

No. 742,318.

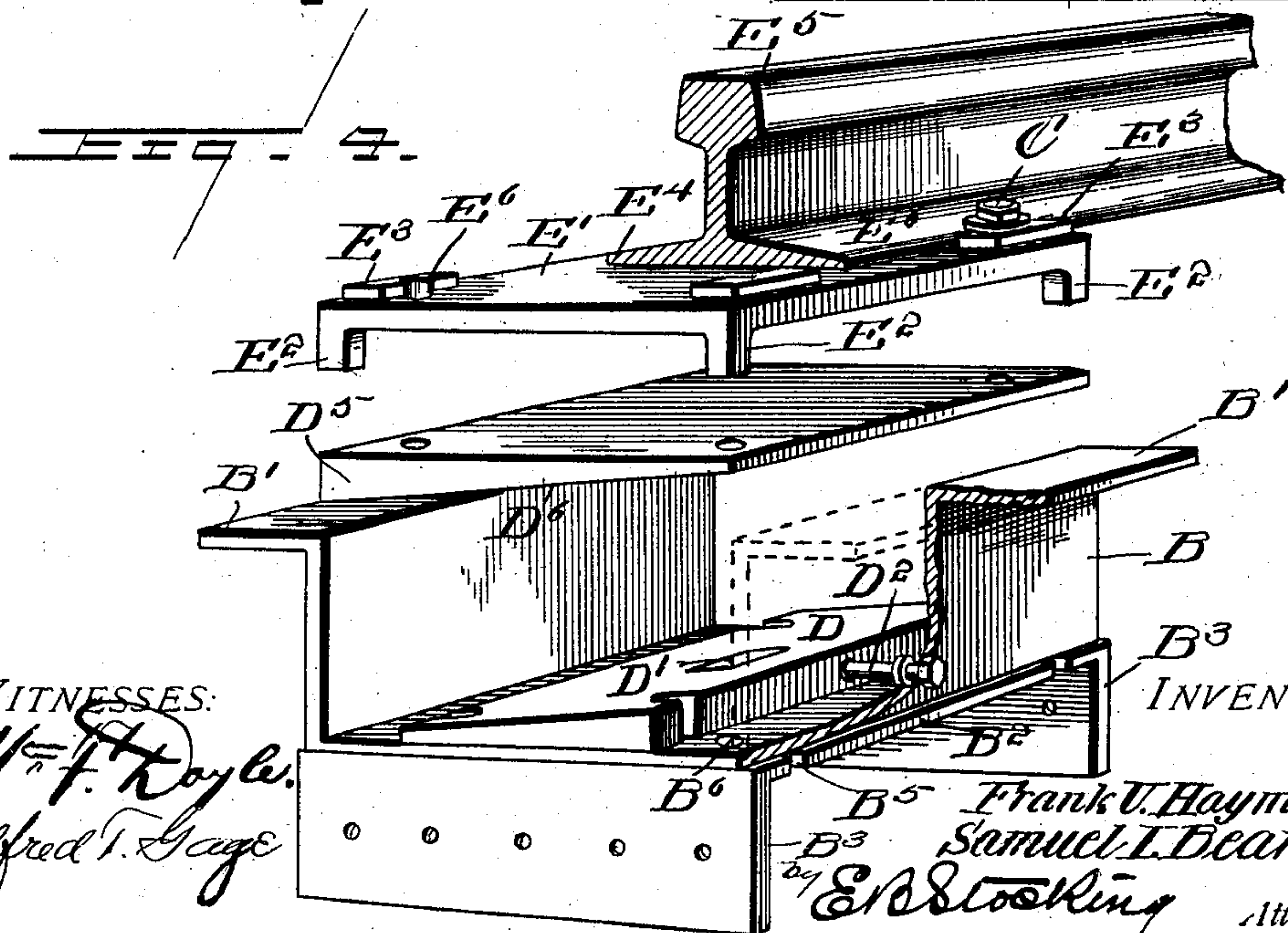
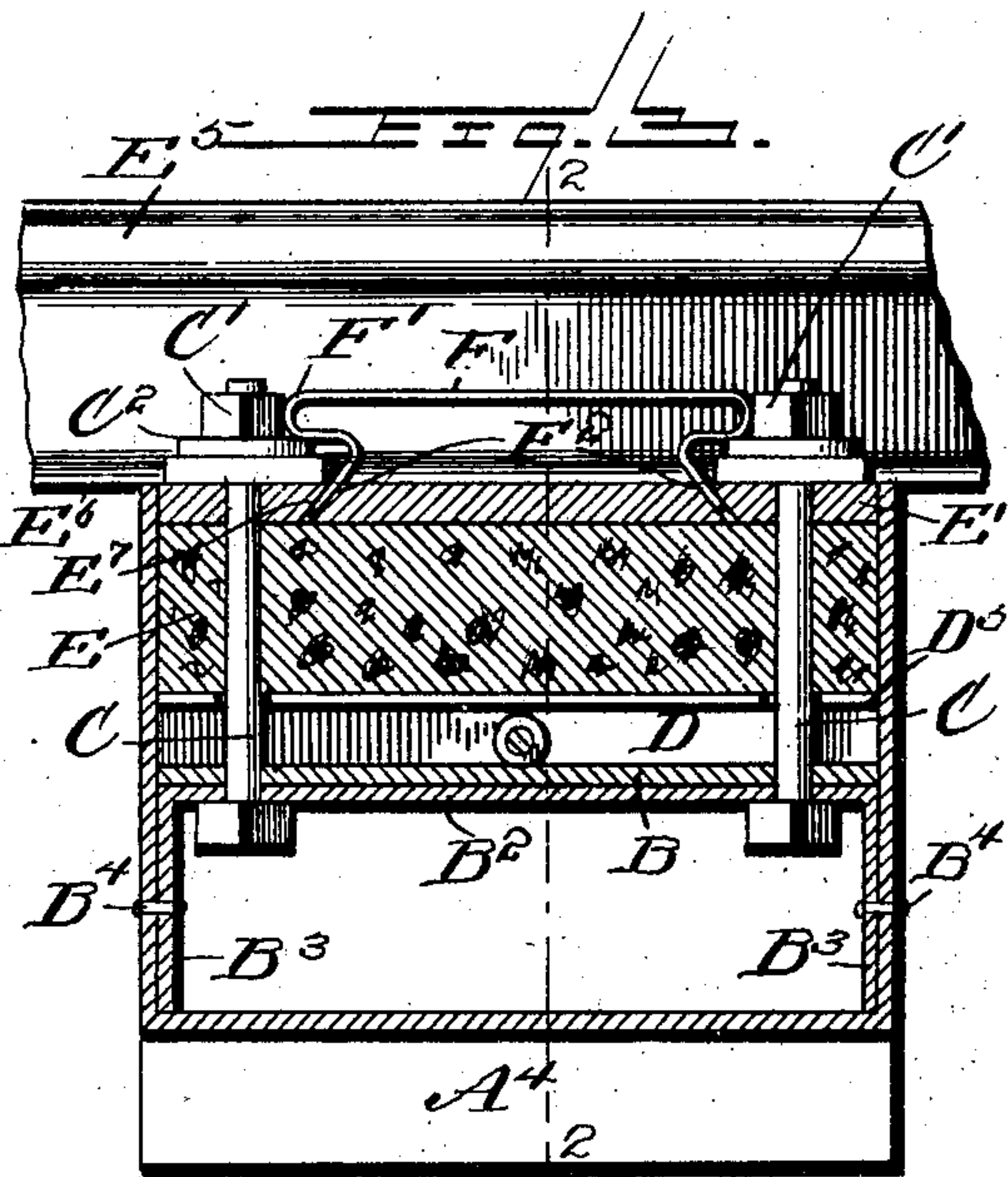
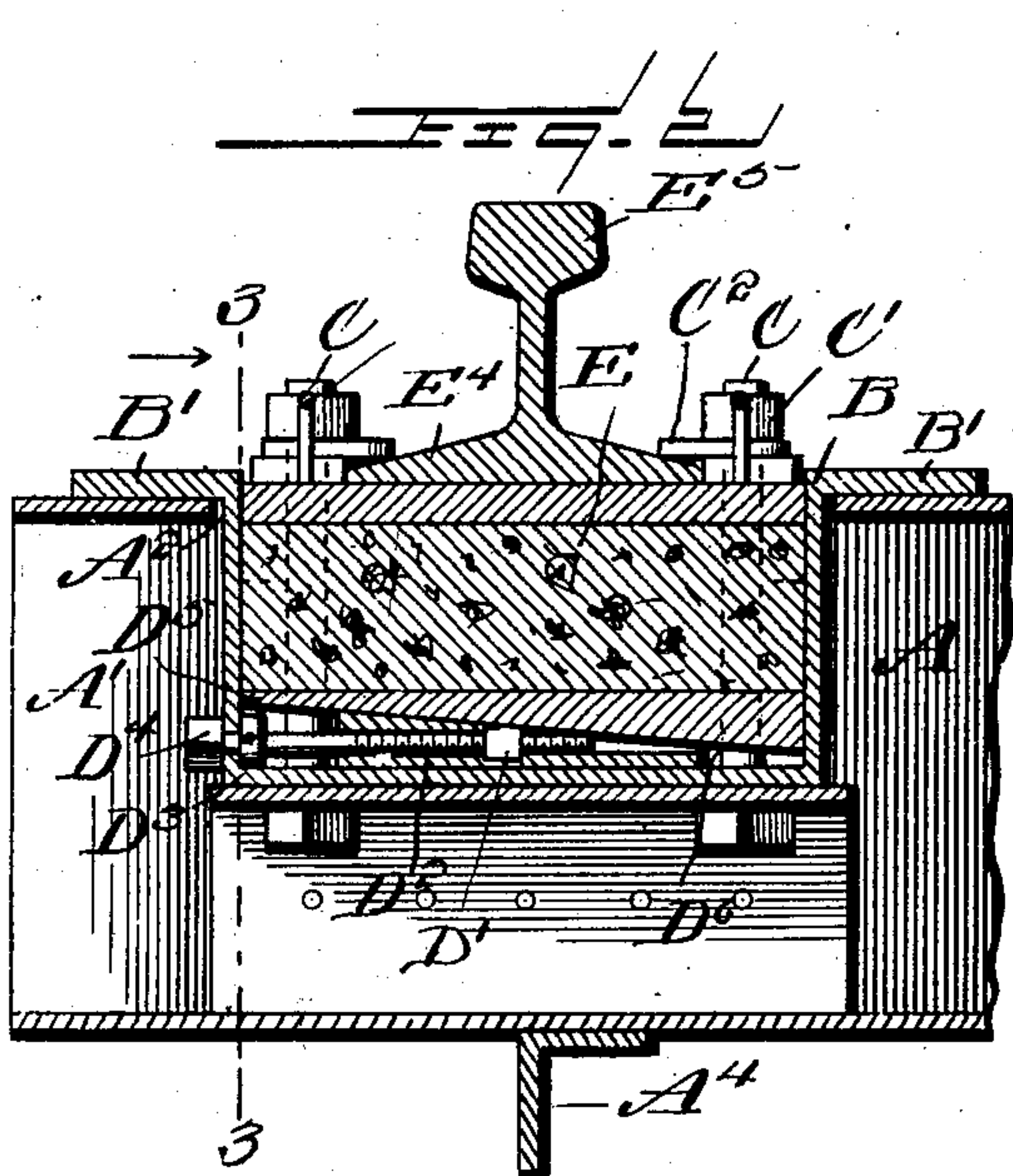
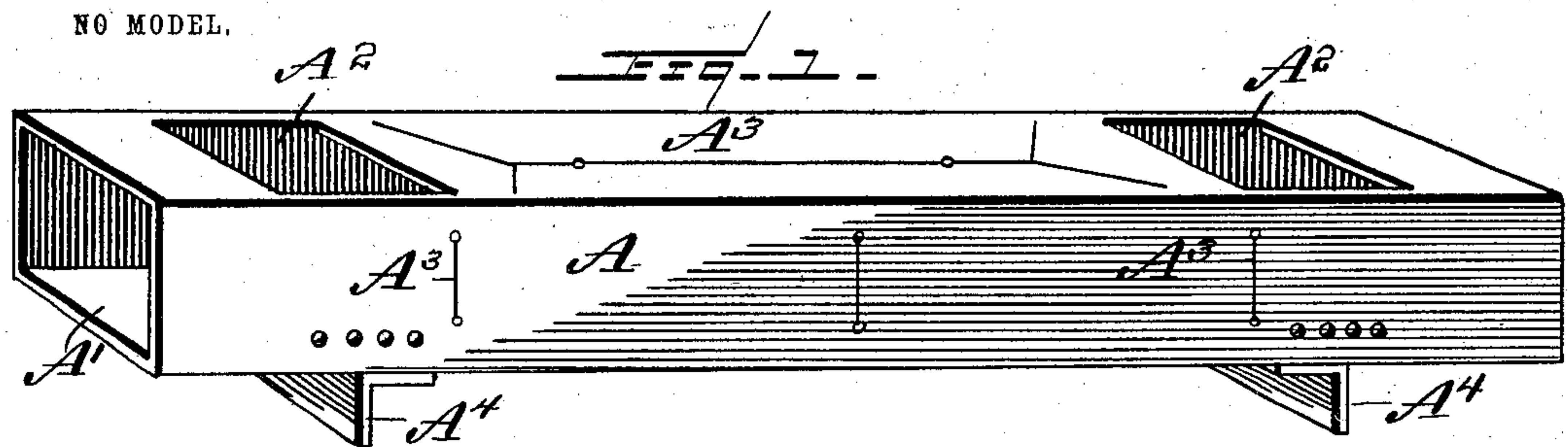
PATENTED OCT. 27, 1903.

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METALLIC RAILWAY TIE.

APPLICATION FILED AUG. 6, 1903.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK U. HAYMOND AND SAMUEL I. BEAN, OF ASHEVILLE, NORTH CAROLINA.

METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 742,318, dated October 27, 1903.

Application filed August 6, 1903. Serial No. 168,519. (No model.)

To all whom it may concern:

Be it known that we, FRANK U. HAYMOND and SAMUEL I. BEAN, citizens of the United States, residing at Asheville, in the county of Buncombe, State of North Carolina, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a metallic railway-tie and to means carried thereby for supporting a rail upon the tie.

The invention has for an object to provide a novel construction of tie and also an improved construction of pocket wherein an adjusting device for the rail is carried and also a cushion-block when found desirable.

15 A further object of the invention is to provide an improved form of this supporting-pocket whereby the same is held above the lower face of the tie, while the adjusting and cushioning means are adapted to be contained within and protected by the pocket in its relation to the tie.

25 Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

30 In the drawings, Figure 1 is a perspective of the tie with the rail-supporting pocket removed. Fig. 2 is a longitudinal section of one end of the tie with the rail-supporting pocket in position. Fig. 3 is a transverse section upon the line 3-3 of Fig. 2; and Fig. 35 4 is a detail perspective with parts broken away, showing the pocket and parts carried thereby separated from each other.

Like letters of reference refer to like parts in the several figures of the drawings.

40 The letter A designates a tie, preferably formed of a metallic plate open at its opposite ends, as shown at A', and provided upon its upper surface with openings A², adapted to receive the pocket B, Fig. 2. This tie is provided upon its top and side walls with drainage-slits A³, extending between holes at the opposite ends thereof, so as to drain the water from the road-bed outward through the tie and outward at the ends thereof, thus re- 50 taining the road-bed in the most desirable

condition. Upon the lower surface of the tie angle-irons A⁴ are secured to prevent the endward creeping of the tie in the ballast of the road-bed.

The pocket B is provided at its upper por- 55 tions with flanges B', which rest upon the upper face of the tie at opposite sides of the opening A² therein, thus partially supporting the pocket in position, while upon the under face of the pocket a saddleback B² is secured 60 and provided with vertical walls B³ at opposite ends, which are adapted to be bolted to the side walls of the tie, as indicated at B⁴, thus securing all of the parts firmly in position. This saddleback is provided with suitable openings 65 or channels B⁵ to permit the introduction of the securing-bolts B, which extend upward through the saddleback and through suitable apertures B⁶ in the bottom of the pocket. Rest- 70 ing upon the upper face of the bottom of the pocket is an adjustable wedge member D, which is provided with a threaded nut D', held against movement by a slot in the wedge member, and threaded into said nut is a screw 75 D², the outer end of which passes through the side wall of the pocket B and is provided with a collar D³ upon one side of said wall and a wrench-head D⁴ upon the opposite side by which the screw may be rotated and the ad- 80 justable wedge member carrying the nut D' reciprocated upon the bottom of the pocket. Resting upon this wedge member is an upper plate D⁵, having an inclined under face D⁶, so as to provide a level support for the cushion-block E, which may be of any desired 85 elastic material suitable to the conditions under which the tie is to be used. Upon the upper surface of this cushion-block E is a pressure-plate E', having at its opposite cor- 90 ners depending lugs E², adapted to embrace and retain the cushion-block in position, while upon the upper face thereof are gage-lugs E³, placed at a proper distance apart to receive the base E⁴ of the rail E⁵. These gage-lugs and the pressure-plate are provided 95 with apertures E⁶, through which the securing-bolts C pass.

The upper ends of the securing-bolts C are provided with the usual nuts C' and beneath the nuts contact-plates C², which are adapted 100

to overlap the base of the rail, and thus secure the proper retaining contact therewith. Any desired form of locking means for these nuts may be used—for instance, the bar F, of spring material, adapted to contact with the squared faces of the nuts at its opposite ends F' and provided with depending ends F², adapted to extend into recesses or slots E⁷, formed in the pressure-plate, as shown in Fig. 3.

It will thus be seen that the tie herewith presented permits the drainage of surplus moisture from the road-bed, thus retaining the same in the best possible condition and preventing the washing out of the bed from beneath the ties, as the drainage-water is adapted to be discharged at the opposite ends of the ties. The adjusting structure carried by the pocket permits the leveling of the rail without the necessity of retamping the tie, and the track-rails may be kept in the same plane by an ordinary trackman, thus preventing the rolling motion of the car produced by a difference in the horizontal planes of the track-rails. The use of the cushion-block in this pocket, with the pressure-plate for securing the rail in position, also permits an elasticity of the rail to obviate the bumping and hammering at the joints thereof, thereby securing the greatest ease of movement. The disposition of the securing-bolts permits all of the parts to be clamped together by the application of these bolts and quickly and easily inserted within the tie, where they may be rigidly secured by the riveting of the saddleback to the side of the tie.

It will be obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

Having described our invention and set forth its merits, what we claim, and desire to secure by Letters Patent, is—

1. In a railway-tie, a hollow casing open at its opposite ends and provided with openings upon its upper surface and drainage-openings in its side walls, and flanges upon the under surface of the tie at an angle thereto.

2. In a railway-tie, a hollow casing open at its opposite ends and provided with openings upon its upper surface and drainage-openings in its side walls, flanges upon the under surface of the tie at an angle thereto, supporting-pockets disposed in the openings upon the upper face of the tie, and saddlebacks beneath said pockets and secured to the side walls of said tie.

3. In a railway-tie, a hollow casing open at its opposite ends and provided with openings upon its upper surface and drainage-openings in its side walls, flanges upon the under surface of the tie at an angle thereto, supporting-pockets disposed in the openings upon the upper face of the tie, saddlebacks beneath said pockets and secured to the side walls of said tie, adjusting means disposed

upon the base of said pockets, a cushion-block upon said adjusting means, a pressure-plate upon said cushion-block, and means for securing the rail to said plate.

4. In a railway-tie, a pocket supported therein, an adjustable wedge-block disposed upon the base of said pocket, a screw carried by the wall of said pocket and threaded into said adjustable block, a plate having an inclined surface resting upon said block, and means for securing the rail to said plate.

5. In a railway-tie, a pocket supported therein, an adjustable wedge-block disposed upon the base of said pocket, a screw carried by the wall of said pocket and threaded into said adjustable block, a plate having an inclined surface resting upon said block, a cushion-block resting upon said plate, a pressure-plate disposed upon said cushion-block, and means for securing the rail to said pressure-plate.

6. In a railway-tie, a pocket supported therein, an adjustable wedge-block disposed upon the base of said pocket, a screw carried by the wall of said pocket and threaded into said adjustable block, a plate having an inclined surface resting upon said block, a cushion-block resting upon said plate, a pressure-plate disposed upon said cushion-block, and vertically-extending bolts passed through said pocket and provided at their upper ends with means for engaging the base of a rail.

7. In a railway-tie, a pocket supported therein, an adjustable block disposed upon the base of said pocket, a screw carried by the wall of said pocket and threaded into said adjustable block, a plate having an inclined surface resting upon said block, a cushion-block resting upon said plate, a pressure-plate disposed upon said cushion-block, vertically-extending bolts passed through said pocket and provided at their upper ends with means for engaging the base of a rail, a saddleback beneath said pocket, and means for securing said saddleback to the side walls of the tie.

8. In a railway-tie, a pocket supported therein, an adjustable wedge-block disposed upon the base of said pocket, a screw carried by the wall of said pocket and threaded into said adjustable block, a plate having an inclined face resting upon said block, a cushion-block resting upon said plate, a pressure-plate disposed upon said cushion-block, vertically-extending bolts passed through said pocket and provided at their upper ends with means for engaging the base of a rail, a saddleback beneath said pocket, means for securing said saddleback to the side walls of the tie, and a locking-bar extending between the nuts upon the bolts at the opposite ends of the pocket and provided with depending ends adapted to enter recesses in the pressure-plate.

9. In a railway-tie, a pocket provided at its opposite sides with flanges adapted to rest

upon the upper surface of the tie, and a saddleback beneath said pocket and secured to the side walls of the tie.

10. In a railway-tie, a rail-support, and an adjusting wedge-block beneath said support comprising a fixed and a movable wedge member adapted to be operated by a screw.

11. In a railway-tie, a pocket, a saddleback for supporting said pocket above the bottom of the tie, and means permitting a longitudinal drainage from the tie.

12. In a railway-tie, a pocket supported above the bottom of the tie, wedge members disposed in the lower portion of said pocket,

a cushion-block resting upon said wedge members, a pressure-plate above said cushion-block, and a bolt extending vertically through the several members contained in the pocket and securing the same together and contacting with the base of a rail disposed upon the upper face of the pressure-plate.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK U. HAYMOND.

SAMUEL I. BEAN.

Witnesses:

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W. A. HILDEBRAND.