

(No Model.)

J. B. GUILLAUME & P. F. FISH.  
RAIL JOINT.

No. 343,124.

Patented June 1, 1886.

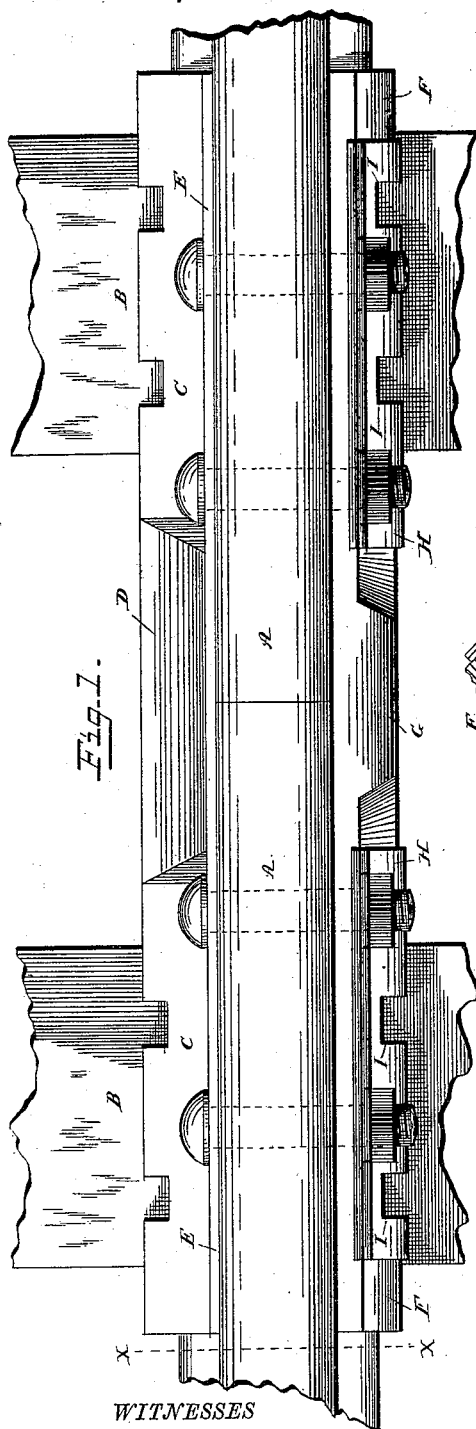


Fig. 1.

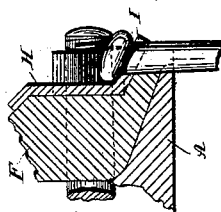


Fig. 2.

Fig. 3.

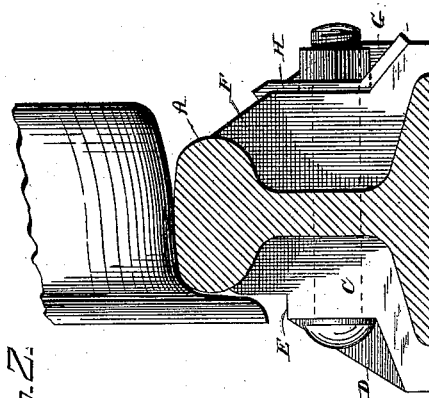
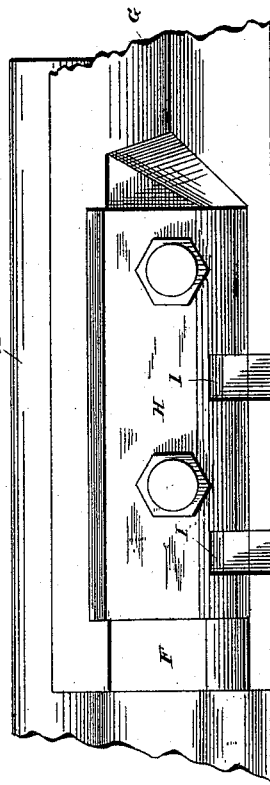


Fig. 4.

WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN B. GUILLAUME AND PHILIP F. FISH, OF SPRINGFIELD, OHIO.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 343,124, dated June 1, 1886.

Application filed February 16, 1886. Serial No. 192,102. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN B. GUILLAUME and PHILIP F. FISH, citizens of the United States, residing at Springfield, in the county of Clark and State of Ohio, 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 fish-bars for railroad-rails, and it has for its objects, first, to construct the said bars with increased thickness or lateral dimensions opposite to the opposite ends of the rails and to comparatively reduce the thickness of the remaining portions thereof, whereby both strength is attained and cost of production not increased; second, to provide the inner fish-bar with a rabbet, whereby interference with the flange of the car-wheels is avoided; and, third, to provide a locking-plate, which embraces the nuts and prevents them from unscrewing, and which also snugly fits against the outer surface of one of the fish-bars, and has notches corresponding to the spike-notches formed in said bar.

In the accompanying drawings, forming a part of this specification, and on which similar letters of reference indicate the same or corresponding features, Figure 1 represents a plan view of a portion of two adjoining rails, showing our improved fish-bars applied thereto; Fig. 2, a cross-section taken on the line *x x* of Fig. 1, showing the fish-bars in end elevation; Fig. 3, a side elevation of a portion of one of the fish-bars and of a rail, and Fig. 4 a transverse section of a portion of a rail and a fish-bar and locking-plate, showing a spike applied thereto.

The letter A designates two adjoining rails, of the ordinary or any improved construction, showing them mounted upon the cross-ties B, the point of meeting being between the ties, as is usual.

The letter C designates the inner fish-bar, which is constructed, preferably, of malleable iron, and is of such configuration on one face thereof as to coincide with and snugly fit against the adjacent side of the rails, while near the middle, and for some distance on the outer face thereof, it is of increased thickness, a body of metal, D, being formed to afford ad-

ditional strength where the rails need the greatest support.

The exact fit between the fish-bar and the sides of the rails, together with its increased thickness, afford great strength, while to either side of the portions D the thickness of the bar is materially reduced, as seen more clearly in Fig. 1, the object being to avoid unnecessary consumption of metal and to reduce the cost of manufacture.

At intervals the fish-bar is provided with bolt-holes coincident with those in the rails, whereby it is secured thereto, while the inner lower edge thereof is also provided with a series of notches, coincident with notches in the bed of the rails, so as to receive those spikes which enter the cross-ties and serve to secure the rails.

On the inner face, and near the upper edge of the bar C, a longitudinal rabbet, E, is formed, for the purpose of forming a clearance for the flanges of the wheels, so as to avoid any impingement against the fish-bar.

The letter F designates the outer fish-bar, which also has an enlarged portion, G, which serves the same function as the portion D, and which is of similar length. Notches for the spikes and holes for the bolts are also formed in the bar F, coincident to the notches in the rail-bed and with the holes in the body of the rails.

The letter H designates a locking-plate, preferably constructed of malleable or sheet iron, and provided with apertures agreeing in configuration with the nuts on the connecting-bolts, and with notches I, agreeing in position and size with those in the fish-bar F. When the nuts are screwed home, these plates are slipped over them and the spikes driven down into the cross-ties in such position as to be within the notches and to cause their heads to bind down upon the surface of the plates H. Thus the plates are held from displacement by the spikes, while the nuts are prevented from unscrewing by the plates. The whole structure thus made is found to possess great strength and to afford a safe and secure rail-joint, giving great support to the rails at the point of meeting.

In fish-bars as ordinarily constructed the rails are found to give at the joint, one rail descending out of the plane with the other as

the wheels reach its end, thus forming an abrupt projection against which the wheels strike in passing from one rail to the next, causing injury to the rails and to the wheels, and a jar to the cars, besides starting the nuts on the bolts. The increased thickness, however, and the fitting of the fish-bars snugly to the shape of the rails, together with the coincidence between the spike-notches in the rail-bed and the fish-bars, are found to overcome these difficulties.

The fish-bars may be applied to old rails as well as to new rails, their inner faces being shaped to suit the configuration of the rails, whether new or old.

Having thus 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 the rails and the fish-bars constructed on their inner faces to fit against the sides of the rails, with increased thickness opposite the point of the meeting of the rails, and with spike-notches

and bolt-holes coincident with those of the rails, of the locking-plates fitted against the fish-bars and around the nuts, and having spike-notches coincident with those in the rails and bar.

2. In a rail-joint, the combination, with the rail and the fish-bar having bolt-holes and notches coincident with those in the rail, of the locking-plate fitted to the fish-bar having apertures which fit around the nuts and notches coincident with those in the bar and rail.

3. In a rail-joint, a fish-bar constructed on its inner face to agree with the shape of the rail, of increased thickness about its center, of comparative less thickness at either side thereof, and with a rabbet and spike-notches.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN B. GUILLAUME.  
PHILIP F. FISH.

Witnesses:

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A. A. YEATMAN.