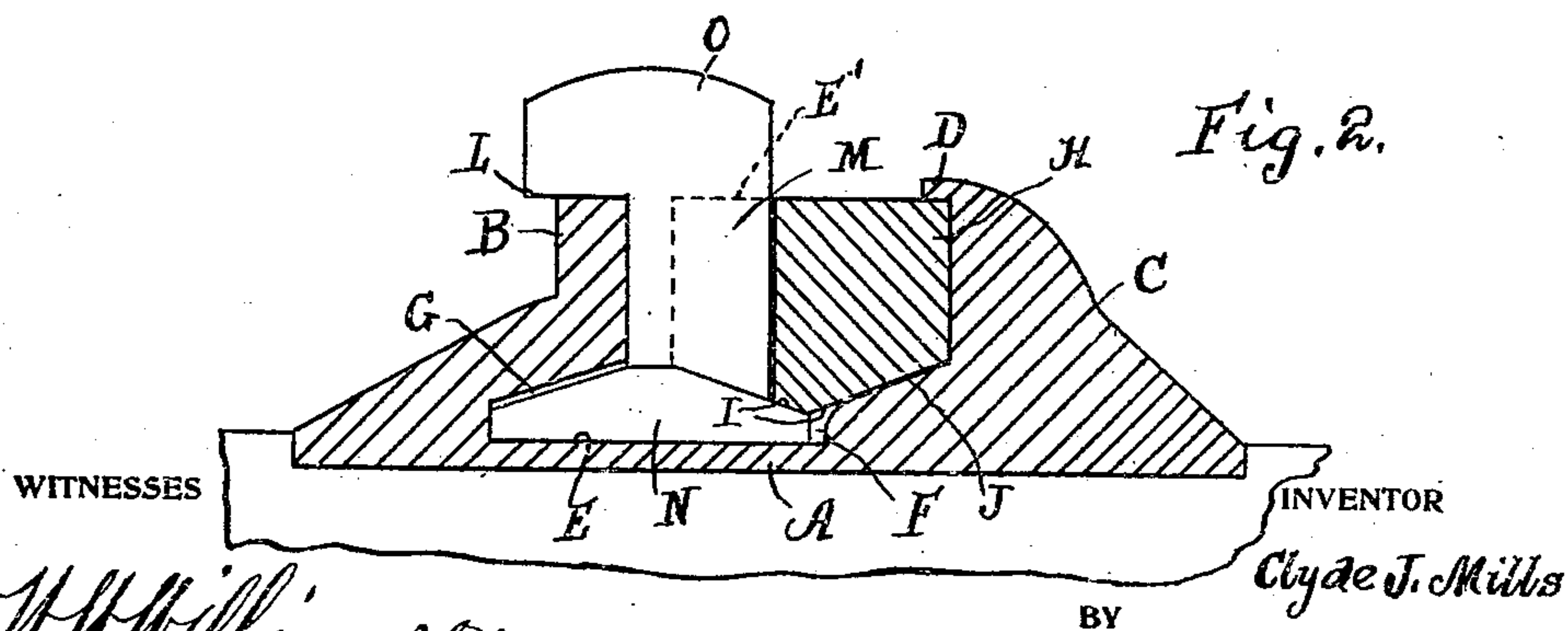
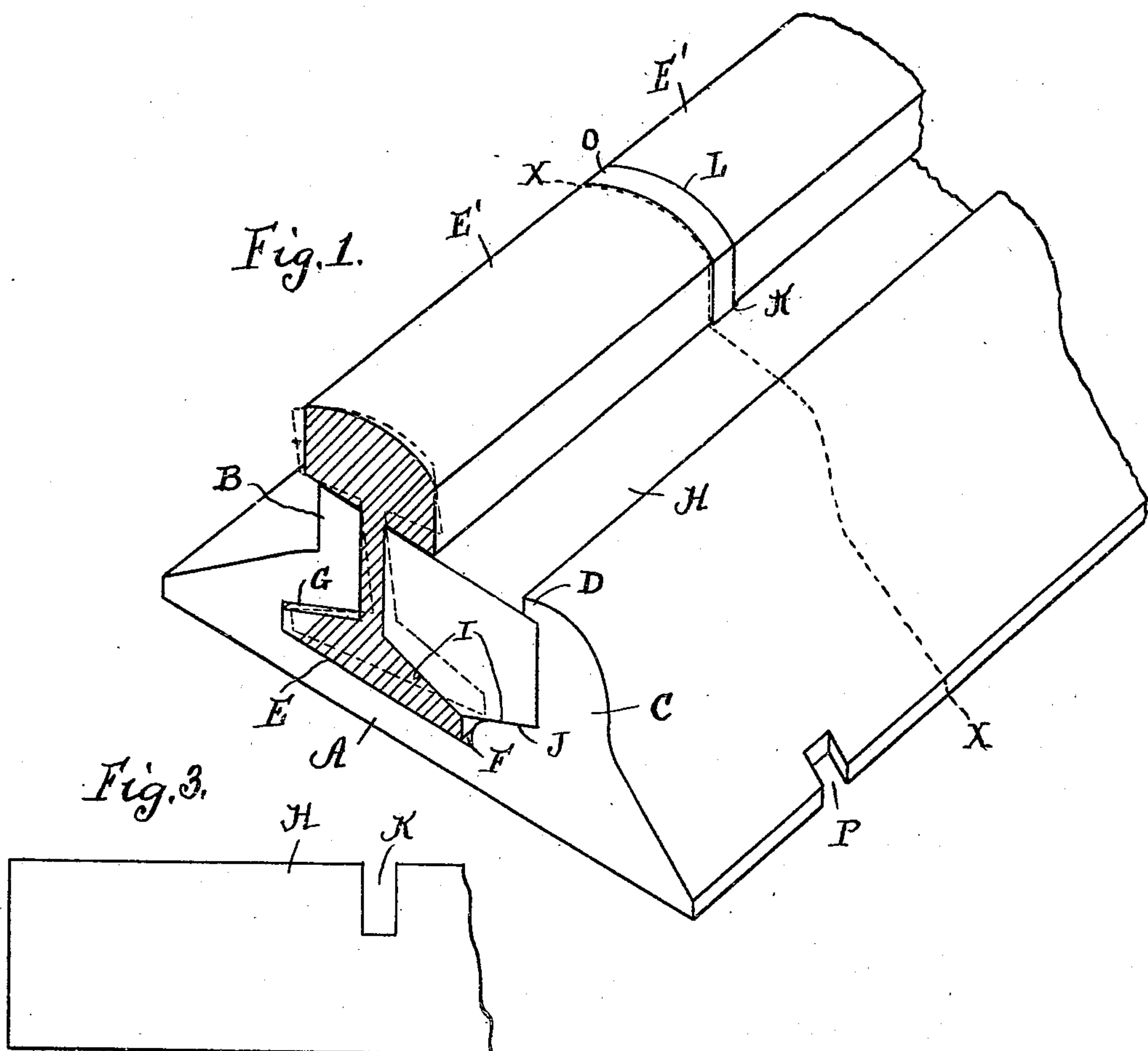


C. J. MILLS.  
RAIL JOINT.  
APPLICATION FILED FEB. 4, 1910.

958,418.

Patented May 17, 1910.



WITNESSES  
W. H. Williamson  
S. M. Gallagher.

BY  
*Clyde J. Mills*

ATTORNEY



# UNITED STATES PATENT OFFICE.

CLYDE J. MILLS, OF CAMDEN, NEW JERSEY.

## RAIL-JOINT.

958,418.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed February 4, 1910. Serial No. 542,052.

*To all whom it may concern:*

Be it known that I, CLYDE J. MILLS, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented a certain new and useful Improvement in Rail-Joints, of which the following is a specification.

My invention relates to a new and useful improvement in rail joints, and has for its object to provide an exceedingly simple and effective device of this character whereby the ends of two rails may be joined together without the aid of bolts passing through the webs of said rails and the nuts for holding said bolts in position.

Another object of the invention is to provide a device of the character described in which the ends of the rails assist in locking themselves in position in such a manner that they will be allowed to expand and contract.

A still further object of the invention is to provide a device of the kind mentioned, in which the rails may be tipped to one side allowing them to be removed without displacing the chair or sliding the rails endwise.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view of a portion of the joint showing the ends of two rails in position, and showing in dotted lines a diagrammatic view of a rail tipped. Fig. 2, a section at the line  $x-x$  showing the key in elevation, and Fig. 3, a plan view of one end of the sliding strip.

In carrying out my invention as here embodied, I provide a chair A having formed integral, adjacent to one edge the fish plate B. Adjacent to its opposite edge is formed the brace C, having a flange D along its upper inner edge.

E represents a seat formed in the chair, of greater width than the base of the rails  $E'$ , thus leaving a space F to allow said base of the rails to pass from the seat when the rails are tipped to one side. This seat ex-

tends beneath the fish plate B and at this point is of sufficient depth to allow a space G to remain between the upper face of the base of the rails and the lower face of the fish plate.

H is a sliding strip having two beveled lower faces I, one of which rests upon the upper face of the rail base, the other upon a similar base J formed with the brace C. This sliding strip is provided with a slot K, approximately central of the length of said strip, and when said strip is in position this slot will be in alinement with the meeting ends of the rails, so that as the key L passes between the meeting ends of the rails, it will pass into the slot K, then downward until the lower end of its shank M rests upon the stop N formed midway of the length of the chair within the space forming the seat.

The head O of the key L is formed to coincide with the contour of the heads of the rails, so that there will be no projection to interfere with the flanges of the train wheels, nor will there be any openings in which might become wedged small particles of stone or iron.

Along both edges of the chair at suitable points are formed the apertures P to receive the spikes for securing the plate to the cross ties.

In practice the chair may be laid upon the cross ties and the rails slightly tipped until they pass downward between the fish plate B and the brace C, one side of the base passing into a space between the chair E and the lower face of the fish plate B, and by straightening the rail the whole base will rest upon the seat E. When in this position the sliding strip H may be placed in position from either end, the beveled faces I resting upon the upper face of the rail base and against the bevel face J of the brace, its upper edge resting beneath the flange D. This strip will hold the web of the rails against the inner face of the fish plate B, thus securing the rails in position. The ends of these rails resting against the stop N leaves a space between their meeting ends, so that the key L may be placed between them and into the slot K. This will securely hold the sliding strip in place because of the key contacting with the ends of the rails.

To remove the rails, the above described action is reversed.



Of course I do not wish to be limited to the exact details of construction here shown, as these may be varied within the limits of the appended claims without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful, is—

1. In a device of the character described, the combination with the meeting ends of two rails, of a chair, a fish plate formed integral therewith adjacent to one edge, a brace provided with a flange along its upper edge formed integral and adjacent to the opposite edge of the chair, said chair having a seat formed between said brace and fish plate, a stop formed integral with the chair within the seat, a sliding strip provided with a slot, and a key adapted to register with said slot and rest between the meeting ends of the rails, as specified.

2. In a device of the character described, the combination with the meeting ends of two rails, of a chair, a fish plate formed integral therewith adjacent to one edge, a brace provided with a flange along its upper edge formed integral and adjacent to the opposite edge of the chair, said chair having a seat formed between said brace and fish plate, a stop formed integral with the chair within the seat, a sliding strip provided with a beveled lower face and having a slot central of its length, said strip resting between the web of the rail and the brace, its beveled face resting upon the upper face of the rail base, a portion of the upper face of said strip resting beneath the flange, and a key adapted to register with the slot in the strip, when placed between the meeting ends of the rails.

3. In a device of the character described, the combination with the meeting ends of two rails, of a chair, a fish plate formed integral therewith adjacent to one edge, a brace provided with a flange along its upper edge formed integral and adjacent to the opposite edge of the chair, said chair having

a seat formed between said brace and fish plate, a stop formed integral with the chair within the seat, a sliding strip provided with a beveled lower face and having a slot central of its length, said strip resting between the web of the rail and the brace, its beveled face resting upon the upper face of the rail base, a portion of the upper face of said strip resting beneath the flange, and a key provided with a shank and a head coinciding with the contour of the rail heads, said key registering with the slot in the strip when placed between the meeting ends of the two rails.

4. In a rail joint, the combination with the meeting ends of two rails, of a chair, a fish plate formed integral with said chair, adjacent to one edge thereof, a brace formed integral with and adjacent to the opposite edge of said chair, said brace having a beveled inner face provided with a flange along its upper edge, the chair having a seat formed between the brace and fish plate of greater width than the bases of the rails and the space between the seat and the fish plate being of greater depth than the thickness of the rail base, a sliding strip having lower beveled faces tipped to rest upon the beveled face of the brace and the upper face of the rail bases, said strip having a slot formed in one side thereof approximately midway of its length, a stop formed integral with the chair within the seat, and a key having a shank and head tipped to register with the slot in the strip when placed between the meeting ends of two rails, the head of said key having the same contour as the heads of the rails.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

CLYDE J. MILLS.

Witnesses:

EDW. W. ANSTICE,  
S. M. GALLAGHER.