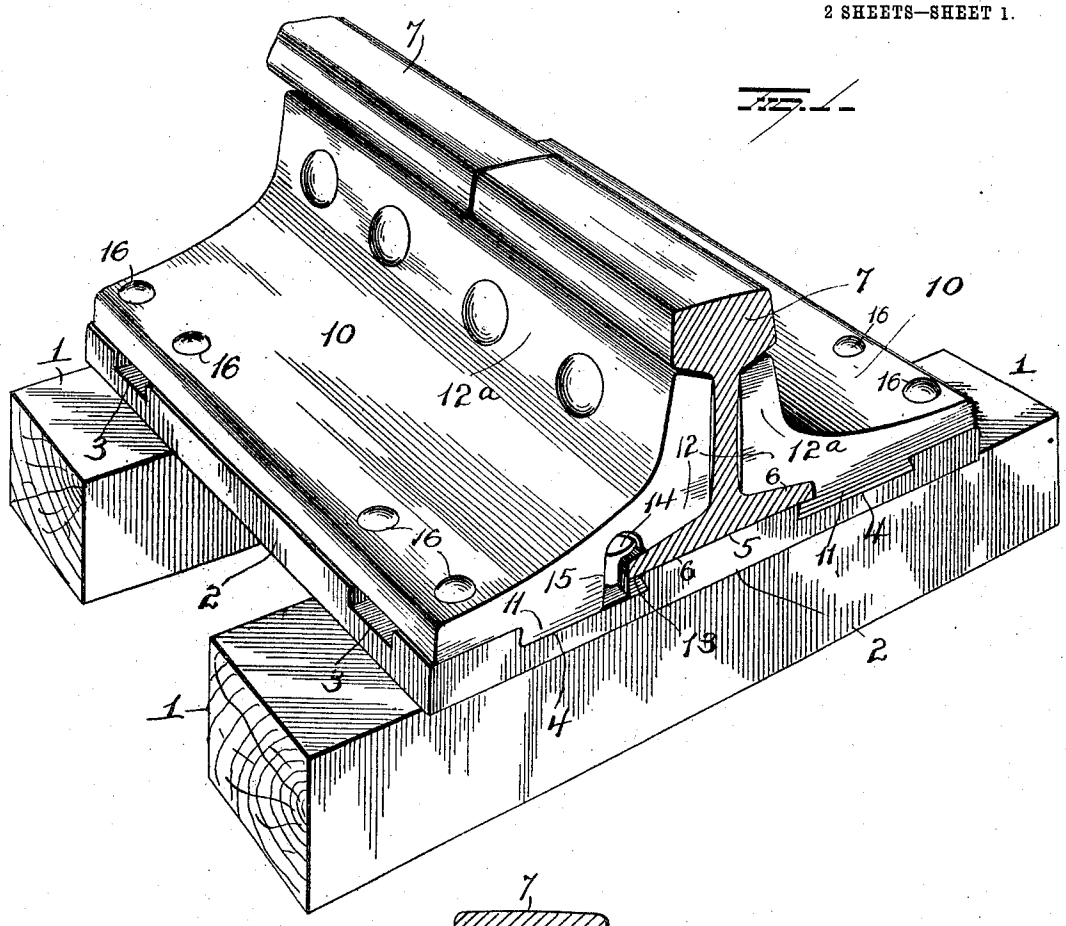
C. F. COURSON.

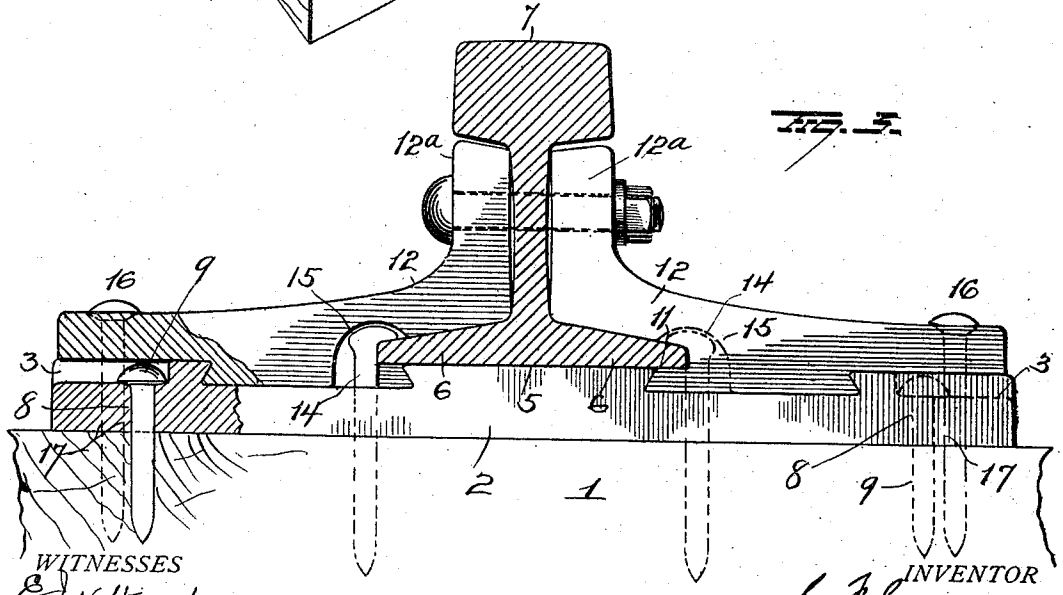
COMBINED RAIL JOINT AND SECURING DEVICE.

APPLICATION FILED APR. 20, 1912.

1,039,031. Patented Sept. 17, 1912.

2 SHEETS—SHEET 1.





WITNESSES

E. Nottingham

G. F. Downing.

INVENTOR

C. F. Courson

By H. G. Seymour

Attorney

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2 SHEETS—SHEET 2.

Fig. 2.

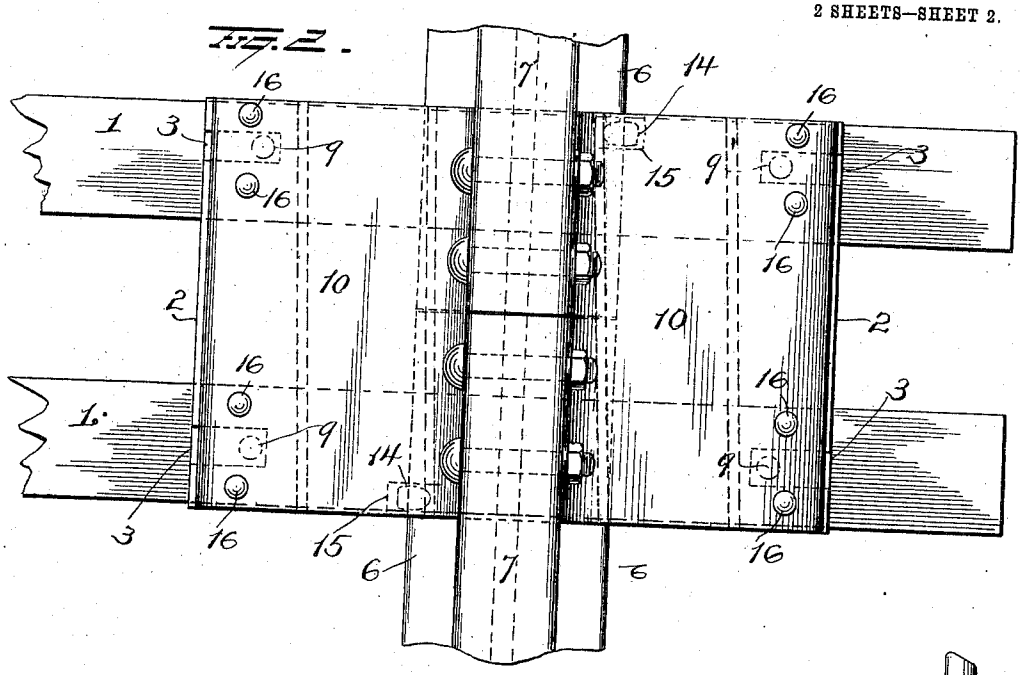


Fig. 4.

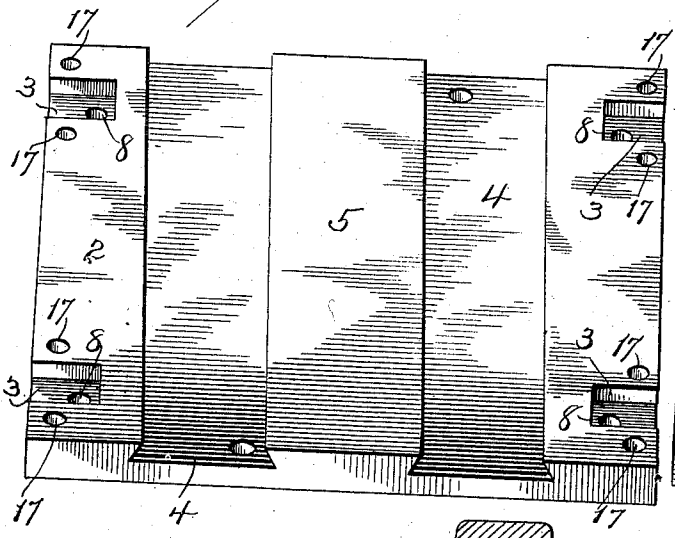


Fig. 5.

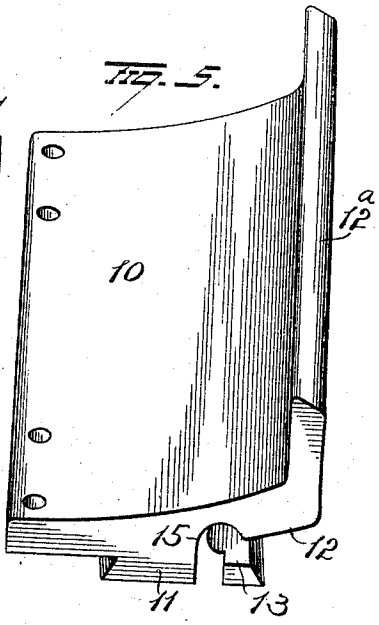
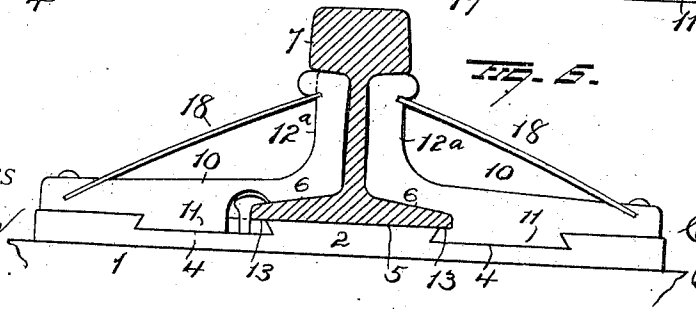


Fig. 6.



WITNESSES

E. L. Nottingham

G. F. Downing.

INVENTOR

C. F. Courson

Ryther & Seymour

Attorney

UNITED STATES PATENT OFFICE.

CORNELIUS F. COURSON, OF MEMPHIS, TENNESSEE, ASSIGNOR OF ONE-HALF TO PAUL LENZI, OF MEMPHIS, TENNESSEE.

COMBINED RAIL-JOINT AND SECURING DEVICE.

1,039,031. Specification of Letters Patent. **Patented Sept. 17, 1912.**

Application filed April 20, 1912. Serial No. 692,013.

To all whom it may concern:

Be it known that I, CORNELIUS F. COURSON, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Combined Rail-Joints and Securing Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in combined rail joint and securing devices, and it consists in the details of construction as will be more fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a railroad joint embodying my invention. Fig. 2 is a view in plan of the same. Fig. 3 is an end elevation in section through the rail. Fig. 4 is a view in perspective of the chair. Fig. 5 is a view in perspective of one of the combined coupling jaws and fish plates and Fig. 6 is an end elevation of a clamping jaw adapted particularly for use at curves.

1 represents the wood ties, and 2 a chair extending from one tie to the other, and secured to both. One chair is employed for each joint in the track and each chair is provided in its top surface at its opposite sides, and near each end, with recesses 3, and is also provided with two dovetailed recesses 4, one adjacent each side of the chair, and extending throughout the length of the latter. The portion 5 of the chair intermediate the dovetailed recesses 4, forms the seat or support on which the adjacent ends of two rails rest, and which forms a support for the latter between and on the two ties 1 which carry the chair. The seat 5 of the chair is of slightly less width than the base flanges 6 of the two rails 7, so that the latter overhang the dovetailed recesses 4 at both sides of the rails.

The chair is provided within the recesses 3, with spike holes 8, through which spikes 9 are driven to secure the chair to the two adjacent ties, the recesses 3 forming housings for the heads of spikes 9, which, when the parts are assembled, are covered and concealed by the rail clamping block 10. Each clamping block 10 is approximately as long as the chair, and each is provided with a dovetailed tenon 11 projecting from its lower face, which is of a size and shape to make a close fit with one of the dovetailed recesses or mortises in the chair 2, and the two clamping blocks for each chair, rest on the upper face of the latter and cover and conceal the spikes 9. Each clamping block 10 is provided with a jaw 12 conforming in shape to, and resting on the upper surface of the base flanges 6 of the abutting rails, and each is also provided with a groove 13 to receive the edges of said base flanges, so that when the rails are in place, the clamping blocks 10 will engage both the upper and lower faces of the base flanges and positively prevent any independent lateral movement of either rail, and assist in preventing any vertical movement of the end of either rail.

The grooves 13 are immediately over the inner edges of the dovetailed tenons 11, so that the base flanges of the two rails rest on and over the joint between their seat 5, and the dovetailed tenons 11, and operate by their weight to hold these parts down in proper position. The jaws 12 of each block are continued upwardly alongside the webs of the rails, sufficiently high, and preferably up under and in contact with the heads of the rails, to form fish plates 12^a the latter being provided with holes for the passage of the bolts which secure the fish plates together, and to the rails.

The rails are secured to the ties by spikes 14 passing through holes formed in the chair adjacent to one end of each mortise, and the two clamping plates are recessed, each at one end, as at 15, to receive and cover the heads of the spikes 14 and lock them against partial or complete withdrawal.

The dovetail mortises 4 and tenons 11, are slightly oblique with relation to the long axes of the rails, so that in assembling, the clamping blocks will move slightly toward the rail, or toward the other and bind against the upper faces of the base flanges of the rails with a wedging action.

The spikes 14 securing the rails to the tie, are located one at each end of the chair or opposite sides of the rails, so as to permit the tenons 11 on the clamping blocks to be driven into place from the opposite ends, and when in place the heads of the spikes are within the recesses 15, in the blocks, and are covered and concealed from above by

the latter. After the blocks have been driven home, they are secured by spikes 16 driven into the ties, through holes at the outer side edges of the blocks, and through holes 17 formed in the chair. With this construction the adjacent or meeting ends of the rails are supported from tie to tie by the chair, and also by the grooved clamping jaws, hence there is no possibility for any free movement of the end of either rail after the parts have been locked together.

A clamping block, having a jaw continued up to engage the under side of the head of the rails, is also specially adapted for securing the rails to ties at curves. A construction adapted for such use is shown in Fig. 6. This construction, is identical with that previously described, except the chairs do not span the space between two ties, and the upward extensions of the jaws are not provided with bolt holes. I may as an extra precaution, brace the upper edges of the jaws by the wrought metal braces 18, secured at their lower ends in slots adjacent the outer ends of the blocks, and their inner ends in slots adjacent the upper ends of the jaws. These braces are preferably curved as shown, so that in the event the upper ends of the jaws should give or yield, they can be forced back into normal position by blows applied to the upper convex faces of the braces.

It is evident that many slight changes might be resorted to in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction and arrangement of parts shown and described, but,

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. In a rail joint, the combination of a chair adapted to span the space between two adjacent ties and be secured to both by spikes, and provided with dovetailed mortises in its upper face, and with a seat for the rails intermediate the mortises, and combined clamping blocks and fish plates, the two blocks covering and concealing the spikes which secure the chair to the ties, and each block having an integral dovetailed tenon to engage a mortise in the chair, a jaw to receive and engage the upper and lower faces of the base flanges of the rails, and a fish plate extending upwardly from each jaw.

2. The combination of a chair adapted to span the space between two adjacent ties and be secured to both by spikes, and provided with dovetailed mortises in its upper face and with spike holes on opposite sides of the rail seat for the passage of spikes which engage the base flanges of the rails, and combined clamping blocks covering and concealing the spikes which secure the chair to the tie and the rail to the chair, and each having an integral dovetailed tenon to engage its mortise in the chair, a jaw to receive and engage the base flange of the rail and an upwardly extending fish plate.

3. The combination of a chair having dovetailed mortises in its upper face and with spike holes for the passage of spikes which secure the chair to the tie and the rail on the chair, clamping blocks covering said spike holes, each block having an integral dovetailed tenon to engage a mortise in the chair and a jaw to overlap the base flange of the rail, the jaw of one of said blocks projecting up alongside of the web of the rail and terminating under and adjacent the head of the rail and a bendable brace extending from near the outer edge of the block to near the upper edge of the jaw for bracing the latter.

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

CORNELIUS F. COURSON.

Witnesses:
F. H. BERRY,
P. LENZI.

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