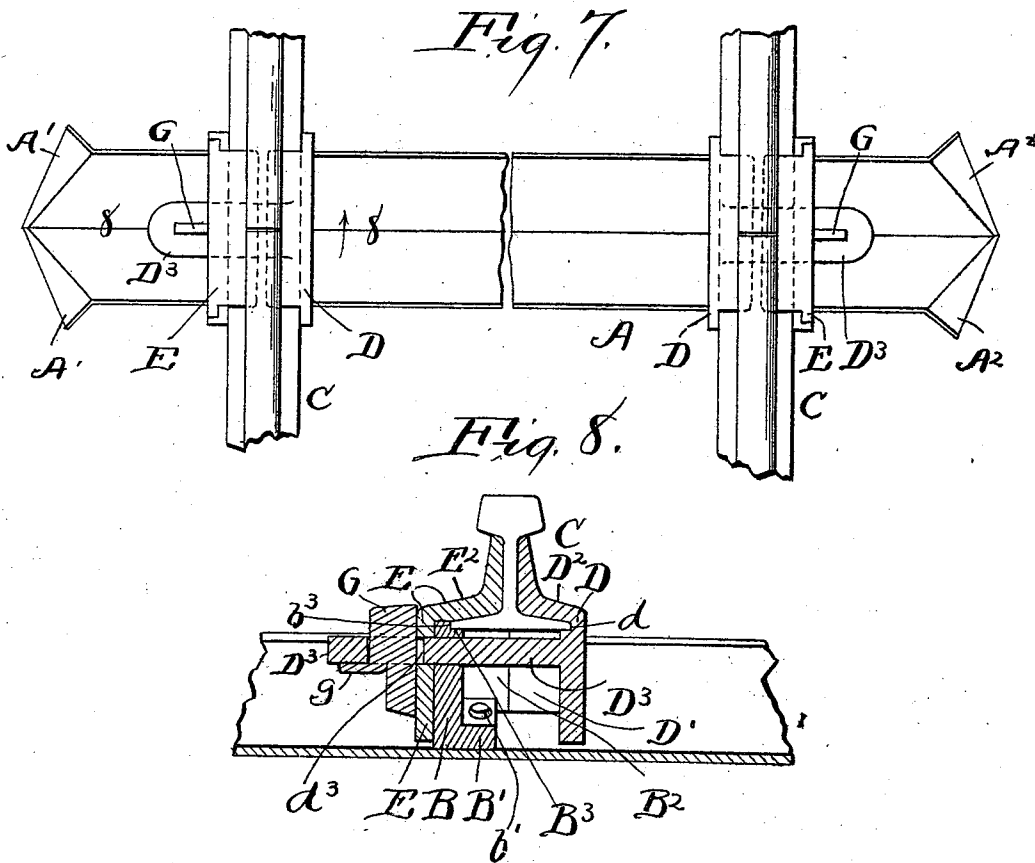
(No Model.)

2 Sheets—Sheet 2.

F. TYLEE.
METALLIC RAIL SUPPORT.

No. 554,607.

Patented Feb. 11, 1896.



Witnesses.
E. B. Gilchrist
[Signature]

Inventor.
Felix Tylee.
By M. D. Leggett & Co.
his Attorneys.

UNITED STATES PATENT OFFICE.

FELIX TYLEE, OF CLEVELAND, OHIO, ASSIGNOR OF TWO-THIRDS TO
CHARLES H. TYLEE AND ROBERT B. DUNHAM, OF SAME PLACE.

METALLIC RAIL-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 554,607, dated February 11, 1896.

Application filed March 23, 1895. Serial No. 542,901. (No model.)

To all whom it may concern:

Be it known that I, FELIX TYLEE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Metallic Rail-Supports; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in rail-supports, the object being to supersede the wooden railway-tie by a metallic rail-support, and to render the construction of the metallic support and the means with which the tie is provided for securing the rail in place simple, durable, and convenient.

With this object in view my invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a top plan of a portion of a railway-track and my improved rail-support, the central portion of the metallic tie being broken away to reduce the size of the figure. Fig. 2 is a side elevation of the same. Fig. 3 is a top plan of one of the end portions of the metallic tie of my improved rail-support and the means with which said portion is provided for securing one of the rails of a track thereto. Fig. 4 is a vertical longitudinal section on line 4 4, Fig. 3, looking in the direction of the arrow. Figs. 5 and 6 are vertical transverse sections on line 5 5 and line 6 6, respectively, Fig. 3, looking in the direction of the arrows, and portions being broken away in Fig. 5 to more clearly show the construction. Fig. 7 is a top plan of a metallic rail-support whose construction is somewhat modified from that shown in Figs. 1 and 2; and Fig. 8 is a longitudinal section on line 8 8, Fig. 7, looking in the direction of the arrow, Fig. 7, exhibiting a construction of rail-support that serves also as a rail joint or coupling.

My improved metallic rail-support comprises a metallic tie composed preferably of three metallic sections A A and *a*, the tie, when applied, extending transversely of the railway-track not unlike the common wooden

tie. Members A A constitute the end members of the tie, one of said members being adapted to extend in under and support one of the rails of the track and the other member A being adapted to extend in under and support the other rail, as shown in Figs. 1 and 2. Member *a* constitutes the central member of the tie and connects the end members A A with each other, said member *a* being preferably a comparatively narrow bar secured to the end members of the tie in any suitable manner. Members A A of the tie are preferably V-shaped or triangular in cross-section, with their apices forming their lower extremities, as shown in Figs. 5 and 6.

The metallic tie, when applied, is secured in place by ballasting, as the wooden tie heretofore employed, and the metallic tie is preferably provided with any suitable number of downwardly-extending flanges A' adapted to be embedded in the ballast and prevent endwise displacement of the tie in the one direction, and the tie is also preferably provided with any suitable number of downwardly-extending flanges A² whose function is to prevent endwise displacement of the tie in the opposite direction.

In the tie illustrated in Figs. 1 and 2 each member A is provided at one end with two flanges A' and at the opposite end with two flanges A², which construction I consider very desirable.

Members A A of the tie are preferably composed, respectively, of a sheet of steel bent or stamped into the shape required to form the peculiarly-shaped section and the downwardly-extending flanges at the ends of the section. Each end portion or member A of the metallic tie has suitably secured within it a metallic plate or block B, that is shaped to conform to the internal contour of the supporting portion of the tie and at or near each end is provided with a laterally and inwardly extending flange B', that is bolted or riveted to the supporting portion of the tie, as at *b'*. Flanges B' extend preferably to the upper extremities of the supporting-tie to afford a seat or bearing, as shown at *b*², Fig. 5, for the rail C when the latter is secured in place upon the tie. Plate or block B, at its inner side and between flanges B' B', is provided with two lat-

erally-projecting flanges or lugs B^2 , that are located a suitable distance apart and arranged to afford a seat or bearing for the rail. Plate or block B, at its upper end and inner side, is preferably rabbeted, as at B^3 , (see Fig. 4,) with the rabbet extending from the one extremity to the other extremity of the upper end of the plate or block. The lower or horizontal wall of said rabbet is preferably flush with the upper ends of lugs or flanges B^2 , and consequently also affords bearing for the rail. The vertical or side wall b^3 of said rabbet forms a lateral abutment for one of the longitudinal edges of the base of the rail, as shown in Fig. 4.

D designates a metallic plate or block that is shaped to conform to the internal contour of the rail-supporting member of the metallic tie and is movable endwise of the supporting-tie. E represents a metallic plate or block that is shaped to conform to the internal contour of its supporting member A of the tie and is movable endwise of the tie. Member E is located at the outer side of stationary member B, and member D is located at the inner side of said stationary member, as shown in Figs. 1, 3, and 4. Plate or block D is provided upon its inner side with a horizontally-arranged recess or recesses d (see Figs. 4 and 6) adapted to be brought into engagement, when the rail is placed in position upon plate or block B, with that longitudinal edge of the base of the rail that is located opposite to the edge that engages lateral abutment b^3 formed upon the upper end of said plate or block B, as shown in Fig. 4, and member D, upon its inner side, is provided with laterally-projecting lugs or flanges D' , that are arranged to be engaged by the base of and thereby afford a seat or bearing for the rail, as shown in Figs. 3, 4, and 6.

Plate or block D, at its upper end and inner side, is provided with a laterally-extending flange or flanges D^2 , the arrangement whereof is such that they, when said plate or block shall have been moved to bring its recess or recesses d into engagement with the base of the rail, shall overlap and engage the upper surface of the engaging portion of the rail-base, as shown in Figs. 1, 2, and 4. Plate or block E, at its upper end and inner side, is provided with a laterally-extending flange or flanges E^2 , that when said plate or block is moved inwardly against the outer side of stationary member B shall engage the upper surface of that portion of the rail-base that engages said stationary member, as shown in Figs. 1, 2, and 4. When, therefore, movable plates or blocks D and E are brought into the position shown in Fig. 4, with their flanges D^2 and E^2 engaging the upper surface of the base of the rail, the rail will be secured firmly to the metallic tie, and the means for securing said movable plates or blocks in their operative position consists preferably of a key G that engages a vertical hole or slot d^3 in a laterally-extending arm D^3 of plate or block

D, said arm D^3 being adapted to extend through movable plate or block E and stationary member B, and members B and E being consequently provided with registering holes for accommodating the location and operation of said arm D^3 , as shown very clearly in Fig. 4, and key G engages the outer side of member E upon the assemblage of the parts, and when applied has a portion g thereof bent laterally against the under side of arm D^3 , as required to form a stop for preventing upward displacement of the key. I would also remark that the arrangement of lugs or flanges D' of plate or block D is preferably such relative to the arrangement of flanges or lugs B^2 of member B that said lugs or flanges when member D is in its operative position shall engage each other, as shown in Fig. 4, and as shown in dotted lines, Fig. 1.

In assembling the parts the rail is placed in position upon member B and against abutment b^3 formed upon said member B. Plate or block E is then placed in an operative position, whereupon plate or block D is slid into place with its arm D^3 extending through the registering holes in members B and E, whereupon the rail-securing plates or blocks are secured in their operative position by means of key G.

I would also remark that movable plates or blocks D and E by enlarging their flanges D^2 and E^2 upwardly so as to render them capable of engaging the adjacent side of the web of the rail, as shown in Figs. 7 and 8, serve the purpose of joining or coupling together the abutting or adjacent ends of two rails.

The construction exhibited in Figs. 7 and 8 is further modified from that shown in Figs. 1 and 2 in that the tie shown in Fig. 7 is composed of a single metallic piece V-shaped in cross-section and provided with two downwardly-extending flanges A' at one end and two downwardly-extending flanges A^2 at the opposite end.

What I claim is—

1. A metallic rail-support comprising a stationary plate or block B provided with a seat for the rail, two laterally-movable plates or blocks adapted to engage the upper surface of the base of the rail at opposite sides, respectively, of the web of the rail, one of said movable plates or blocks being adapted to engage the outer side of the aforesaid stationary member, and the other movable plate or block having a seat for the rail and being recessed to render it capable of embracing the adjacent edge of the base of the rail, and suitable means for removably securing the aforesaid movable plates or blocks in their operative position, substantially as set forth.

2. A metallic rail-support comprising a stationary upright plate or member B rabbeted at its upper end to engage the under side and one longitudinal edge of the base of the rail, two co-operating movable plates or blocks D and E adapted to engage the upper side of the base of the rail at opposite sides, respectively,

of the web of the rail, plate or block E being adapted to engage the outer side of the aforesaid stationary member, and plate or block D having a seat for the rail and having an arm D³ adapted to extend through the aforesaid stationary member and member E, a key G extending through said arm at the outer side of member E, members B and E having registering holes to accommodate the location and operation of arm D³, and said arm being perforated for the reception of the aforesaid key, substantially as and for the purpose set forth.

3. A metallic rail-support comprising the upright stationary plate or member B rabbeted at its upper end, as at B³, and provided with a seat for the rail, the two co-operating laterally-movable and suitably-supported plates or blocks D and E, member D being recessed, as at d, and provided with a laterally-extending arm D³ and a seat for the rail, said arm being perforated vertically, as at d³, and members B and E having registering holes for the reception of said arm, and a key G, all arranged and operating substantially as shown, for the purpose specified.

4. A metallic rail-support comprising a metallic tie adapted to extend transversely of and in under and beyond the outer sides of the two rails of a railway-track, said tie being provided with two upright stationary members arranged such a distance apart that the one thereof shall be adapted to assist in supporting one of the rails, and the other member adapted to assist in supporting the other rail, said members being rabbeted at their upper ends to engage the under side and one of the longitudinal edges of the base of the respective rail, two co-operating plates or blocks for each rail, said plates or blocks resting upon and being movable endwise of the tie, and being arranged to engage opposite sides, respectively, of the rail, and having flanges adapted to engage the upper surface of the base of the rail, and suitable means for

removably securing said jaws in their operative position, substantially as set forth.

5. A metallic rail-support comprising a V-shaped metallic member A, a plate or block B rigidly secured within said V-shaped member and provided with bearings for the rail, two laterally-movable co-operating plates or blocks D and E shaped to conform to the internal contour of the aforesaid V-shaped member and arranged at opposite sides, respectively, of the aforesaid stationary plate or block, member D being provided with bearings for the rail, both members D and E having flanges adapted to overlap and engage the upper surface of the base of the rail, and means for securing the aforesaid movable plates or blocks in their operative position, substantially as set forth.

6. A metallic rail-support comprising a stationary plate or block B provided with a seat for the rail, two laterally-movable plates or blocks adapted to engage the upper surface of the base of the rail at opposite sides, respectively, of the web of the rail, one of said movable plates or blocks being adapted to engage the outer side of the aforesaid stationary member, and the other movable plate or block having a seat for the rail and being recessed to render it capable of embracing the adjacent edge of the rail-base, suitable means for suitably securing the aforesaid movable plates or blocks in their operative position, and said movable plates or blocks, at their upper end, being suitably constructed to render them capable, in their operative position, of engaging the adjacent side of the rail-web, substantially as and for the purpose set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 5th day of March, 1895.

FELIX TYLER.

Witnesses:

C. H. DORER,
L. WARD HOOVER.