No. 720,358. PATENTED FEB. 10, 1903.

J. KELLY.

RAIL JOINT.

APPLICATION FILED NOV. 14, 1902.

NO MODEL.

Fig. 1.

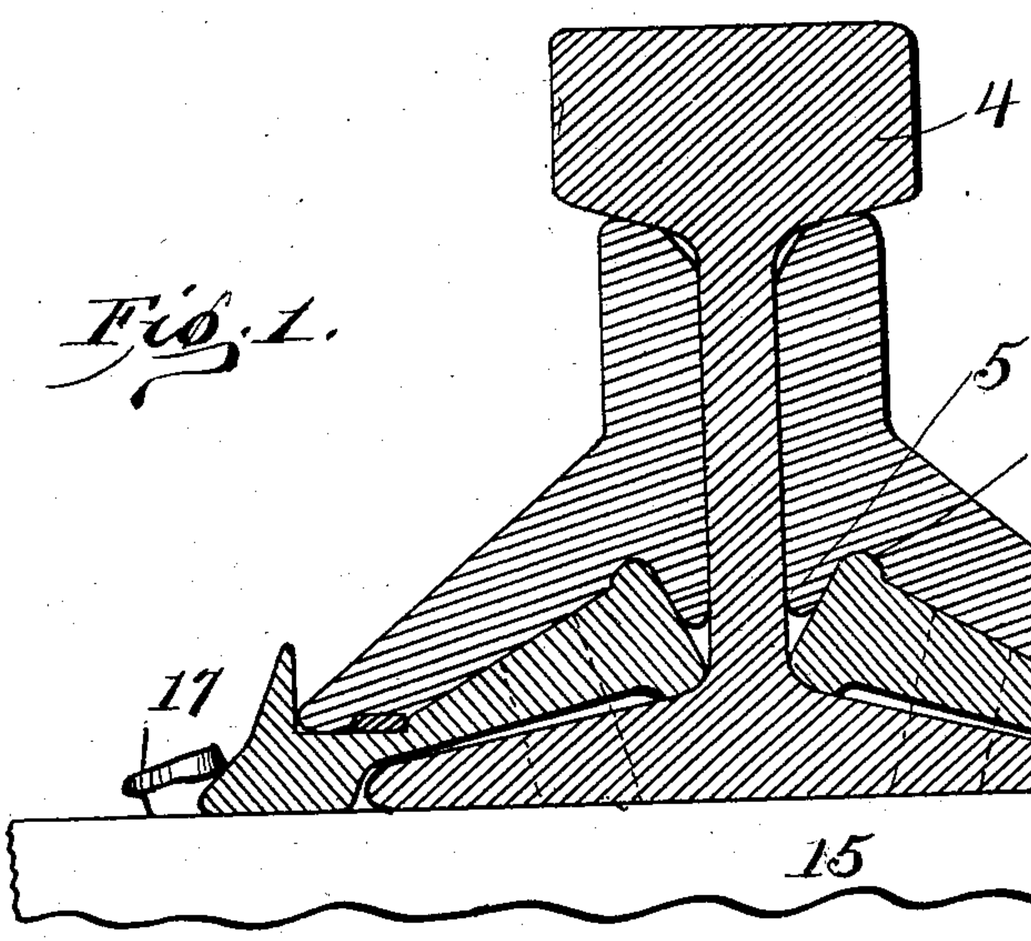


Fig. 2.

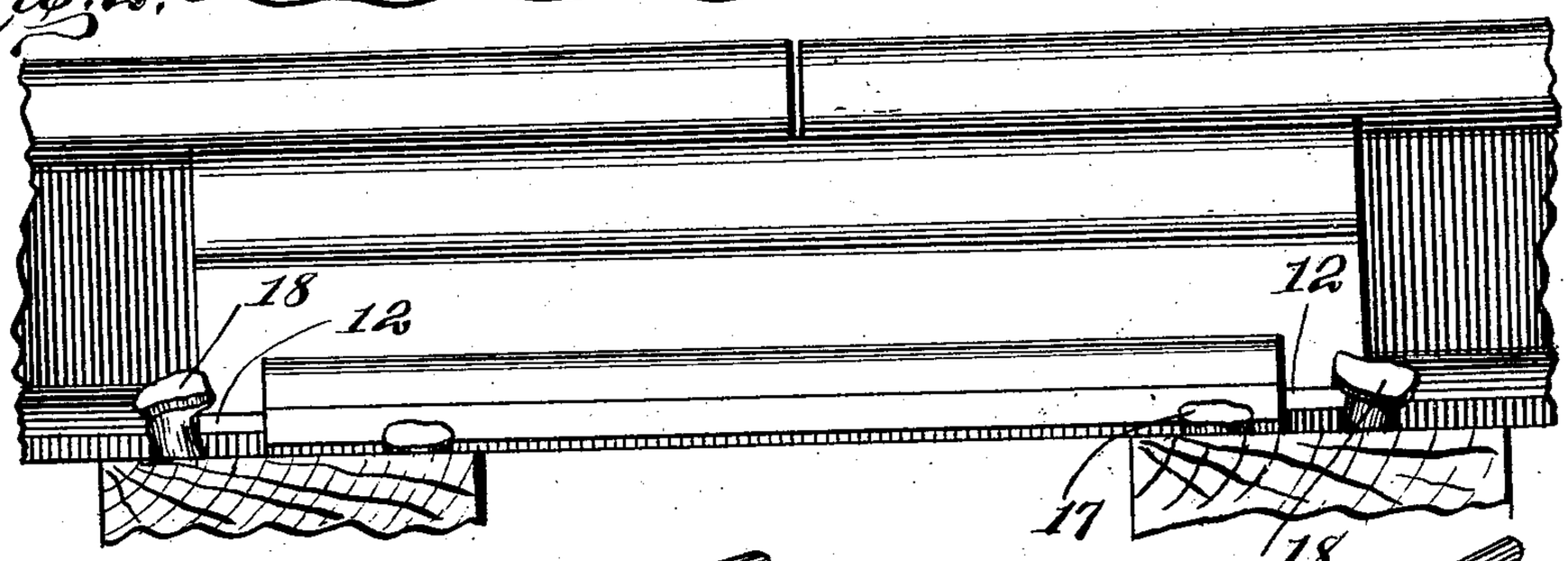


Fig. 3.

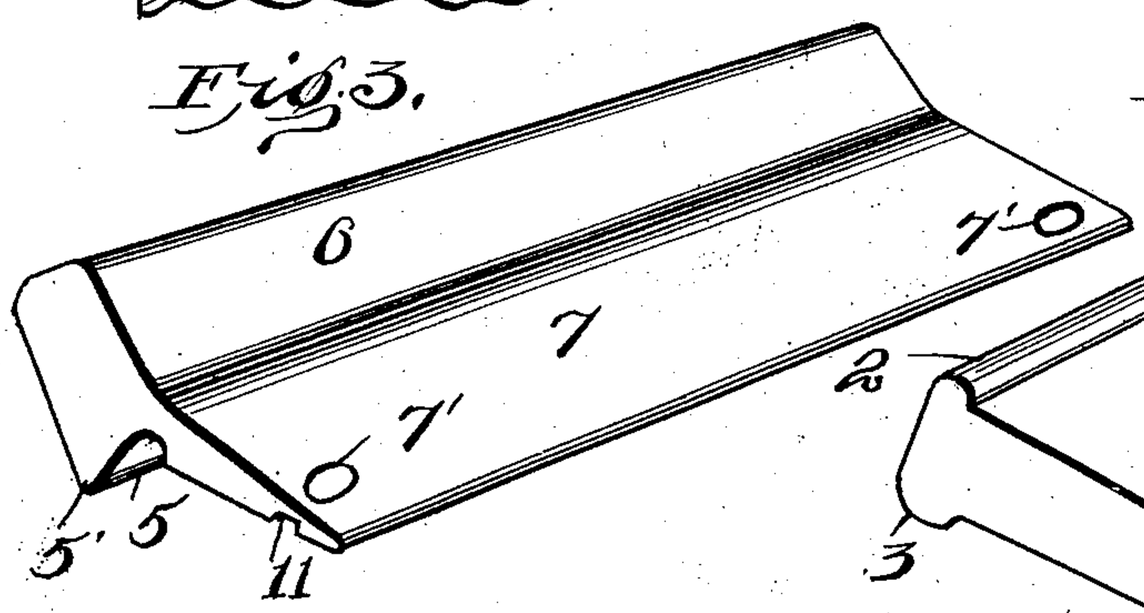


Fig. 4.

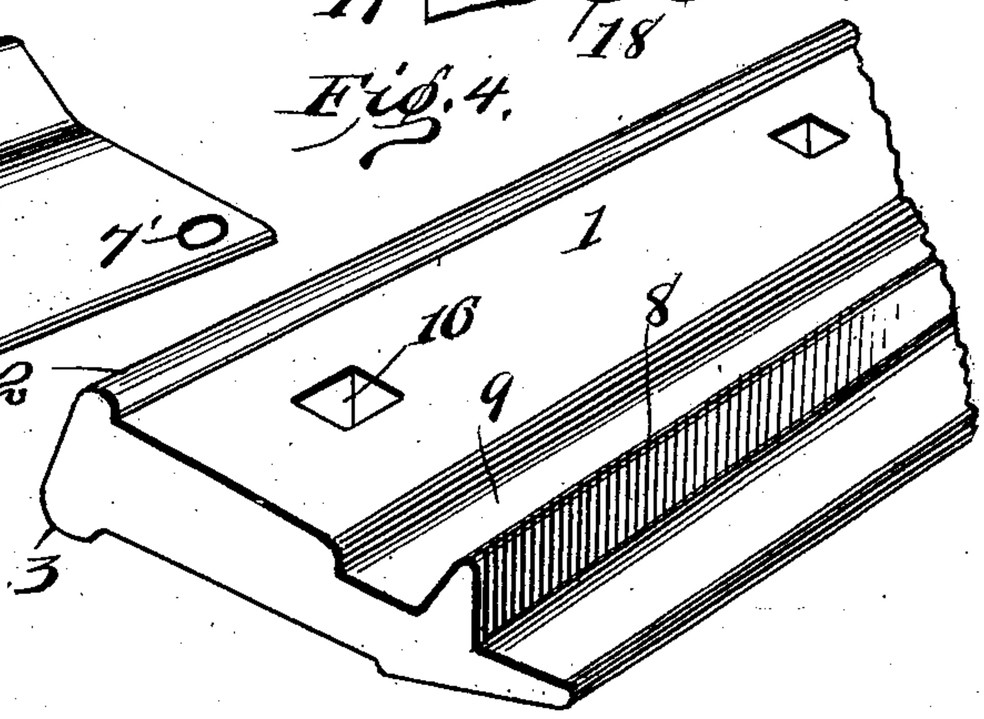
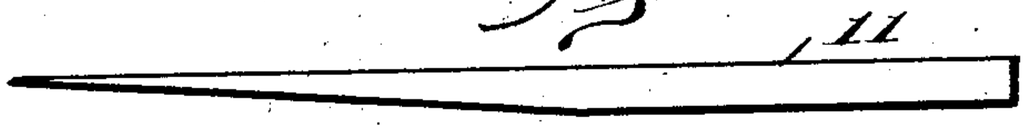


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES KELLY, OF PITTSBURG, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 720,358, dated February 10, 1903.

Application filed November 14, 1902. Serial No. 131,416. (No model.)

To all whom it may concern:

Be it known that I, JAMES KELLY, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in rail-joints; and the object of the invention is to provide novel and effective means whereby the rails may be joined together without the aid of bolts passing through the vertical flanges of the fish-plates and the webs of the rails, as in the ordinary form of construction.

Briefly described, my invention comprises a rail-fastening embodying two separate members at each side of the rail, one member at each side being a chair member which rests upon the base of the rail adjacent the lower edge of the web and extends out over the said rail-base and rests on the cross-tie. The fish-plate fits upon the chair member and is securely wedged therein and also wedged against the rail-base and against the underneath face of the rail-tread. Means is provided for fastening the parts together and also for securely fastening the parts and the rails to the cross-tie, all of which construction, together with other details entering into my invention, will be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a transverse vertical sectional view through the rail and rail-fastening, the latter constructed in accordance with my invention. Fig. 2 is a side elevation showing the rail-fastening in position. Fig. 3 is a detail perspective view of one of the fish-plates. Fig. 4 is a detail perspective view of a part of one of the chair-plates. Fig. 5 is a detail plan view of one of the locking-wedges.

To put my invention into practice, I provide a chair-plate 1, which is adapted to be placed upon the rail-base and is provided at its inner end with ridges 2 and 3, the latter resting upon the rail-base adjacent to the lower edge of the web of the rail 4 and the ridge 2 engaging in the groove 5, provided therefor in the underneath face of the fish-plate 6. The inclined flange 7 of the fish-plate lies on top of the rail-chair 1, and its outer end engages with the upwardly-extending flange or ledge 8, formed integral with the rail-chair 1 adjacent to the outer edge of the latter, said rail-chair having a groove 9 adjacent to said flange or ledge, into which the foot 10 of the fish-plate 6 projects. This portion 10 of the fish-plate is provided throughout its underneath face with a groove 12, adapted to receive a pair of wedges 11, which are driven in from opposite ends of the fish-plate after the latter has been placed in its position. The rail-chair 1 has an overlying base portion 14, which projects beyond the rail-base and rests upon the cross-tie 15. The rail-chair is provided with openings 16, and the base of the rail is provided with registering openings, these openings being adapted to receive the spikes or like securing means inserted therethrough and into the cross-tie. One edge of the keys 11 is inclined for some distance, the straight edge of this key being adapted to engage with the outer wall of the groove, whereby as the wedge is driven in the outer edge of the fish-plate the flange will be elevated and engage securely with the flange or ledge 8, the other portion of the fish-plate being forced into firm contact with the rails. The provision of the groove 5 in the fish-plate forms a small substantially wedge-shaped portion 5′, which engages between the end of the rail-chair and the face of the rail-web. The flange 7 of the fish-plate may be provided with openings 7′, as shown, through which spikes may be inserted, if desired, and where these spikes are employed openings will also be provided therefor in the rail-chair. This fastening by means of the spikes is not essential, as the employment of securing-spikes 17 to engage the rail-chair, as shown in Figs. 1 and 2, will

securely hold the fastening in position. After the wedges 12 have been driven into position they may be secured against loosening movement by means of spikes 18, inserted into the cross-ties at the ends of the wedges.

To apply the fastening, the rail-chairs are first placed in position, and the fish-plates are then slid in endwise of the rail-chairs and of the rails, and after being positioned on the rail-chairs and the spikes 17 driven in to hold the parts in position the wedges 11 are driven in from each end of the rail-chair, so as to firmly lock all parts in position. When the wedges are removed, the fish-plates may be readily removed by forcing the same longitudinally, and the chair-plates may then be removed from the ties and a new rail placed in position, if desired.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of the invention.

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 with a rail-chair engaging the rail-base and provided at its upper face with a longitudinal flange, of a fish-plate having a flange member engaging the upper face of the rail-chair and provided on its underneath face with a longitudinal groove, and a fastening-wedge in said groove for forcing the outer edge of the flange member against the flange of the chair-plate, substantially as described.

2. In a rail-joint, a rail-chair provided with openings registering with openings in the rail-base, said rail-chair having an upwardly-extending flange on its upper face and provided with a groove adjacent to said flange, a fish-plate having a portion thereof wedged between the inner end of the rail-chair and the rail-web, a flange member carried by said fish-plate having a portion thereof projecting into the groove in the rail-chair, said flange member being provided with a groove on its underneath face, and a locking-wedge in said groove for forcing the outer edge of the flange member against the flange of the rail-chair, substantially as described.

3. In a rail-joint, a rail-chair having a flange on its upper face extending throughout its length, a fish-plate fitting on the rail-chair with a portion thereof wedged between the inner edge of the chair and the rail-web, means for forcing the outer edge of the rail-flange against the flange of the chair, and means for securing the rail-chair to the cross-tie, substantially as described.

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

JAMES KELLY.

Witnesses:
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