

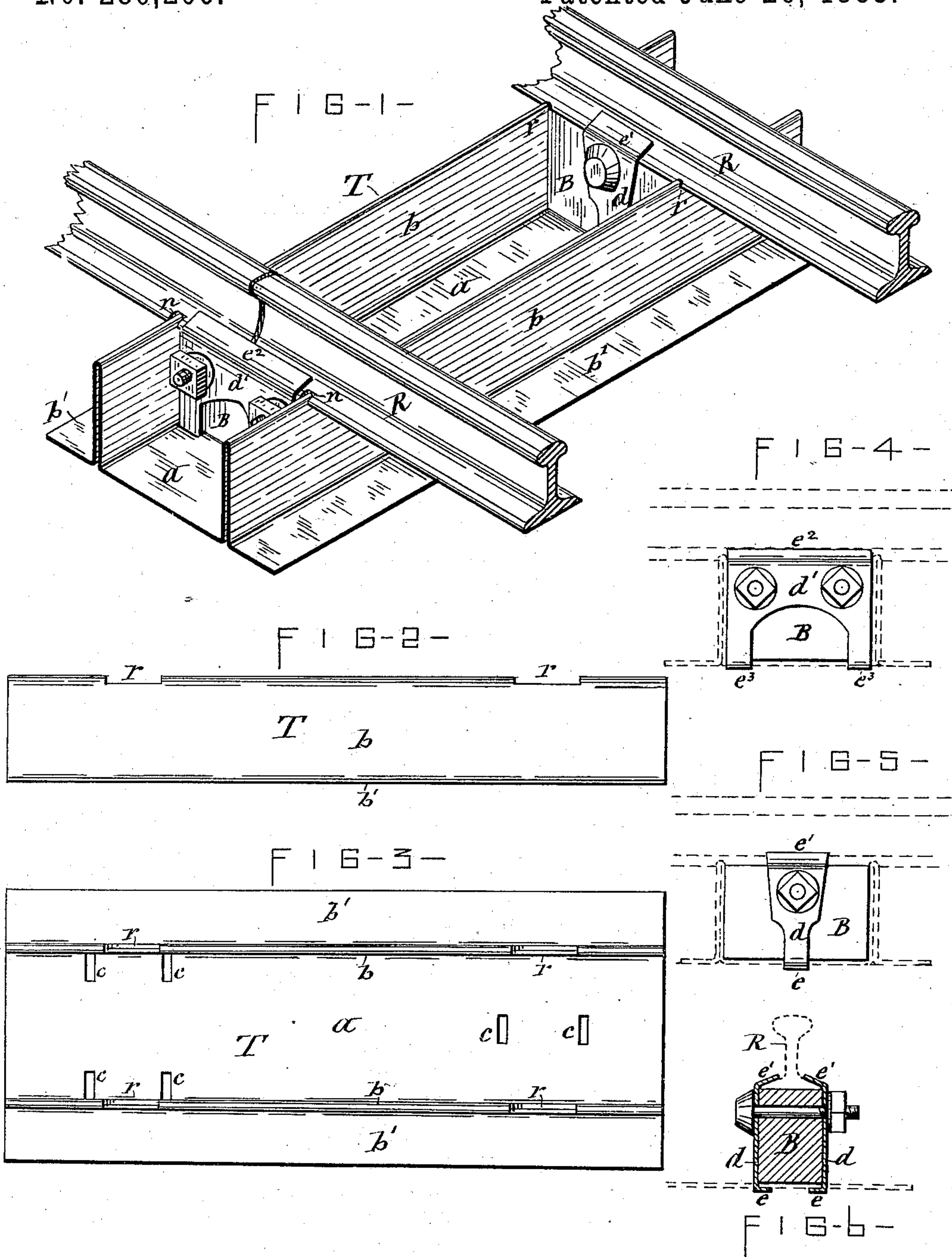
(No Model.)

J. MAHONEY & D. W. SHOCKLEY.

RAILWAY CROSS TIE.

No. 280,200.

Patented June 26, 1883.



WITNESSES—
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UNITED STATES PATENT OFFICE.

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RAILWAY CROSS-TIE.

SPECIFICATION forming part of Letters Patent No. 280,200, dated June 26, 1883.

Application filed March 2, 1883. (No model.)

To all whom it may concern:

Be it known that we, JOHN MAHONEY and DAVID W. SHOCKLEY, of Wilmington, in the county of New Castle, in the State of Delaware, have invented new and useful Improvements in Railway Cross-Ties, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

10 This invention consists in an improved construction of a metallic railroad cross tie or sleeper, and means for securing thereon the track-rail, as hereinafter fully described, and specifically set forth in the claims.

15 The invention is fully illustrated in the annexed drawings, wherein Figure 1 is an isometric view of our improved railway cross-tie with the rails fastened thereto. Fig. 2 is a side view of the same with the rails removed. Fig. 3 is a plan view of the cross-tie. Figs. 4 and 5 are side views of the rail-fastening devices, and Fig. 6 is a transverse section of the same.

Similar letters of reference indicate corresponding parts.

25 T represents our improved metallic railway cross tie or sleeper, which we form either of cast-iron or wrought-iron, though preferably of the latter, said tie consisting of a bed-plate, *a*, of a length to reach across the track, and of sufficient width to afford a substantial bearing on the road-bed, and a proper bed for tamping underneath it. From the top of the bed-plate project vertically two parallel ribs or flanges, *b b*, extending the length of the bed-plate *a*, said flanges being of proper height to thoroughly brace the cross-tie longitudinally, and to support the rail the requisite distance above the road-bed. The vertical flanges *b b* we form a short distance from the side edges of the bed-plate, so as to obtain horizontal flanges *b' b'* on the outer side of the vertical flanges, for further sustaining the latter. The tops of the vertical flanges are provided with recesses *r r*, in which the base of the rail *R* fits, so as to prevent the latter from slipping laterally, and thus obviate the danger of the spreading of the track. The rails *R* are secured to the described cross-tie by means of clamp-plates *d d*, applied to opposite sides of the rail and formed with laterally-projecting lips or hooks, *e e'*, respectively, on opposite ends, the lower hook, *e*, be-

ing inserted through an aperture, *c*, in the bed-plate *a*, between the vertical flanges thereof, and made to interlock with the under side of said bed-plate. The upper hook, *e'*, laps 55 onto and grasps the flange of the rail *R*, as best seen in Fig. 6 of the drawings, said clamps being fastened in their aforesaid position by means of a bolt or bolts passed through the clamp-plates underneath the rail *R*, and provided with a nut or key for tightening them. 60 Between the clamp-plates *d d* is inserted a block, *B*, preferably of cast-iron, through which block the clamping-bolt passes. This block is extended from flange to flange *b b*, and 65 made to bear, respectively, on the bed-plate and against the under side of the rail, thus supporting the intermediate portion of the rail from the bottom or bed-plate of the tie, which support is especially essential in cases where 70 the joint of the rails comes between the two flanges *b b* of the tie; and in such cases we make the clamp-plates serve as splicing-plates *d'*, by prolonging or laterally distending the top hook, *e'*, thereof, and providing said plates 75 with two bottom hooks, *e''*, which pass through two apertures, *c c*, in the bed-plate *a*, and interlock with the under side thereof, as before described. The block *B* is introduced between said splicing-plates underneath the rail, and 80 two clamping-bolts are inserted through said plates and through the interposed block, equidistant from the center of the tie. The recess *r* in the top of the flanges *b b* we make somewhat narrower than the base of the rail, 85 and the latter we provide with a notch, *n*, to allow the base of the rail to enter the recess *r* and cause said notch to interlock with the flange *b*, thereby forming an additional fastening for the joints of the rails, and effectually 90 guarding against the creeping or longitudinal movement of the rails.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is— 95

1. In combination with a railway-rail, the metallic cross-tie consisting of the bed-plate *a*, provided with upward-projecting flanges *b b*, and with apertures *c c* between said flanges, the clamps *d d'*, adapted to engage the top of 100 the flanges of the rail, and having their lower end passing through apertures *c*, and provided

with interlocking shoulders on the under side of the tie, and suitable means for drawing the clamps against opposite sides of the rail, substantially as and for the purpose set forth.

5 2. In combination with a railway-rail, the metallic tie consisting of the bed-plate *a*, provided with the upward-projecting flanges *b b*, and with apertures *c c* between said flanges, the clamps *d d*, provided with hooks *e e'* at opposite ends, the block B, interposed between the clamps and extended from flange to flange of the tie, and fitted to bear, respectively, on the bed-plate of the tie and against the foot of the rail, and the clamping-bolt *f*, passing through
10 the clamps and interposed block, substantially as described and shown.

3. In combination with two meeting rails, the metallic tie consisting of the bed-plate *a*, provided with upwardly-projecting flanges *b b*,
20 and with apertures *c c*, equidistant from the center of the tie, the splicing-clamp *d'*, having a prolonged top hook, *e''*, and two bottom hooks, *e''*, passing through the two apertures *c c*, the block B, interposed between the clamps

and extended from flange to flange of the tie, 25 and bearing against the bed-plate of the same and against the foot of the rail, and clamping-bolts passing through the clamp-plates and through the interposed block, equidistant from the center of the tie, substantially as described 30 and shown.

4. The rail R, provided with the notch *n* in its flange, in combination with the metallic tie T, having vertical flanges *b b*, provided with the recess *r*, substantially as and for the pur- 35 pose shown and set forth.

In testimony whereof we have hereunto signed our names and affixed our seals, in the presence of two attesting witnesses, at Wilmington, in the county of New Castle, in the 40 State of Delaware, this 26th day of February, 1883.

JNO. MAHONEY. [L. S.]
DAVID W. SHOCKLEY. [L. S.]

Witnesses:

H. M. CANTWELL,
WM. W. PRITCHETT.