

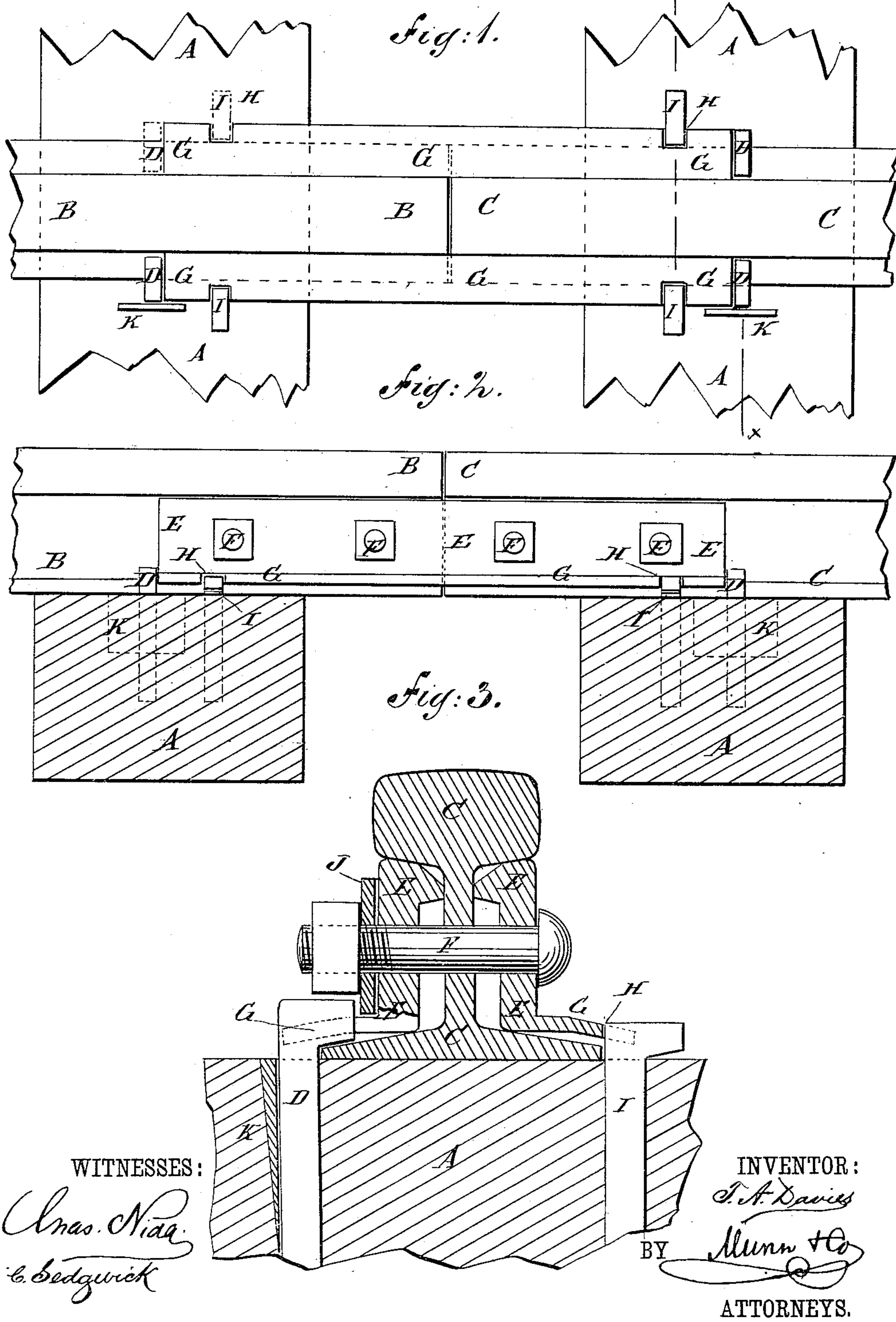
(No Model.)

T. A. DAVIES.

FISH PLATE FOR RAILROAD RAILS.

No. 350,665.

Patented Oct. 12, 1886.





# UNITED STATES PATENT OFFICE.

THOMAS A. DAVIES, OF NEW YORK, N. Y.

## FISH-PLATE FOR RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 350,665, dated October 12, 1886.

Application filed January 15, 1886. Serial No. 189,767. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS A. DAVIES, of the city, county, and State of New York, have invented certain new and useful Improvements in Fish-Plates for Railroad-Rails, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a railroad-rail joint to which my improvement has been applied. Fig. 2 is a side elevation of the same, the ties being shown in section. Fig. 3 is a sectional end elevation of the same, taken through the line *x x*, Fig. 1.

The object of this invention is to provide fish-plates for railroad-rails constructed in such a manner that they can be used for holding the rails from longitudinal movement without interfering with their proper effect as fish-plates.

The invention consists in fish-plates constructed with flanges upon their lower edges projecting outward farther than the base-flanges of railroad-rails, and in such a direction as to be above and out of contact with the said base-flanges and the ties, and having recesses in their outer edges to receive the heads of the fastening-spikes driven into the ties at the outer edges of the base-flanges of the rails, and in the combination of the said fish-plates and their spikes with the ties, rails, and bolts of a rail-joint, as will be hereinafter fully described.

A represents the ties of a railroad-track, and B C two adjacent rails forming a joint. The rails B C are secured to the ties A by spikes D, driven into the said ties at the edges of the base-flanges of the said rails, and with their heads overlapping the said base-flanges in the ordinary manner.

E are fish-plates, which are secured to the rails B C by bolts F, in the ordinary manner.

The fish-plates E may be made with three independent bearings upon the heads, the base-flanges, and the webs of the rails, as shown in Fig. 3, and as described in Letters Patent No. 320,641, issued to me June 23, 1885, or they may be of any ordinary construction.

Upon the lower edges of the fish-plates E

are formed flanges G, which project outward farther than the base-flanges of the rails B C, and in such a direction as to be above and out of contact with the said base-flanges and the ties, as shown in Fig. 3. In the outer edges of the flanges G are formed recesses H, to receive spikes I, driven into the ties A at the edges of the base-flanges of the rails B C. The spikes I can be driven with their heads projecting outward, as shown in Figs. 1 and 2, and in the right-hand side of Fig. 3, or inward, with the bearing-faces of their heads resting on and overlapping the rail-flanges, as shown in the left-hand side of Fig. 3, as may be desired. I however prefer the latter, as by this means the fish-plates will be prevented from longitudinal movement and the rails more firmly held in place.

The fish-plates E are made of such a length that the ends of their flanges G will rest against the spikes D, that fasten the rails B C to the ties A, as shown in Figs. 1 and 2.

The fish-plates E are held to their seats, and the wear is taken up by a spring-washer, J, and the spikes D at the outer sides of the rails, or at both sides, are held from being pressed outward and crushing the grain of the wood by wedge-shaped stay-plates K, driven into the ties at the outer sides of said spikes and across the grain of the wood. By this construction the rails B C will be held from longitudinal movement by the spikes I, driven into the ties A through the recesses H in the flanges G of the fish-plates E, and by the spikes D, driven into the ties at the ends of the said flanges, so that the said rails will be held from longitudinal movement in either direction by six spikes at each joint.

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

1. A fish-plate having a flange upon its lower edge projecting outwardly above and beyond the base-flange of a railroad-rail, and out of contact with the ties, and provided with recesses in its outer edge, the said recesses being constructed to receive the heads of the fastening-spikes, substantially as herein shown and described.

2. The combination, with the ties A, the rails B C, and the bolts F, of the fish-plates E, having upon their lower edges flanges G,

projecting outwardly above and beyond the base-flanges of the rails, and out of contact with the ties, and provided with recesses H, extending nearly the width of the flanges, and  
5 the fastening-spikes I, driven through the said recesses into the ties, substantially as herein shown and described.

3. The combination, with the ties A, the rails B C, the bolts F, and the fish-plates E, hav-  
10 ing upon their lower edges flanges G, projecting outward farther than the base-flanges of the said rails, and in such a direction as to be above the said base-flanges of the rails and

the ties, and out of contact with the said ties, of the spikes D, driven into the ties in contact 15 with the edges of the base-flanges of the rails, and in contact with the ends of the flanges of the fish-plates, substantially as herein shown and described, whereby the said rails will be held securely from longitudinal and lateral 20 movement, as set forth.

THOMAS A. DAVIES.

Witnesses:

JAMES T. GRAHAM,  
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