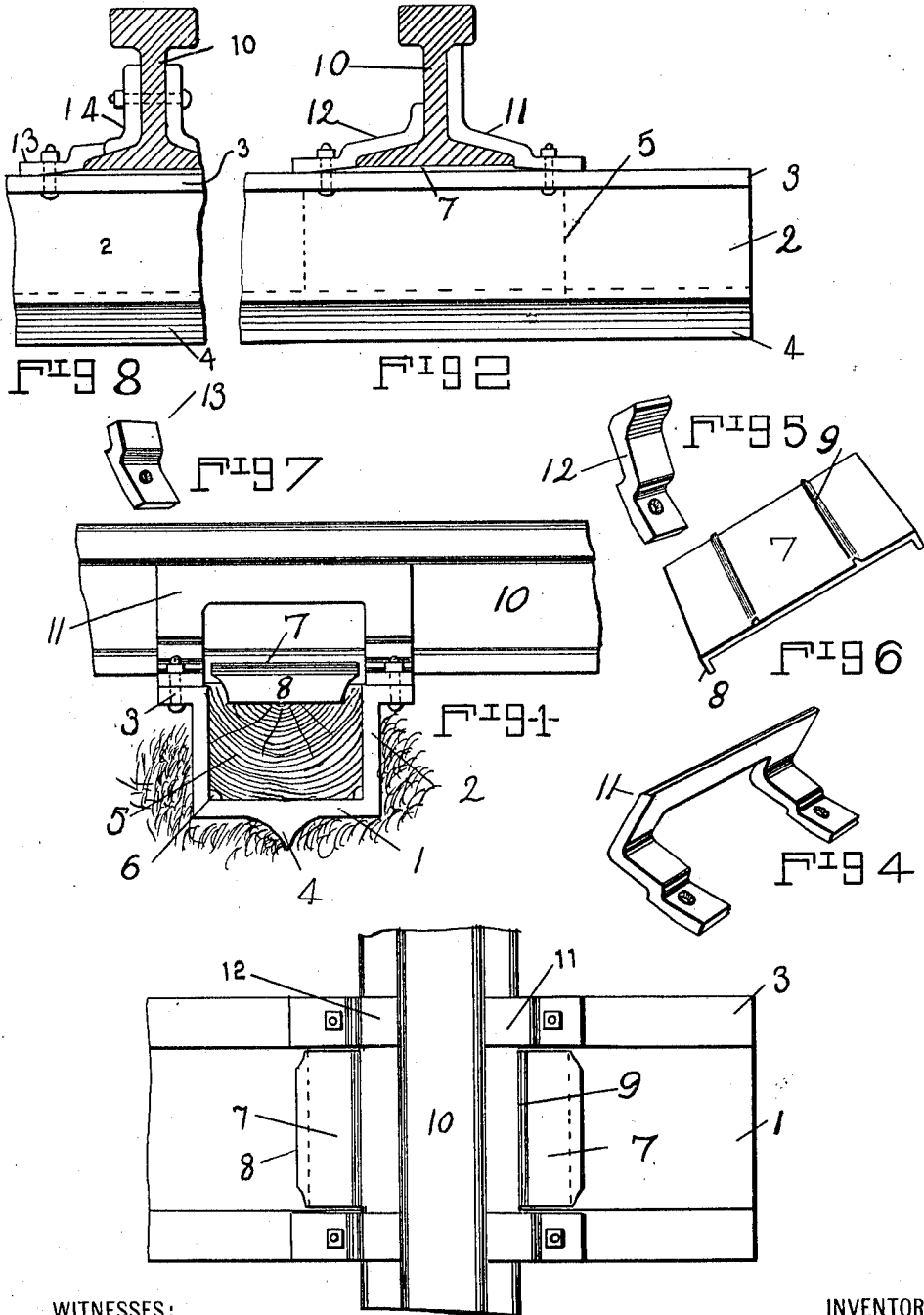


J. L. FINLEY.
 COMBINED RAILWAY TIE AND RAIL CLAMP.
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980,235.

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WITNESSES:
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JEFFERSON L. FINLEY, OF DALLAS, TEXAS.

COMBINED RAILWAY-TIE AND RAIL-CLAMP.

980,235.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed March 29, 1910. Serial No. 552,185.

To all whom it may concern:

Be it known that I, JEFFERSON L. FINLEY, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Combined Railway-Ties and Rail-Clamps, of which the following is a specification.

My invention relates to new and useful improvements in a combined railway tie and rail clamp. Its object is primarily to provide a metal tie as a substitute for the wooden ties commonly used securing the advantage of greater strength and durability.

Another object is to interpose a wooden cushion between the tie and the rail which it supports, the elasticity of the wood serving to take up a portion of the shock which is transmitted from the rails to the ties by passing trains.

A further object is to provide a metal tie and rail clamp which may be secured to said tie while the latter is embedded in the ground.

A still further object of the invention is to provide means for securing a rail to the ties of a railway which means will allow longitudinal motion of the rail during expansion and contraction.

Finally the object of the invention is to provide a device of the character described that will be strong, durable, simple and efficient and comparatively easy to produce, and also one which will not be likely to get out of working order.

With these and various other objects in view my invention has relation to certain novel features of construction, an example of which is described in the following specification and illustrated in the accompanying drawing wherein:

Figure 1 is a side elevation of a portion of a rail showing an end view of one of the ties supporting said rail and showing the herein described means by which the rail is clamped to the tie. Fig. 2 is a side elevation of a portion of the herein described tie, the rail being shown in section. Fig. 3 is a top view of an end portion of one of the ties showing a portion of the rail clamped thereupon. Fig. 4 is a perspective detail view of one of the rail clamps to be used upon the outside of the rail. Fig. 5 is a detail perspective view of a similar clamp to be used upon the inside of the rail. Fig. 6 is a detail perspective view of a metal plate which is to be

interposed between the rail and the aforesaid wooden block which serves as a cushion. Fig. 7 is a detail perspective view of a special form of clamp to be used in places where fish plates are interposed between the clamp and the rail. Fig. 8 is a side elevation of a portion of a tie showing a rail in cross section mounted thereupon and showing the modified clamp of Fig. 7 used in conjunction with a fish plate.

Referring now more particularly to the drawing wherein like numerals of reference designate similar parts in all of the figures, the numeral 1 denotes the bottom portion of a metallic tie, approximately U-shaped in cross section. The vertical sides of this tie are designated by the numeral 2, the upper edges of which are turned over to form flanges 3. A downwardly extending tongue 4, extending longitudinally of the tie is formed in the bottom thereof to give additional surface to resist transverse displacement of the tie. Underneath each rail of the track a wooden block 5 is positioned within the hollow of the tie. The lower edges of these blocks are cut away to form drainage apertures 6. Upon each of the blocks 5 there rests a metal plate 7 having lugs 8 each of which overhangs the block and prevents displacement thereof longitudinally of the tie. Upon the top surface of the plate 7 there are provided a pair of projecting tongues 9 adapted to receive the rail 10 between them. These projections prevent any possibility of the plates 7 being displaced to either side of the rail.

The numeral 11 designates a clamp the lower portion of which is adapted to be bolted to the flanges 3 at each side of the tie, the upper portion of the clamp bearing against the web of the rail.

The numeral 12 denotes a clamp of somewhat similar construction, one of which is to be bolted to each of the flanges 3 upon the inside of the rail bearing against the lower portion of the web thereof as shown in Fig. 2. The clamps 12 rest against only the lower portion of the web in order to form no obstruction to the flanges of the car wheels. The clamp 13, illustrated in Fig. 7, is shorter than the clamps 11 or 12 and is adapted to bear against a fish plate 14. By providing the tie with flanges 3 to which the rail clamps are bolted it is made unnecessary to run bolts through the bottom of the tie so that the clamps may be placed upon the tie

while the latter is embedded in the road bed.

I am aware that changes may be made in the form and proportion of the parts and details of construction of the herein described device without departing from the spirit or sacrificing the advantages of the device, and I therefore reserve the right to make such changes and alterations in my invention as fairly come within the scope of the following claims.

What I claim is:

1. In a railway structure of the class described, the combination with a rail; of a channel-shaped metal tie supporting the same, said tie having a central longitudinal rib on its under surface, a wooden block positioned underneath the rail in the channel of the tie, a metal plate resting upon the block and disposed between the rail and block, said plate having downturned ends positioned in the channel of the tie and extending partly over the ends of the block, means upon the upper face of the plate to prevent transverse movement of the rail and clamps secured to the upper portions of the tie and bearing against the web of the rail at each side thereof.
2. In a device of the character described,

the combination with a rail; of a channel-shaped tie of metal supporting the same, said tie having outturned flanges upon its upper edges extending throughout its length, a cushion block disposed under the rail and extending a slight distance beyond each side thereof, said block having drainage apertures at its lower portion extending longitudinally of the tie, a metal plate disposed between the rail and block and having reduced lugs extending downwardly in engagement with the ends of the block adjacent its upper face, spaced tongues formed upon the upper face of the plate to receive and hold the rail against transverse movement, said tongues being positioned transversely relative to the tie and clamps bolted to the flanges of the tie at either side of the rail and having engaging portions adapted to bear against the rail at each side thereof to hold the same against transverse movement.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JEFFERSON L. FINLEY.

Witnesses:

J. S. MURRAY,
W. M. PARHAM.