

UNITED STATES PATENT OFFICE.

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RAIL-TIE.

No. 798,581.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALDEN SIDNEY GULLIFORD, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Rail-Ties, of which the following is a specification.

This invention relates to rail-ties, and has for its objects to produce a comparatively simple inexpensive device of this character which in practice will be exceedingly strong and durable and one which will firmly support the railway-rails.

A further object of the invention is to provide simple and efficient clamping devices for securing the rails to the ties, one wherein the rails will be maintained firmly in place, and one wherein the number of parts of the rail-securing means is reduced to a minimum.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a top plan view of a pair of rail-ties embodying the invention and illustrating the rails secured thereto by my improved fastening devices. Fig. 2 is a longitudinal section through one of the ties taken, on the line 2 2 of Fig. 1. Fig. 3 is a bottom plan view of one of the ties having the rails secured thereto. Fig. 4 is a perspective of a portion of one of the ties. Fig. 5 is a perspective view of the primary clamping member. Fig. 6 is a perspective view of the secondary clamping member.

Referring to the drawings, 1 designates a railway-tie composed of steel or other suitable metal and having its edges bent downward throughout its length to produce downturned side portions or flanges 2, there being formed integral with the normally lower face of the tie and at points adjacent the flanges 2 longitudinal ribs 3, which conjointly with the flanges 2 constitute supports for the tie, which latter has formed in its body portion a pair of transversely-spaced longitudinally-extended slots or seats 4 and a central bolt-receiving opening 5, situated centrally between the slots, there being also formed in the body of the tie at a point suitably remote from the inner ends of the slot a rectangular opening 6. It is to be noted in this connection that the tie is provided with two sets of slots 4 and openings 5 and 6, disposed, respectively, adja-

cent the opposite ends of the tie, and that in each set the opening 6 is spaced from the inner ends of the slots 4 a distance equaling approximately the width of the base-flanges of the rails.

Seated upon the ties 1 are rails 7, each secured in place upon the several ties by means of a primary clamping member 8 and a secondary clamping member 9, the clamping members being secured in pairs and to the tie by a common fastening member or bolt 10. The primary clamping member, which is formed from a single piece or blank of plate metal, has a pair of downturned side portions or flanges 11, designed to fit, respectively, in the slots 4, and a rail-engaging portion 12, designed in practice to seat over the base-flange of the rail, while the secondary clamping member 9, which is formed from a single length of strap metal, comprises an elongated body portion, which in practice lies beneath the body portion of the ties, and an upturned engaging portion or hook 13, which enters through the opening 6 and overlies the base-flange of the rail, the members 8 and 9 being provided with bolt-openings 14, designed to register with the opening 5 for the reception of the fastening-bolts 10.

In practice the rails are seated in position upon the ties, after which the fastening members 8 are positioned with their flanges 11 entered in the slots 4 and their engaging portions 12 seated above the base-flange of the rail. The secondary fastening member is then entered through the opening 6, with its engaging portion 13 seated above the rail-flange and its body portion bearing beneath the under face of the tie, after which the bolts 10 are entered through the openings 5 and 14 for securing the clamping members in place. It will be observed in this connection that the rails will be maintained firmly in position upon the ties and that a single bolt serves as a common means for connecting each pair of clamping members to the tie, whereby the parts of the rail-holding devices are reduced to a minimum, and, further, that owing to the opening 6 being enlarged the members 8 and 9 may be adjusted relatively for engagement with rails having base-flanges of varying widths.

From the foregoing it is apparent that I produce a comparatively inexpensive device admirably adapted for the attainment of the

ends in view, it being understood that minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

5 Having thus described the invention, what is claimed as new is—

10 1. A rail-tie composed of a single piece of metal and comprising a body portion having downturned flanges extended along its longitudinal side edges, and vertical webs formed integral with and longitudinally of its normally lower face, said webs being respectively adjacent to and spaced from the side flanges.

15 2. A metal rail-tie provided with a pair of transversely-spaced longitudinal slots and an opening spaced from the inner ends of said slots, a primary rail-engaging clamp having downturned portions to seat respectively in 20 the slots, a secondary rail-engaging member having its body portion adapted to lie beneath the lower face of the tie and a rail-engaging portion to seat through the opening, said members and tie being provided with 25 registering openings, and a common fastening member entered through said openings for securing the members in position upon the tie.

30 3. A metal rail-tie provided with a pair of transversely-spaced slots and an opening spaced from said slots in the direction of

length of the tie, a primary rail-engaging member having downturned portions designed to seat respectively in the slots, a secondary rail-engaging member adapted to enter 35 through the opening and having its body portion seated against the normally lower face of the tie, said members and tie being provided with registering openings, and a common fastening member entered through the openings for securing the engaging members in position upon the tie. 40

4. A rail-tie provided with a pair of transversely-spaced slots and an opening disposed adjacent said slots, a rail-engaging member having downturned portions designed to seat 45 respectively in said slots and an opening to register with that in the tie, and a fastening member entered through the openings for securing the fastening member in position.

5. A rail-tie provided with a pair of spaced 50 slots, a rail-engaging member having downturned portions designed to seat respectively in said slots, and means for securing said member in position upon the tie.

In testimony whereof I affix my signature in 55 presence of two witnesses.

ALDEN SIDNEY GULLIFORD.

Witnesses:

J. W. CUMMER,

E. C. GESSNER.