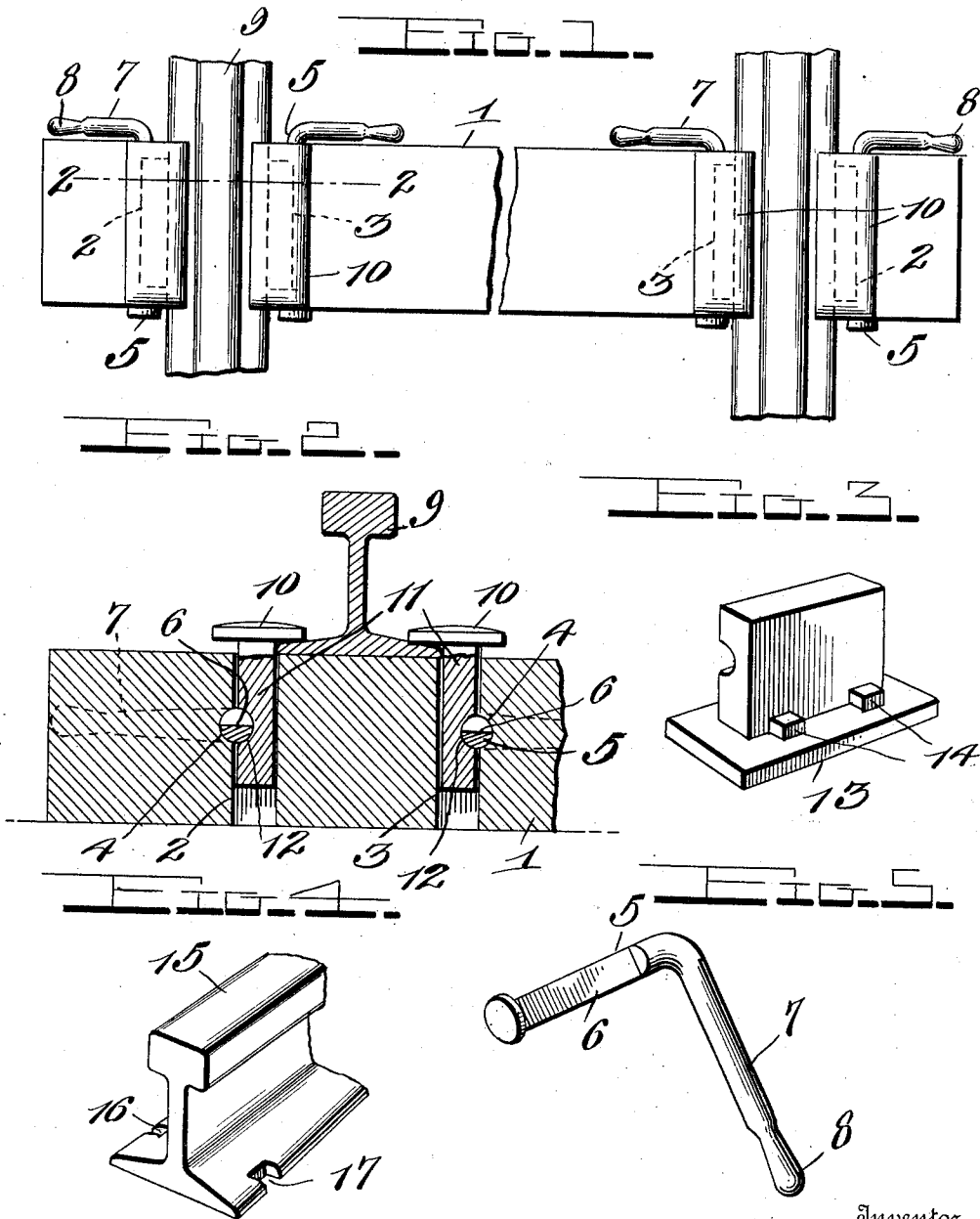


A. DILLON.
 COMBINED RAIL JOINT AND TIE FASTENER.
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COMBINED RAIL-JOINT AND TIE-FASTENER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT DILLON, a citizen of the United States, residing at Aitch, in the county of Monroe and State of Ohio, have invented certain new and useful Improvements in Combined Rail-Joints and Tie-Fasteners, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in metallic rail ties and fastenings therefor and more particularly to a combined tie fastener and rail joint, and my object is to provide a device of this character which will eliminate the use of spikes, bolts, nuts and the like and will effectively secure the rails to the ties.

A further object of the invention resides in providing clamping members to engage the base flanges of the rails and retain the same, and a still further object resides in providing means for readily locking and unlocking said clamping members to the tie.

A further object is to provide the clamping members having shanks thereon provided with grooves and further to provide keys or the like on the tie adapted to cooperate with the grooves in the clamping members to secure the same to said tie.

Still another object of the invention resides in providing certain of the clamping members with locking lugs adapted to enter notches or the like in the ends of the opposed rails, whereby said opposed rails may be securely held together to the tie.

A still further object resides in providing a device which is extremely simple in construction, thereby readily and cheaply manufactured and one which is very efficient and useful in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawing forming a part of this application, Figure 1 is a top plan view of the tie showing my improvements applied to use. Fig. 2 is a longitudinal section therethrough as seen on line 2—2, Fig. 1. Fig. 3 is a detail perspective of a modification of one of the clamping members removed. Fig. 4 is a similar view of one of the rail ends used in

connection with my device as a rail joint, and, Fig. 5 is a detail perspective of one of the locking keys removed from the tie.

In carrying out my invention, I shall refer to the drawing in which similar reference characters designate corresponding parts throughout the several views and in which—

1 indicates a solid metallic tie provided adjacent each end thereof with a pair of slots 2 and 3, which slots extend vertically and completely through said tie. Extending transversely through the tie is a plurality of channels or grooves 4, one for each slot, said channels being so disposed as to intersect the slots and form grooves in the side walls thereof. These channels 4, where fully represented, are substantially circular in cross section, but, as stated, are so disposed as to be intersected by the vertical slots and, therefore, form substantial semi-circular grooves in the walls of said slots, and mounted in said slots, are the locking keys or the like 5 which are circular in cross section and have portions thereof flattened, as shown at 6, which flattened portions are equivalent in length to the lengths of the slots 2 and 3. These keys are upset at one of their ends to be retained to the tie and the other end thereof bent substantially at right angles to the general trend, as shown at 7, and the extreme outer end of this right-angular bent portion has a knob or the like 8 formed thereon to be readily grasped by the operator. The flattened portions of the keys are so formed thereon as to register in alinement with one of the side walls of said slots when the angular portions of said keys are raised to their vertical positions, and when disposed in the position shown in Fig. 1, the keys 5 are in their locked positions, as a portion of the same extends within the vertical slots 2 and 3. In order to secure a rail 9 to this tie, the clamping members 10 are provided, one for each of the vertical slots 2 and 3, the shanks 11 of which are provided with the longitudinal grooves 12, which grooves are substantially semi-circular in cross section and form with the semi-circular grooves of the side walls of said slots, substantially circular channels.

In positioning the clamping members on the tie, the angular portions 7 of the locking keys 5 are disposed to their vertical positions so that the flattened portions 6 there-

of register with the side walls of the slots 2 and 3, whereby the shanks of said clamping members may be readily inserted in said slots and the rails 9 positioned between said clamping members so that the under faces of the heads of the latter engage the base flanges of said rails. The longitudinal grooves 12 are so disposed in the shanks of said clamping members that when the heads thereof engage the flanges of the rails, said grooves are disposed in alinement with the channels or grooves 4, whereby the angular portions of the locking keys 5 may be lowered to the position shown in Fig. 1 which will dispose portions of said locking keys in the grooves of the clamping members and portions within the channels of the tie. In this manner, the clamping members will be securely held in position to lock the base flanges of the rails to the tie and prevent movement of the same in any direction. I have also provided means for the joining of a pair of rail ends with this form of rail securing means, in which the use of spikes and bolts is eliminated, and to this extent, the clamping members 13, similar to the clamping members 10 are each provided with a pair of lugs or projections 14 at the junction of the head and the shank thereof, said lugs or projections being spaced apart and both disposed on the same side of the member. The rails 15 are each provided adjacent their ends with a pair of notches or the like 16 and 17, one notch being disposed in each of the base flanges of the rail and opposite one another. Thus, it will be seen that as the two opposed rail ends are brought together on the tie, the clamping members may be lowered into engagement therewith so that the lugs thereon enter the notches in the base flanges of said rail, and as these clamping members 13 are otherwise identical with the clamping members 10, the locking keys may be disposed in their effective positions so as to lock said clamping members in engagement with the rail ends. In this manner, said rail ends are clamped to one another from both sides and securely held to the rail without the use of spikes or bolts and nuts.

From the foregoing, it will be seen that I have provided an improved form of tie and rail fastener therefor and have also provided in conjunction therewith, an improved rail joint, both of which are of extremely simple construction and effectual in operation. Furthermore, it will be seen throughout the operation of the device, that the use of spikes and bolts and nuts is entirely eliminated, so that the device is quickly and readily operated at all times, and in this connection, it will be seen that time, labor and expense will be greatly lessened through the use of this device. It will still further be seen that this device is of extremely sim-

ple construction, thereby cheaply manufactured and one which is effective in operation in every connection.

What I claim is:—

1. The combination with a base member having vertical slots therein; of means to secure an additional member thereto, comprising clamping members having shanks thereon disposed in said vertical slots, said shanks being provided with transverse channels, and rotatable locking keys extending transversely of the base member contiguous with said slots, said locking keys being adapted to engage the channels of said shanks when rotated in one direction, and means to manually rotate said locking keys.

2. In a device of the class described, the combination with a base member having vertical slots therein and also provided with transverse channels intersecting said slots; of means to secure an additional member to said base member, comprising clamping members removably mounted in said slots, said clamping members being provided with grooves adapted for alinement with the channels of said base member, and locking members rotatably mounted in the channels of said base member adapted to enter the grooves of said clamping members to retain the same in their effective positions.

3. In a device of the class described, the combination with a tie having vertical slots therein and also provided with transverse channels contiguous with said slots; of means to secure a member to said tie, comprising clamping members provided with shanks extending within said slots and vertically movable therewithin, said shanks being provided with grooves on one of their faces adapted to aline with the channels in said tie, locking keys rotatably mounted in the channels of said tie and permanently carried thereon, said locking keys being adapted to enter the grooves of the shanks of said clamping members when moved in one direction to lock said clamping members in their effective positions, and means to rotate said locking keys.

4. In a device of the class described, the combination with a base member having vertical slots therein and provided with transverse channels intersecting said slots; of clamping members removably mounted in said slots and provided with grooves therein adapted for alinement with the channels in said base member, locking pins substantially circular in cross section mounted in the channels of said base member, said locking pins being each provided with a flattened face, and means to rotate said locking pins.

5. In a device of the class described, the combination with a base member having vertical slots therein and also provided with transverse channels intersecting said slots; 130

of clamping members removably mounted
in said slots provided with grooves therein
adapted for alinement with the channels in
said base member, locking pins substantially
5 circular in cross section rotatably mounted
in the channels of said base, said locking
pins being each provided with a flattened
face and permanently carried on the base,

and a handle member carried on each of
said pins to manually rotate the same. 10

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

ALBERT DILLON.

Witnesses:

GLEN POLEN,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
