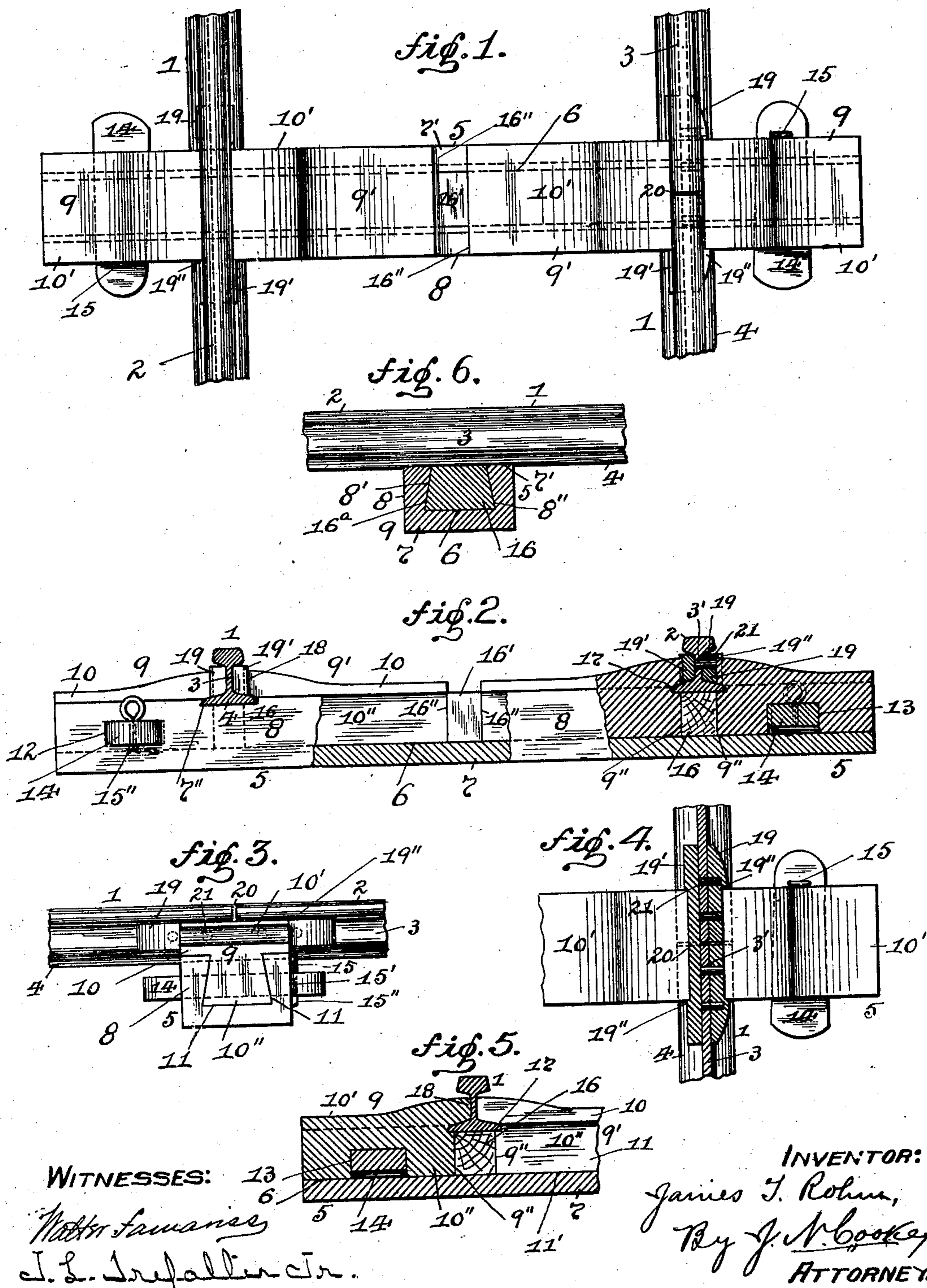


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J. T. ROHM.
RAIL TIE AND FASTENER.
APPLICATION FILED JAN. 22, 1904.

NO MODEL.



UNITED STATES PATENT OFFICE.

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RAIL-TIE AND FASTENER.

SPECIFICATION forming part of Letters Patent No. 762,944, dated June 21, 1904.

Application filed January 22, 1904. Serial No. 190,163. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. ROHM, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Rail-Ties and Fasteners; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to metallic railroad-ties and fasteners for the rail supported thereby, and has for its object to provide a tie whereby the rails are held in position, as well as one for fastening the rails together at their joints, while a further object is to so construct a tie that will prevent the displacement of the rails.

My invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved metallic railroad-tie and fastener I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a top plan view of my improved metallic railroad-tie and fastener, showing the rails applied thereto. Fig. 2 is a central longitudinal section of the same with some of the parts in full lines. Fig. 3 is an end view of the same. Fig. 4 is a longitudinal section through the webs of the rails forming the joint. Fig. 5 is a detail section of the tie and rail without the use of the splice-bars. Fig. 6 is a cross-section through the tie and showing the supporting rail-block under the rail.

Like letters or symbols of reference herein indicate like parts in each of the figures of the drawings.

As illustrated in the drawings, 1 represents the rails, which may be of the ordinary form, having the head 2, web 3, and base 4. Extending across, between, and under the rails 1 is the metallic tie 5, which is made in the form of a trough by having a recess 6 formed therein and throughout its length, so as to form the bottom 7 and sides 8, and such sides 8 have their interior faces 8' formed outwardly

flaring from the top faces 7' of the sides 8 to the bottom 7, as at 8". Fitting within the recess 6 of the tie 5 are the outer clamp-blocks 9 and inner clamp-blocks 9', which are provided with the flanges 10, extending out from the top portion 10' of the same for engaging with the top faces 7' of the tie sides 8, and below these flanges 10 is the bottom portion 10'' of said blocks 9 9', which is provided with the bottom face 11' and outwardly-flaring side faces 11 for engaging with the interior side faces 8' to form a dovetailed joint. Extending through an opening 12 formed in the sides 8 of the tie 5 and through a slot 13 formed in the bottom portion 10'' of the outer clamp-blocks 9 is a wedge-shaped key 14 for engaging through said opening 12 with said slot 13, and said key 14 is provided with an opening 15' formed therein for a pin or colter 15, which colter is adapted to have its split portions 15'' bent for holding said key 14 in place.

The top faces 7' of the tie sides 8 are provided with dovetailed recesses 7'' therein for the reception of the base 4 of the rails 1, and under the base 4 of said rails 1 is a block 16, preferably formed of wood, which block is provided with the flared ends 16'' for fitting within the recesses 6 of the tie between said bases 4 and the bottom 7 and between the inner ends 9'' of the clamp-blocks 9 9', while a like block 16' is also adapted to fit within and at or about the center of said recess 6, so as to engage with the outer ends 16'' of the clamp-blocks 9'. The inner ends 9'' of the clamps 9 9' are provided with a dovetailed slot 17 for fitting around the bases 4 of the rails 1, and this slot 17 also forms the abutting flange 18 above the same, while fitting between the said flanges 18 and the web 3 of the rails 1 are the outer and inner splice-plates 19 19', which are provided with a lug or projecting portion 19'' of the ends thereof for engaging with the side faces 10'' of the flanges 10 on the clamp-blocks 9 9'.

The use and operation and manner of placing my improved metallic railroad-tie and fastener in position is as follows: The inner clamp-blocks 9' are placed within the tie 5 by

means of their bottom portions 10'', fitting and sliding within the recess 6 of said tie 5, so that the flared side faces 11 on said bottom portion engage with the like faces 8'' on the tie sides 8 of said recess 6, and the flanges 10 on said blocks 9' fit over the top faces 7' of the sides 8 on the tie 5, while the inner ends 16'' of said blocks 9 face toward and are adjacent to each other. The rails 1 can now be placed upon the tie 1, with the bases 4 thereof fitting within the dovetailed seats or recesses 7'' on the top faces 7' of the sides 8, after which the inner splice-plates 19' are placed in position against the web 3 of the rails 1 and rest upon the bases 4 thereof, when the inner clamp-blocks 9' can be moved within the recess 6 along the tie 5 toward the rails 1 and against said splice-plates 19', so that the lugs 19'' on said plates 19 will fit around the side faces 10'' on the flanges 10 of the clamp-blocks 9' when the block 16 is inserted down between the ends 16'' on said clamp-blocks 9' and into the recess 6 of said tie 5. This will allow the slot or recess 17 in the ends 9'' of the clamp-blocks 9' to fit around the one side of the bases 4 of the rails 1 and the abutting flange 18 on said ends 9'' to engage said splice-plates 19'. The block 16 can now be placed under rails by inserting the same through the ends of the tie 5 and sliding the same along the recess 6 therein to place under the rails 1 by their flared ends 16'' engaging with the flared faces 8'' on the sides 8 of said recess, and thus forming a dovetailed connection therewith. The outer splice-plates 19 can now be placed in position against the web 3 of the rails 1 and on their bases 4, so that the parts are in position for clamping together, which can be done by placing the ends 9'' of the outer clamp-blocks 9 within the tie 5 by inserting the bottom portions 10'' thereof within the recess 6 of said tie, so that the flared side faces 11 thereof engage with the like faces 8'' on the tie sides 8, and the flanges 10 on said blocks 9 fit over the top faces 7' of said sides 8. After this is done the blocks 9 can be moved along said tie 5 within the recess 6 thereof and toward the rails 1, so that the ends 9'' on said blocks 9 can be brought against the splice-plates 19 thereby allowing the lugs or projections 19'' on said plates to fit around the side faces 10'' on the flanges 10 of the clamp-blocks 9 and the recess 17 in the ends 9'' of said blocks 9 to fit around one side of the bases 4 of the rails 1, with the abutting flange 18 on said ends 9'' engaging with said plates 19. The wedge-shaped keys 14 can now be placed within and through the opening 12 in the sides 8 of the tie 5 to engage the slot 13 in the bottom portions 10'' of the outer clamp-blocks 9, which will clamp the parts, together and after this is done the colters 15 can be inserted in the openings 15' of the keys 14 and their split portions 15'' opened out to hold the keys 14 in place.

Where my improved metallic railroad-tie and fastener is used under a joint 20 between the rails 1, such as is shown on the right-hand side of Fig. 1 and in Fig. 4, pins 21 can be carried by the splice-plates 19, which are adapted to pass through the ordinary bolt-holes 3', formed in the webs 3 at the ends 1' of the rails 1 in order to prevent any displacement of said rails, and, if desired, the splice-plates 19 19' can be dispensed with when the tie 5 is not used under a joint 20 between the rails 1, in which case the inner ends 9'' of the clamp-blocks 9 9' can bear directly against the web 3 of the rails 1.

Various other modifications in the construction and design of the various parts of my improved railroad-tie and fastener may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

It will be evident that my improved railroad-tie and fastener will act to support the rails and also the joints between the rails and will do away with the use of spikes, bolts, &c., while it will be also evident that the trough-shaped tie can be formed by rolling, and the parts composing the tie can be used on curves and different gages of track by the insertion of different size blocks in the recess of the tie between the inner clamp-blocks. It will also be seen that the device will prevent the entrance of water, dirt, &c., into the joints and thereby overcome the rusting or injury of the parts.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a metallic railroad-tie and fastener, the combination with the rails, of a metallic tie for supporting said rails having a tapered dovetailed recess extending longitudinally through the same, and clamp-blocks on each side of the rails having tapered dovetailed bottom portions thereon for slidably fitting within said tapered dovetailed recess and adapted to be clamped with said rails, said clamp-blocks having flanges on each side and above said bottom portions for fitting entirely over the top face of said tie.

2. In a metallic railroad-tie and fastener, the combination with the rails, of a metallic tie for supporting said rails having a tapered dovetailed recess extending longitudinally through the same, clamp-blocks on each side of the rails having tapered dovetailed bottom portions thereon for slidably fitting within said tapered dovetailed recess, said clamp-blocks having flanges on each side and above said bottom portions for fitting entirely over the top face of said tie, and means for clamping said clamp-blocks and said rails together.

3. In a metallic railroad-tie and fastener, the combination with the rails, of a metallic tie for supporting said rails having a tapered dovetailed recess extending longitudinally through the same and having openings through

the sides of the same, clamp-blocks on each side of the rails having tapered dovetailed bottom portions thereon for slidably fitting within said tapered dovetailed recess and provided with a slot within the same, said clamp-blocks having flanges on each side and above said bottom portions for fitting entirely over the top face of said tie, and a wedge-key for fitting within said openings and engaging with said slot to clamp said blocks with said rails.

4. In a metallic railroad-tie and fastener, the combination with the rails, of a metallic tie for supporting said rails having a dovetailed recess extending longitudinally through the same, inner and outer clamp-blocks having dovetailed bottom portions thereon slidably fitting within said dovetailed recess, splice-plates fitting between said rails and blocks, and means engaging with said blocks for clamping the same and plates against said rails.

5. In a metallic railroad tie and fastener, the combination with the rails, of a metallic tie for supporting said rails having a dovetailed recess extending longitudinally through the same, inner and outer clamp-blocks having dovetailed bottom portions thereon slidably fitting within said dovetailed recess, splice-plates fitting between said rails and blocks, lugs on said splice-plates for engaging with said blocks to hold said plates in place, and means engaging with said blocks for clamping the same and plates with said rails.

6. In a metallic railroad-tie and fastener, the combination with the rails having bolt-holes adjacent to the ends thereof, of a metallic tie for supporting said rails having a dovetailed recess extending longitudinally

through the same, inner and outer clamp-blocks having dovetailed bottom portions thereon slidably fitting within said dovetailed recess, splice-plates fitting between said rails and blocks, means engaging with said blocks for clamping the same and plates with said rails, and pins on said splice-plates and adapted to enter said bolt-holes for holding said rails in position.

7. In a metallic railroad-tie and fastener, the combination with the rails, of a metallic tie for supporting said rails having a dovetailed recess extending longitudinally through the same, inner and outer clamp-blocks having dovetailed bottom portions thereon slidably fitting within said dovetailed recess, means for clamping said blocks and said rails together, and a block adapted to fit under said rails and between the ends of said clamp-blocks.

8. In a metallic railroad-tie and fastener, the combination with the rails, of a metallic tie for supporting said rails having a dovetailed recess extending longitudinally through the same, inner and outer clamp-blocks having dovetailed bottom portions thereon slidably fitting within said dovetailed recess, means for clamping said blocks and said rails together, and a block adapted to fit in said recess between the ends of said inner clamp-blocks.

In testimony whereof I, the said JAMES T. ROHM, have hereunto set my hand.

JAMES T. ROHM.

Witnesses:

J. N. COOKE,
JAMES P. ROHM.