

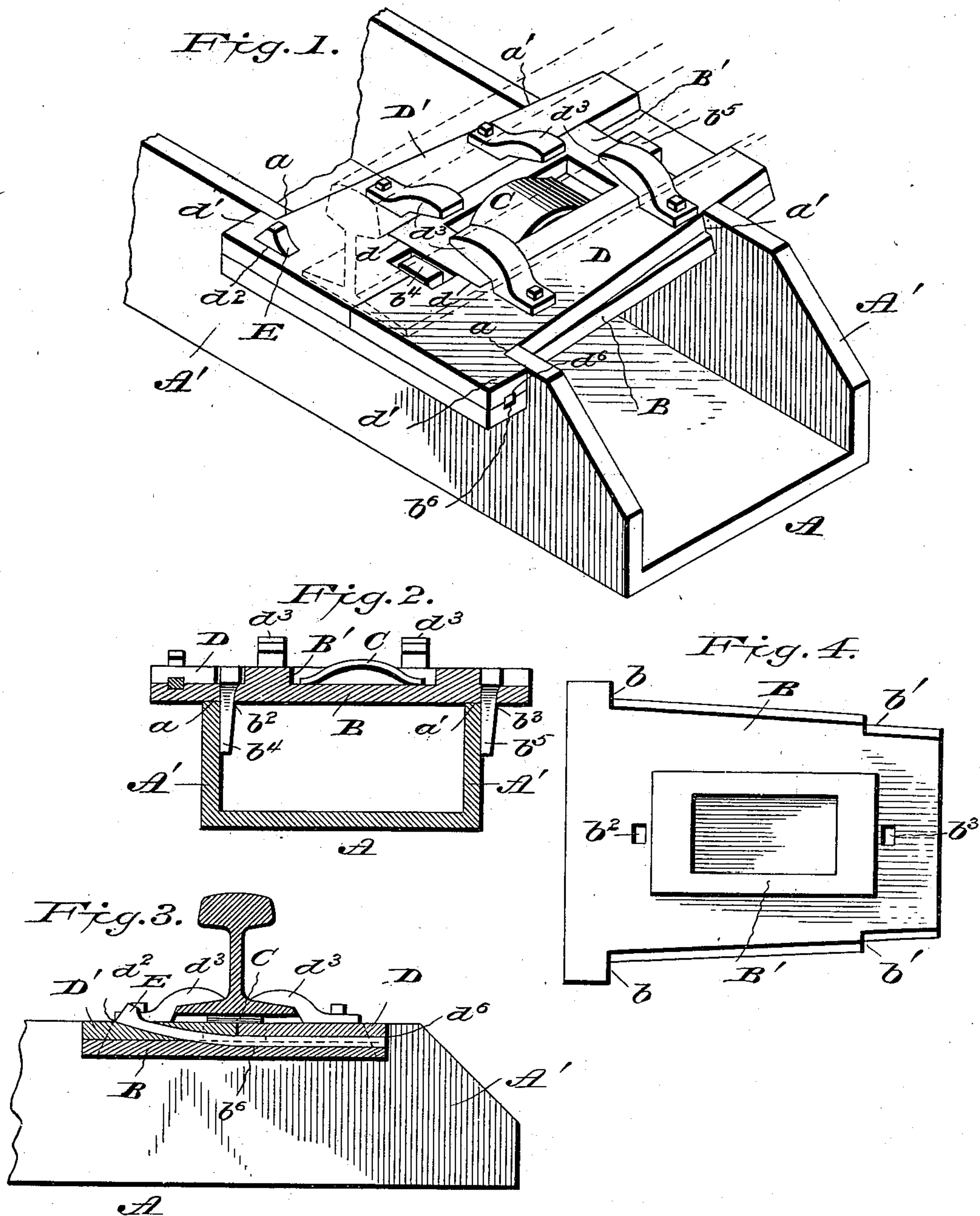
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Patented Jan. 31, 1899.

L. W. GERECKEY.
METALLIC RAILROAD TIE AND RAIL FASTENER.

(Application filed July 1, 1898.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

LOUIS W. GERECKEY, OF PUEBLO, COLORADO, ASSIGNOR OF TWO-FIFTHS
TO ANDREW C. SCHAFER, OF SAME PLACE.

METALLIC RAILROAD-TIE AND RAIL-FASTENER.

SPECIFICATION forming part of Letters Patent No. 618,565, dated January 31, 1899.

Application filed July 1, 1898. Serial No. 684,988. (No model.)

To all whom it may concern:

Be it known that I, LOUIS W. GERECKEY, a citizen of the United States, residing at Pueblo, in the county of Pueblo and State of Colorado, have invented new and useful Improvements in Metallic Railroad-Ties and Rail-Fasteners, of which the following is a specification.

This invention relates to certain new and useful improvements in metallic railroad-ties and rail-fasteners therefor.

The object of the invention is to provide a cheap and effective metallic tie and rail-fastener which can be quickly and securely applied, the rail-fastening serving not only to hold the rail to the tie, but also acting as a reinforcement for the vertical side pieces of the tie.

The invention consists in the combination, with a metallic tie having vertical side pieces with undercut recesses, of a rail support and fastener comprising a bed-plate with a raised central portion in which is formed a recess for the reception of a spring, a pair of side plates with rail-clamps, and means for holding the parts in place, as will be hereinafter set forth.

The invention further consists in the construction and combination of the parts, as will be specifically claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a perspective view showing one end of a railroad-tie with rail-fastening applied thereto, the rail being shown in dotted lines. Fig. 2 is a sectional view taken transversely through the tie and longitudinally through the bed-plate. Fig. 3 is a transverse sectional view through the rail-fastening, taken parallel with the tie; and Fig. 4 is a plan view of the bed-plate of the rail-fastener detached.

Referring to the drawings, A designates a metallic railway-tie, made up so as to present a base and vertical side pieces, which are integral. The tie may be produced by casting or rolling, and the side pieces A' have formed in the upper edges recesses *a a'*, with undercut side walls and horizontal bases. The length of the recesses is greater in one of the

side pieces of the tie than in the other side piece.

B refers to a base-plate which is tapered longitudinally and provided near its ends with shoulders or offsets *b b'*, the longitudinal edges of the plate from the shoulders *b* being beveled to engage with the undercut sides of the recesses in the side flanges A' of the tie A. The plate B is provided centrally with a raised wall B', having vertical inner and outer edges, the sides and ends thereof being parallel. This raised wall provides a recess for the reception of a spring C. The sides and one of the end walls provide shoulders which extend above the plane of the plate B and against which wedge-shaped plates D D' abut. The plate B is provided adjacent to the ends of the portion B' with apertures *b² b³*, which are out of line with the shoulders *b b'* a distance equal to the thickness of the vertical walls of the tie A, and through these apertures or openings are passed pins *b⁴ b⁵*, the one adjacent to the wider end of the plate engaging the inner face of one of the vertical walls of the tie, the other engaging the outer face of the other wall. The pins not only hold the base-plate in engagement with the tie as against longitudinal movement, but also connect the plate to the tie, so as to prevent the side walls thereof spreading, so that one wall will reinforce the other. The beveled edges of the plate and the undercut side walls of the recesses in the tie will prevent vertical displacement of the base-plate B. The upper face of the base-plate adjacent to its wider end, which projects laterally beyond the tie, has formed therein a groove or depression *b⁶*, one end of which inclines, as is shown in Fig. 3.

The rail-retaining plates D D' are provided with straight inner edges and shoulders *d d'*, the straight edges abutting against the outer edge of the raised portion of the base-plate B, and adjacent to the shoulders the plates D D' are cut away, so that they will escape or clear the head of the pin *b⁵*. The wider ends of the plates D D' have shoulders *d'*, which engage with the vertical side walls of the tie, and these plates are also provided with an aperture

or groove d^6 , which registers with that in the under plate. The plate D' has an opening therethrough, which joins the recess, and when the parts are assembled a locking-pin E is passed through this opening and prevents the plates $B D D'$ being moved longitudinally. The locking-pin may have its end upset, so as to prevent the withdrawal of the same.

The plates $D D'$ each carry two or more projecting portions or rail-retaining lugs d^3 , which are adapted to engage with the base-flange of the rail. These lugs may be integral with the plate or bolted thereon.

In practice the tie is sunk in the roadway and the trough is filled with ballast, the base-plate B is caused to engage with the recesses in the side pieces of the tie, and when the pins are passed through the apertures in the base-plate and engage with the vertical sides of the tie the opposite sides will be engaged by the shoulders $b b'$, thus providing means for holding the base-plate in place and at the same time bracing the sides of the tie. When the spring has been placed in the recess, the rail may be placed upon the base-plate, and the fastening-plates $D D'$, which carry the rail-retaining lugs, are placed in position so that the projecting portions on their wider ends will engage the tie, the beveled edges of said plate contacting with the undercut edges of the recess, and when so placed the rail will lie over the upper plates and the lugs will engage with the base-flange of the rail. The locking-pin E when driven home will hold the parts together. It will be noted that the heads of the pins are located under the rail, so that they cannot be removed when the rail is in place, also that the spring bears upon the rail and imparts to the fastening device a certain resiliency, the resistance of the spring being such that upon the passage of rolling-stock it will bend flush with the upper edges of the plates. The device may be modified in construction so as to render it applicable to curves, switches, &c.

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

1. A metallic tie having vertical sides with undercut recesses in the upper edges thereof, said recesses being of a greater length on one side of the tie than on the other, in combination with a longitudinally-tapered base-plate provided with beveled edges for engagement with the recesses in the side pieces of the tie and shoulders which engage with the side walls of the tie adjacent to said recesses, substantially as set forth.

2. A metallic railroad-tie and rail-support, consisting of a tie having vertical side pieces with undercut recesses in the side walls thereof, a base-plate having beveled edges and shoulders which engage with the tie, apertures through the base-plate for the passage of retaining-pins and upper plates with rail-retaining lugs and means for securing the

upper plates to the base-plate as to longitudinal movement of the parts, substantially as shown.

3. In combination with a metallic tie, constructed substantially as shown, of a base-plate held in engagement therewith, a pair of wedge-shaped plates which are adapted to engage with the tie above the base-plate, the wedge-shaped plates having rail-retaining lugs, substantially as shown and for the purpose set forth.

4. In combination with a metallic tie having vertical side walls, the upper edges thereof being provided with recesses, the sides of said recesses being undercut, a base-plate having beveled edges and shoulders, said plate having a raised central wall, apertures adjacent thereto and out of line with the shoulders and a groove or recess in one of the ends which project beyond the side walls of the tie, of tapered plates $D D'$ with beveled edges for engagement with the side walls of the recesses in the tie and straight edges for engagement with the centrally-projecting portion of the base-plate, rail-retaining lugs carried by said plates and a transverse recess in one of the plates and an aperture in the other for the passage of a locking-pin E , a spring adapted to be retained by the raised wall of the base-plate, the parts being organized substantially as shown and for the purpose set forth.

5. In combination with a railroad-tie, a base-plate provided with a raised central portion said plate being held in engagement with the tie, a pair of wedges having rail-retaining lugs, the wedges engaging with the walls of the raised central portion of the base-plate and with the tie, substantially as shown.

6. In combination with a railroad-tie, a rail-support or base-plate provided adjacent to its opposite ends with shoulders for engagement with the side walls of the tie, apertures out of line with the shoulders and locking-pins which pass through said apertures and engage the opposite vertical walls of the tie from those engaged by the shoulders, the base-plate having a central portion of greater thickness than the side portions beyond, substantially as shown.

7. A metallic railroad-tie having a recess with undercut side walls for engagement therewith of a base-plate and rail-retaining plates or wedges, in combination with a base-plate having a central portion of greater thickness than the other parts thereof, and wedges having rail-retaining lugs, substantially as shown and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LOUIS W. GERECKEY.

Witnesses:

M. J. GALLIGAN,
AARON SONNEHORN.