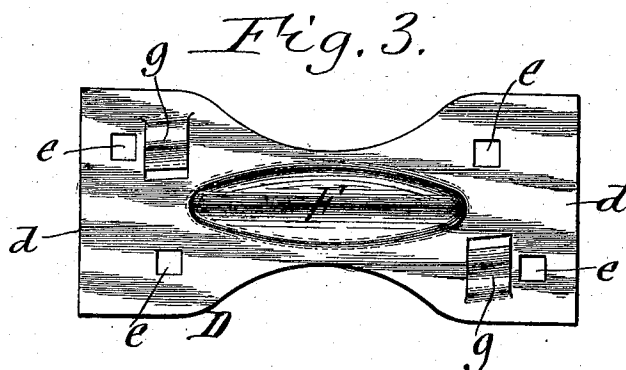
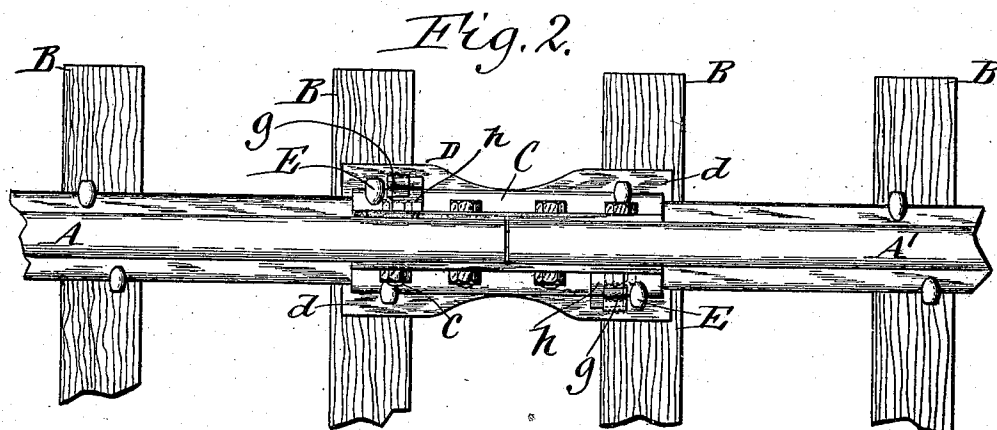
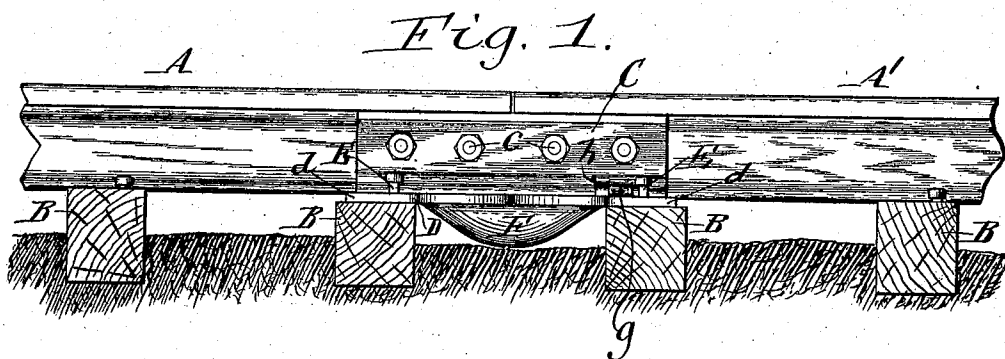


No. 867,461.

PATENTED OCT. 1, 1907.

W. H. WOODCOCK.
BRIDGE FOR RAIL JOINTS.
APPLICATION FILED OCT. 29, 1906.

2 SHEETS—SHEET 1.



Witnesses:
Richard Sommer.
Louis W. Gratz

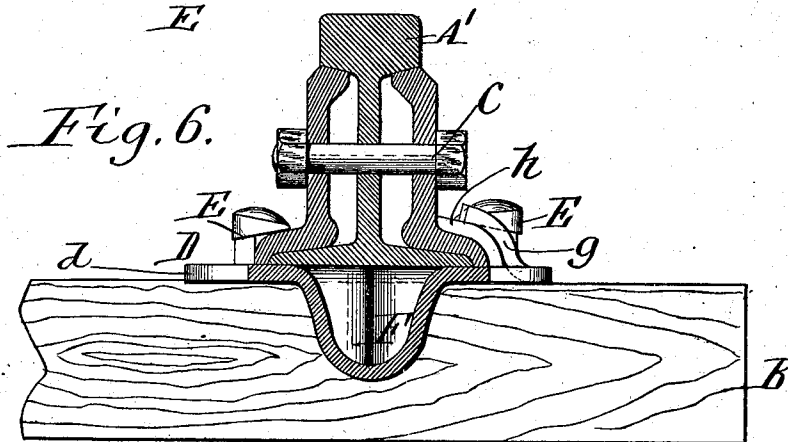
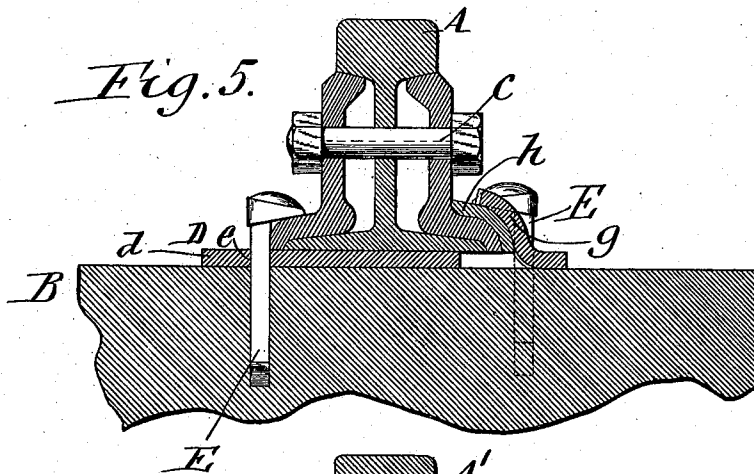
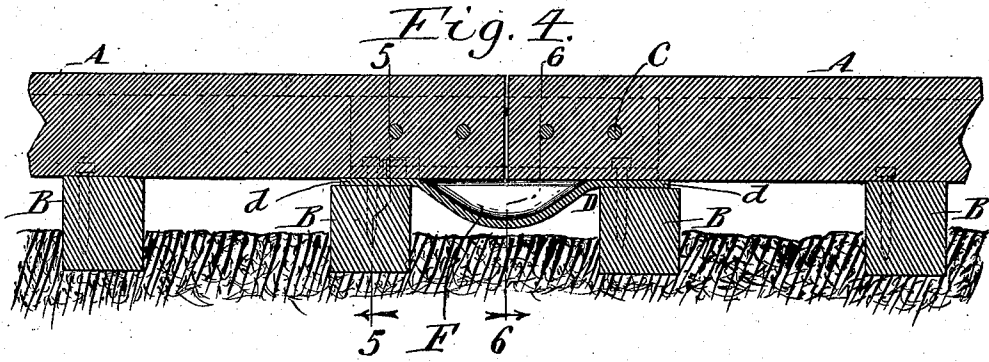
Inventor
William H. Woodcock
by Geper & Popp
Attorneys

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2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. WOODCOCK, OF BUFFALO, NEW YORK, ASSIGNOR TO NIAGARA FORGED STEEL COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK

BRIDGE FOR RAIL-JOINTS.

No. 867,461.

Specification of Letters Patent.

Patented Oct. 1, 1907.

Application filed October 29, 1906. Serial No. 340,936.

To all whom it may concern:

Be it known that I, WILLIAM H. WOODCOCK, a subject of the King of England, and a resident of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Bridges for Rail-Joints, of which the following is a specification.

This invention relates to a bridge for supporting railway rails at the joint between the same and has the object to produce a device for this purpose which furnishes the maximum strength for a given amount of metal used and which is simple in construction, capable of being manufactured at low cost and easily applied to the rails.

In the accompanying drawings consisting of 2 sheets: Figure 1 is a side elevation of the opposing ends of two rails supported by my improved bridge. Fig. 2 is a top plan view of the same. Fig. 3 is a detached top plan view of my improved rail joint bridge, on an enlarged scale. Fig. 4 is a longitudinal sectional elevation of two opposing rails showing the joint between the same supported by my improved bridge. Figs. 5 and 6 are vertical transverse sections, on an enlarged scale, taken in the correspondingly numbered lines in Fig. 4.

Similar letters of reference indicate corresponding parts throughout the several views.

A, A' represent the opposing ends of two rails and B the ties to which they are secured.

C, C represent two fish plates or splice bars arranged lengthwise on opposite sides of the rails and extending across the joint between the same and c the bolts whereby these plates are secured to the ends of the rails.

My improved bridge whereby the opposing ends of the rails are supported on the under sides is constructed as follows: D represents a plate having a horizontal upper surface which engages with the under side of the ends of the rails and extends lengthwise across the joint between the same. At its opposite ends d this plate rests on top of the ties nearest to the joint between the rails and these end portions of the plate are provided with openings e which receive spikes E driven at their lower ends into the respective ties while the heads at their upper ends bear against the fish plates and thereby secure the bridge rail ends and fish plates to the ties.

In order to increase the rigidity of the bridge at its center and enable the same to more effectually support the rails against depression at the opposing ends thereof, a hollow longitudinal stiffening rib F is formed on the underside of the central portion of the bridge. For this

purpose the bridge is constructed of sheet metal and the central part thereof is bent or dished downwardly so as to form the hollow rib thereon which is deepest at the middle and vanishes toward opposite ends of the bridge.

In depressing the stock in the central part of the plate to form the stiffening rib of the bridge the central parts thereof on opposite longitudinal sides are drawn inwardly, so as to compensate for the material which has been displaced downwardly in forming the stiffening rib. This depression of metal at the center of the bridge and the drawing inwardly of its opposite longitudinal sides is such that the metal is at no time stretched perceptibly while being displaced but remains of uniform thickness at all points across the central depressed and contracted part of the bridge which thickness is the same as that of the metal at opposite ends of the bridge, as shown in Figs. 4 and 6. By this means a bridge is obtained which is narrow and deep at the middle so as to resist most effectually the vertical strains to which the same is subjected in supporting the ends of the rails as the load passes over the same while its end portions are left wide and flat to furnish ample bearing surface between the rails and ties and to permit of properly fastening the same together with the ties and fish plates to the ties by means of spikes.

In order to aid the bolts c in holding the fish plates against the rails the bridge is provided near diagonally opposite corners with retaining lips or hooks g which are stamped or punched upwardly out of the stock from which the plate is constructed so that the mouths of the hooks open inwardly. Between each of these hooks and the lower portion of the adjacent fish plate a wedge h is driven after the bridge, fish plates and rails have been secured to the ties by the spikes. By this means any play between the bridge and the fish plates is taken up and the lower parts of the fish plates are firmly held against the rails, thereby producing a structure which is solidly united and operates to reliably sustain the ends of the rails.

I claim as my invention:

1. A bridge for rail joints pressed out of metal plate to form a flat upper surface, and a hollow stiffening rib—arranged lengthwise and centrally on the underside of the plate, said rib being depressed out of the stock of the plate and both sides of the central part of the same being drawn inwardly so as to leave wide end portions on the bridge and a narrow central part which is of uniform thickness and forming recesses on both sides of the plate, substantially as set forth.

2. A bridge for rail joints comprising a sheet metal plate pressed to form a flat upper surface, a hollow stiffening rib arranged lengthwise and centrally on the underside of the plate, and retaining books which are arranged adjacent to diagonally opposite corners of the plate and opening inwardly and which are adapted to receive wedges whereby the fish plates of the rails are tightened on the bridge, said hooks being punched out of the stock at the end of the plate and said rib being formed by depressing the central part of the plate and contracting the sides of the same so as to retain the metal at this part of the plate of uniform thickness and leave wide ends on the bridge, substantially as set forth. 10

Witness my hand this 23rd day of October, 1906.

WILLIAM H. WOODCOCK.

Witnesses:

G. EMIL HOWE, Jr.,

THEO. L. POPP.