

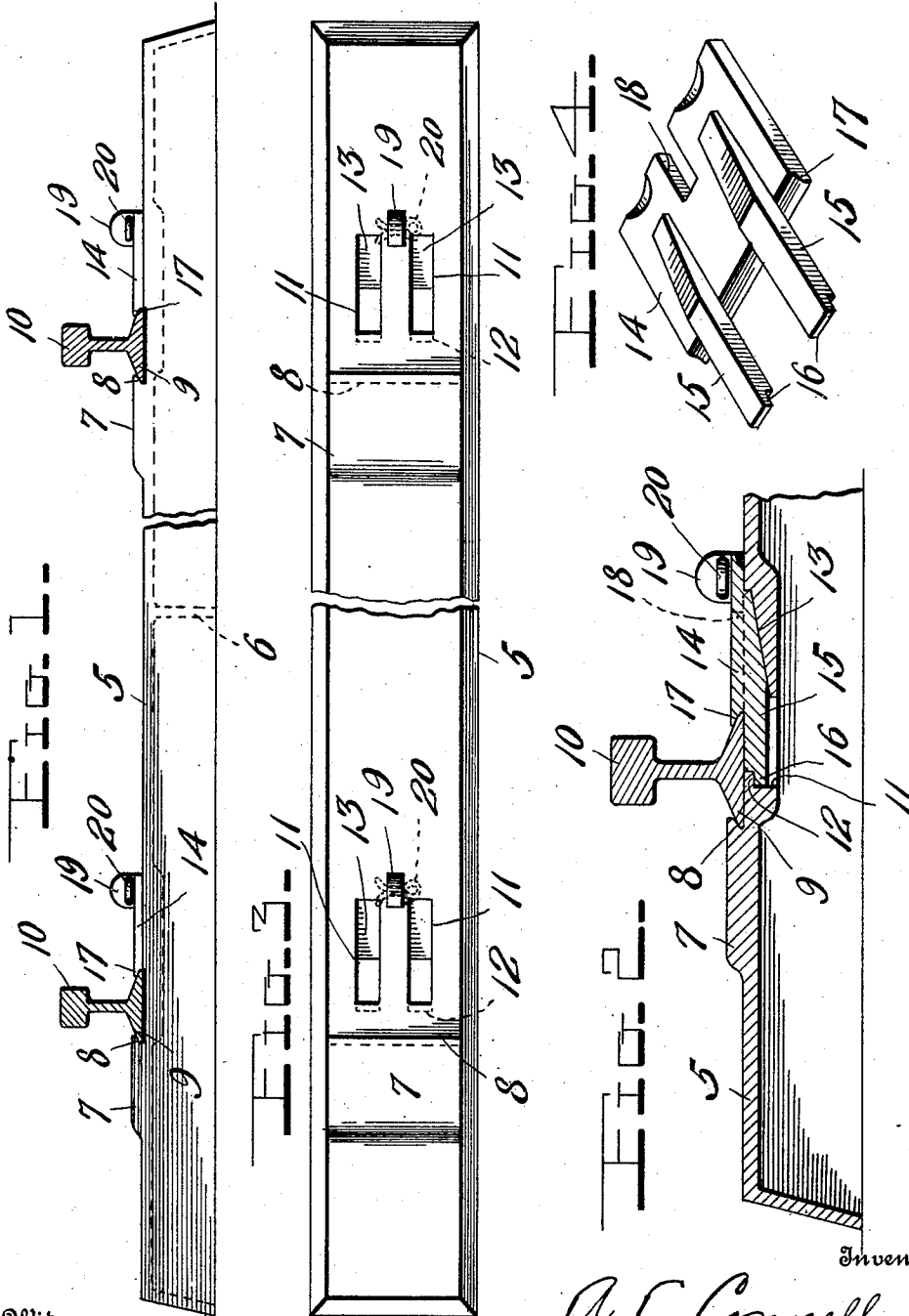
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RAIL FASTENER.

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966,168.

Patented Aug. 2, 1910.



Witnesses.

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UNITED STATES PATENT OFFICE.

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RAIL-FASTENER.

966,168.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT C. CONNELLY, a citizen of the United States, residing at Boyd, in the county of Wasco and State of Oregon, have invented certain new and useful Improvements in Rail-Fasteners, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to new and useful improvements in rail fasteners and has for its object to provide a device of this character which is adapted for use in combination with metallic rail ties to secure the 15 rails thereon.

Another object is to provide a metallic tie of special construction peculiarly adapted for use in connection with the improved fastening means, said tie being of such form 20 as to require no tamping when the same is placed in position.

A further object is to provide a rail fastener which may be very quickly positioned upon the rail and forms a secure, rigid, and 25 durable fastener whereby the rails are held against lateral movement upon the ties.

With these and other objects in view, the invention consists of the novel construction, combination and arrangement of parts hereinafter fully described and claimed, and 30 illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a metallic rail tie showing the rails held thereon by my 35 improved fastener; Fig. 2 is an enlarged longitudinal section through one end of the tie; Fig. 3 is a top plan view of the tie with the fastening plate removed; and Fig. 4 is a detail perspective view of the fastening 40 plate.

Referring to the drawings 5 indicates a metallic tie, which is formed from one piece of cast iron or steel, the spaced longitudinal sides and ends of said tie being outwardly 45 inclined from the top thereof. The tie is also formed with a central transverse strengthening plate or partition 6 and upon opposite sides of this partition adjacent to the ends of the tie the same is reinforced

by increasing the thickness of the top or 50 rail receiving base as shown at 7. By providing this particular form of rail tie, the tie requires no tamping when being placed in position, the bed of the tie being formed of cement, or other material in common use. 55

It will be noted that the reinforced portions 7 of the tie extend above and below the top thereof. The inner edge of the upper thickened or reinforced portion is beveled or 60 inclined inwardly to form a projecting transverse shoulder 8 beneath which the longitudinal edge of the rail flange 9 is adapted to engage, the rail 10 being seated upon the top of the tie. This reinforced portion is also formed with spaced rectangular open- 65 ings 11, the outer ends of which are formed with the inwardly extending shoulders 12. These shoulders are provided by cutting away the material through the greater portion of the reinforcement beyond the ends of 70 the openings. In the use of the tie, the outer ends of these openings are located immediately beneath the transverse center or web of the rail, the standard form of rail being used. The reinforcement at the inner 75 ends of the openings 11 is inclined or beveled upwardly from the under side thereof as shown at 13. These inclined portions which extend into the openings 11 are adapted to provide seats for supporting a fastening 80 plate 14. This plate has integrally formed therewith upon its under side the bars 15 which extend in longitudinal spaced relation beyond the forward edge thereof and are adapted to be positioned beneath the rail base. 85 The extremities of these bars are cut away or recessed as shown at 16 to receive the shoulders 12 at the outer ends of the openings 11. The edge of the plate 14 is also provided with an overhanging shoulder 17 90 which is adapted to engage upon the longitudinal edge of the rail base in a similar manner to the engagement of the shoulder 8 with the opposite edge thereof. The inner ends of the bars 15 have their bottom 95 surfaces beveled or inclined at substantially the same angle as the inclined seat portions 13 of the tie. When the fastening plate is

arranged in position upon the rail, these inclined surfaces are closely engaged and rigidly support the plate in position on the rail. The inner end of the fastening plate is provided centrally thereof with a longitudinally extending recess 18 which receives a lug or ear 19 formed upon the tie. This lug is provided with an aperture, and when the plate is in position, the upper surface thereof is disposed below this aperture whereby a split key or pin may be inserted therethrough and the lifting or raising of the plate effectually prevented.

The formation of the tie and the form of the fastening plate employed is identically the same for each of the rails, the only difference in the use of the fastener being that upon one of the rails it is positioned inwardly thereof, and on the other rail it is arranged upon the outer edge. In operation, the rail is arranged upon the tie as shown in Fig. 1, one edge of the rail base being engaged beneath the shoulder 8. The spaced bars 15 of the fastening plate are then inserted through the openings 11 in the tie, and the ends thereof engage beneath the shoulders 12, which forms in effect a lap joint of the bars with the tie. The outer ends of these bars have their inclined surfaces engaged with the similarly inclined portions of the rail tie, and when in position, the upper surfaces of these bars are flush with the surface of the tie body, while the longitudinal side portions of the plate 14 are disposed thereon, the lug or ear 19 being received in the recess 18 as previously described. The securing pin 20 is then inserted through the aperture in the lug and the plate 14 will be securely fastened upon the rail, the shouldered edge of which is engaged upon the rail base. In this manner the rails are secured upon the ties without necessitating the use of bolts, spikes, or other similar fastening means, and the entire tensile strength of the rails is retained.

From the foregoing it will be seen that I have provided a rail fastener which is of very simple construction, highly efficient in its operation, and also extremely strong and durable. The rails may be very quickly fastened upon the ties and are also designed to be employed for securing together the abutting ends of adjacent rails, for which purpose they are also well adapted.

While I have shown and described what I believe to be the preferred embodiment of my invention it will of course be understood that numerous minor changes and alterations in the form, proportion and details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed is:

1. In combination, a metallic rail tie having reinforced end portions, each of said reinforcements projecting above and below the plane of the top of the tie and having a shoulder formed thereon adapted to be positioned upon one longitudinal edge of the rail base, said reinforced portion having spaced longitudinal openings therethrough and shoulders formed at the outer ends of said openings, a fastening plate having extensions formed thereon adapted to extend beneath the rail base and engage with said shoulders, the outer edge of the plate extending over the other longitudinal edge of the rail base, and means for securing said plate upon the tie.

2. In combination, a metallic tie having spaced longitudinal openings therethrough adjacent to each end, shoulders extending over the outer ends of said openings, a fastening plate engaging with the longitudinal edge of a rail and extending beneath the same, the ends of the extensions being seated under said shoulders, said tie having a transverse shoulder formed thereon, adapted to engage over the other edge of the rail base, and means for securing said plate upon the tie.

3. In combination, a metallic rail tie having spaced longitudinal openings therethrough adjacent to each end and a shoulder formed thereon adapted to engage over the edge of a rail base, said shoulder extending above the body of the tie, a fastening plate having a shoulder formed upon one edge to engage upon the other edge of the rail base, spaced parallel bars extending beyond the edge of said plate having their extremities recessed, the tie having shoulders formed thereon adapted to be received in the recessed ends of said bars, said fastening plate having a longitudinal recess formed in its outer edge centrally thereof, an apertured ear formed upon the tie disposed in said recess, and a securing pin extending through said aperture and disposed upon the upper surface of the fastening plate.

4. In combination, a metallic rail tie having reinforced end portions, said reinforcements projecting above and below the plane of the top of the tie, the longitudinal sides and ends of said tie being outwardly inclined, the downwardly extending portions of said reinforcements having parallel longitudinal openings therethrough, and a fastening plate having extensions adapted for insertion through said openings and being engaged beneath the rail, said plate and the upwardly extending portion of the reinforcements engaging upon the opposite longitudinal edges of the rail base and means for securing the plate upon the tie.

5. A metallic rail tie having reinforced

end portions to provide seats for the rails, said reinforcements having parallel longitudinal openings therethrough extending beneath the rail base and a clamping plate
5 having integrally formed parallel extensions for insertion through said openings, said extensions engaging with the base of the rail, the edge of the plate being disposed upon the longitudinal edge of said base and means for securing the plate upon the tie. 10

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

ALBERT C. CONNELLY.

Witnesses:

O. B. CONNELLY,

W. H. WILSON.