S. H. WITMER.

Railroad-Rail Joints.

No. 167,598. Patented Sept. 7, 1875.

FIG. 1.

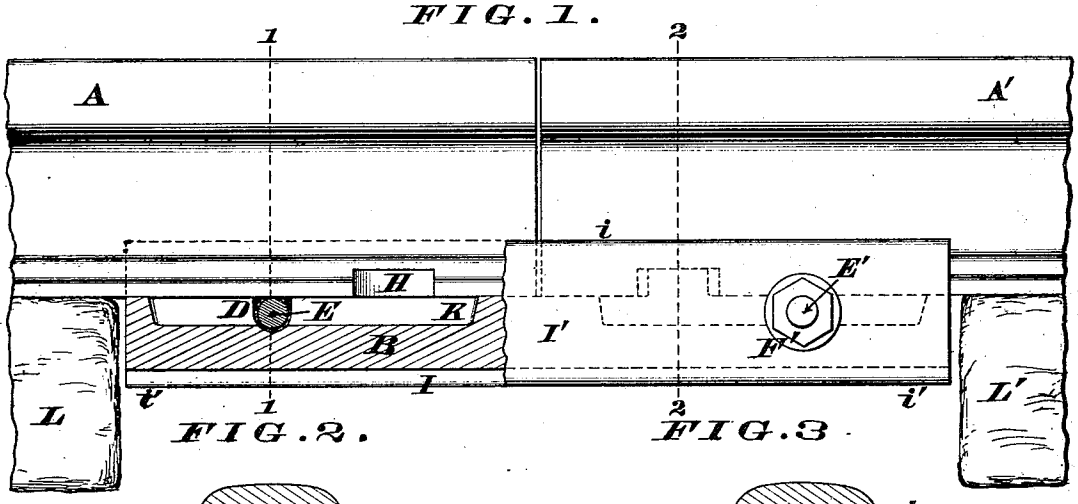


FIG. 2.

FIG. 3.

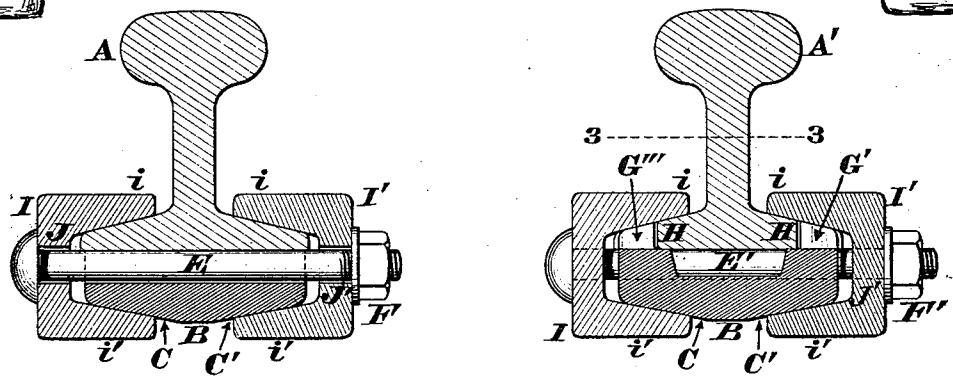


FIG. 4.

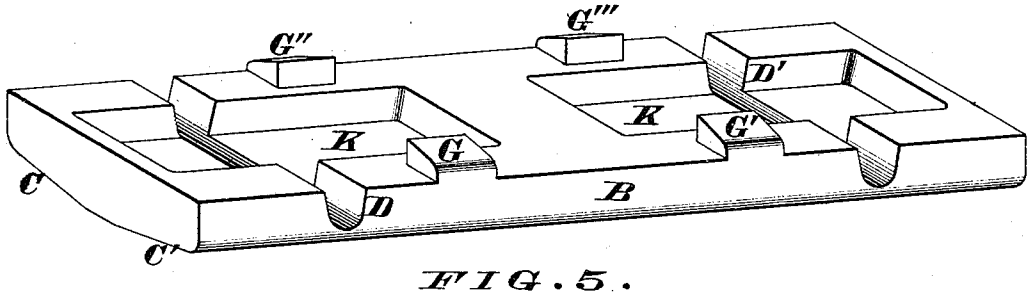
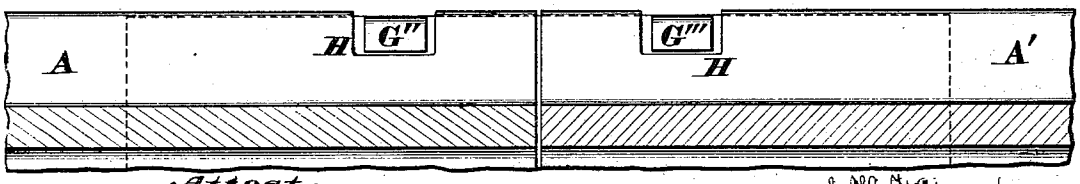


FIG. 5.



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UNITED STATES PATENT OFFICE.

SAMUEL H. WITMER, OF CINCINNATI, OHIO.

IMPROVEMENT IN RAILROAD-RAIL JOINTS.

Specification forming part of Letters Patent No. **167,598**, dated September 7, 1875; application filed July 24, 1875.

To all whom it may concern:

Be it known that I, SAMUEL H. WITMER, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Railway-Joint, of which the following is a specification:

This is an improved stiffening device for the abutting portions of the consecutive members of an ordinary railway—that is to say, one whose rails are of the familiar T form, and have the customary notches near the ends of their base edges.

My device consists essentially of a chamfered gib or sole-piece, which is held firmly underneath the two abutting rail ends by means of a pair of flaring-jaws or clamps, which grasp the sole-piece, and the rail bases being drawn and held in place by suitable nutted bolts, which extend through said clamps and sole-piece immediately underneath the rail. Projections, which extend upward from the sole-piece into the notches in the rail-base, prevent "creeping" or displacement of the clamp along the rail.

In the accompanying drawing, Figure 1 is an elevation, showing my fastener secured to the contiguous ends of two ordinary rails, the nearest cheek or jaw being partially removed, and a portion of the sole-piece being shown in section. Figs. 2 and 3 are transverse sections, taken, respectively, at the lines 1 1 and 2 2. Fig. 4 is a perspective view of the sole-piece detached from the other members of the fastening. Fig. 5 is a horizontal section through the rails at the line 3 3, previous to the application of the clamp-jaws.

A A′ represent the contiguous or abutting portions of two rails. B represents my peculiarly formed gib or sole-piece, the same being a slab or block of cast-iron, or other suitable material chamfered on its under side, at C C′, and having in its upper portion two transverse channels, D D′, for the tie-bolts E E, which bolts have nuts F F′. The said sole-piece has four upturned lugs or projections, G G′ G″ G‴, which enter the customary indentations or notches H in the edges of the bases or flanges of the rails. I I′ are flaring cheeks, jaws, or clamps, the inner surfaces of whose lips *i i′* are formed to fit and grasp the correspondingly chamfered surfaces of the rail-flanges and the sole-piece. Said cheeks are perforated at J J′ for the tie-bolts E E′. The sole-plate may be excavated, as at K, for economy of material. All the above parts, with exception of the sole-piece, are of wrought-iron.

When properly applied my fastening affords several additional bearings at the junction of the contiguous rails, and owing to the secure manner in which the sole-piece and cheeks are clamped to the rail-bases the joint is as firm and durable as any other part of the track. In fact, the rail-ends are so securely united together that the customary chair is entirely dispensed with at this part, the sole-piece and its attached cheeks and accessories being located between the ties L L′, as seen in Fig. 1. This secure and unyielding junction of the rails prevents the injurious concussions incident to the passage of trains over an ordinary joint.

The improvement can be readily applied to most of the tracks now in use.

The sole-piece, instead of being composed of a single casting, as in the present illustration, may consist of a block of any suitable wood, between which and the rails is interposed a plate of wrought-iron, having suitable projections to prevent longitudinal displacement.

I claim as new and of my invention—

The rail-joint fastening, composed of the chamfered sole-piece B C C′ D D′ G G′ G″ G‴, doubly-flared cheeks I *i i* J I′ *i′ i′* J J′, and nutted bolts E F E′ F′, the whole being combined and adapted for use with an ordinary notched rail, in the manner herein explained.

In testimony of which invention I hereunto set my hand.

SAMUEL H. WITMER.

Attest:

GEO. H. KNIGHT,

JAMES H. LAYMAN.