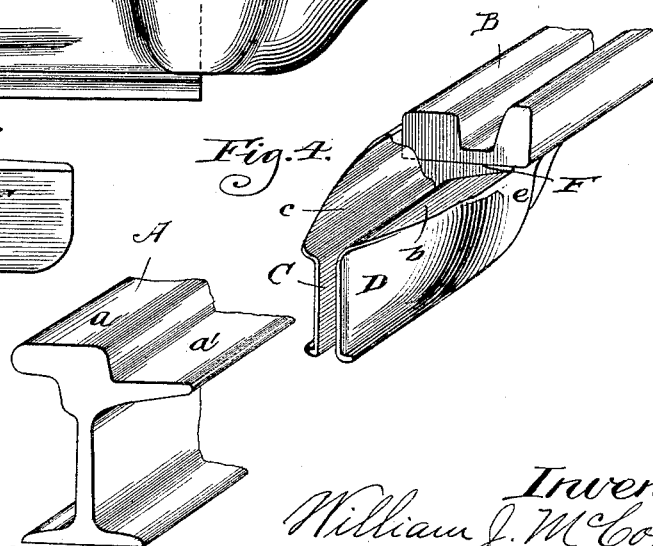
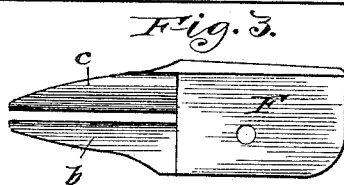
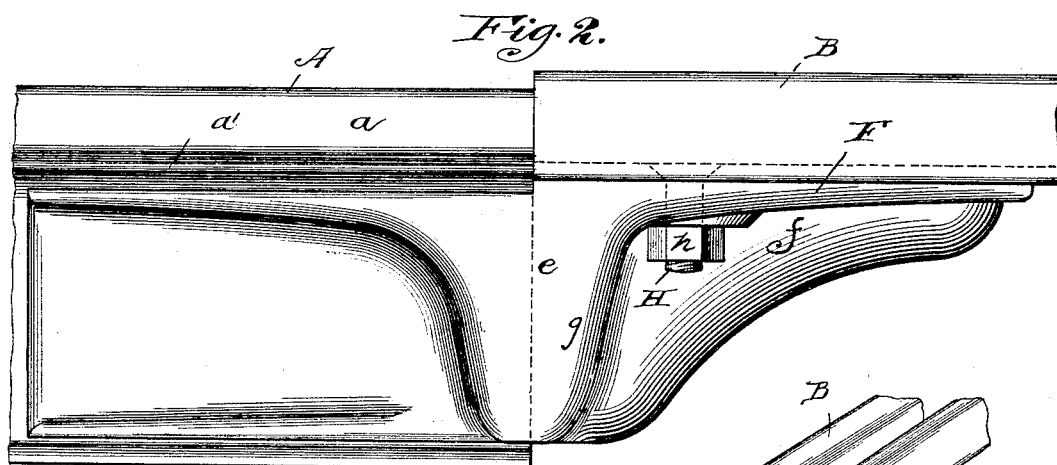
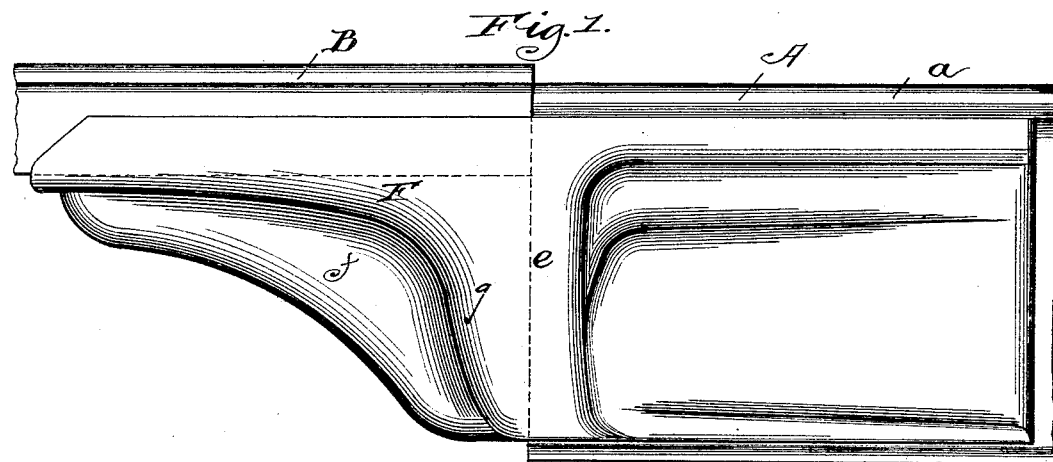


(No Model.)

W. J. McCORD.  
RAIL JOINT.

No. 459,045.

Patented Sept. 8, 1891.



Witnesses,  
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# UNITED STATES PATENT OFFICE.

WILLIAM J. McCORD, OF CHICAGO, ILLINOIS.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 459,045, dated September 8, 1891.

Application filed December 15, 1890. Serial No. 374,701. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. McCORD, a citizen of the United States, residing at Chicago, Illinois, have invented a certain new and useful Rail-Joint, of which the following is a specification.

My invention has for its object to provide a rail-joint which is adapted to connect and preserve the alignment of a girder-rail and a groove-rail.

In the construction of street-railway tracks it is found advantageous to employ at the curves a groove-rail, while in the straight portions of the track the usual girder-rail is most generally employed. No simple and efficient means have been provided, to my knowledge, for joining the ends of these two kinds of rails, and their cross-sectional forms are so different as to make it somewhat difficult to provide a proper joint.

My rail-joint in the preferred construction has one end thereof bifurcated, the opening being vertical and adapted to receive the web of the girder-rail and the members having at their upper edges laterally-projecting flanges properly braced by an increased thickness of the metal toward the inner end of the opening, so as to support the head or tread of the girder-rail. The opposite end of the rail-joint is flat-faced to form bearings for the under side of the groove-rail, and is provided with a depending flange or strengthening-rib and with side flanges to support the edges and furnish means for bolting the groove-rail, while near the line of junction the metal is increased, in order to give the necessary strength.

In the accompanying drawings, Figure 1 is a side elevation of the rail-joint, showing in place therein the groove and girder-rail. Fig. 2 is a similar view taken from the opposite side, and Fig. 3 is a plan view of the joint. Fig. 4 is a perspective view of the same with the groove-rail in place and the girder-rail detached therefrom, but shown in line with the opening.

In the drawings, A represents the girder-rail, and B the groove-rail. The joint may be a steel casting or forged or pressed from steel-plate, and one of its ends is divided verti-

cally, the bifurcations having vertical webs C D, the former being provided with the curved flange *c* to receive the under side of the head *a* of the girder-rail, while the part D has the lateral straight flange *b* to support the tread *a'* of the girder-rail. The web of the said rail enters between these bifurcations, and the lower edges of the latter rest upon the foot of the girder-rail and may, in order to give a more secure bearing thereon, be turned out, as shown in Fig. 4 of the drawings. There is an increased thickness of metal on the under side of the flanges *c d*, the greatest thickness being toward the inner end of the opening, as shown at *e*. The end of the joint opposite the bifurcated portion is integral and has a flat bearing-face F, supported by the central vertically-disposed rib or flange *f*, and with an increased thickness of metal toward the meeting line of the rails, as shown at *g*. The bearing-head F is apertured for the passage of a fastening-bolt H, the head of which rests in a countersink in the bottom of the groove, and a nut *h* is turned on the lower end of the bolt, as shown in Fig. 2 of the drawings. This bolt furnishes all the fastening necessary for connecting the rails securely together. It is intended that the joint shall be applied between the ties; but it might readily be adapted to rest upon a tie.

The exact form of the joint is not essential, as modifications may be made thereof to adapt it to rails of slightly-different configuration, the novelty and value of the invention consisting in the provision of a rail-joint having one end thereof bifurcated and the opposite end adapted to support a groove-rail or other flat rail.

I claim—

1. A rail-joint adapted to connect a girder or similar rail having a web, head, and foot with a groove-rail and consisting of a metallic joint-piece having an end thereof bifurcated, whereby to provide a vertical opening to receive the web of the rail, and the opposite end of said joint having a bearing-surface adapted to receive and support the groove-rail, substantially as described.

2. A rail-joint for connecting a web-rail and

a groove or other similarly-formed rail, the same comprising a metallic joint-piece having one end thereof bifurcated to provide a vertical opening to receive the web of the web-rail and having lateral flanges to support the head and tread thereof, and the opposite end of said joint-piece having a flat bearing por-

tion with suitable strengthening-flanges and apertured for the passage of a securing-bolt, substantially as described.

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