J. ENGEL.

RAIL FASTENER.

APPLICATION FILED MAY 20, 1909.

929,413.

Patented July 27, 1909.

Fig. 1.

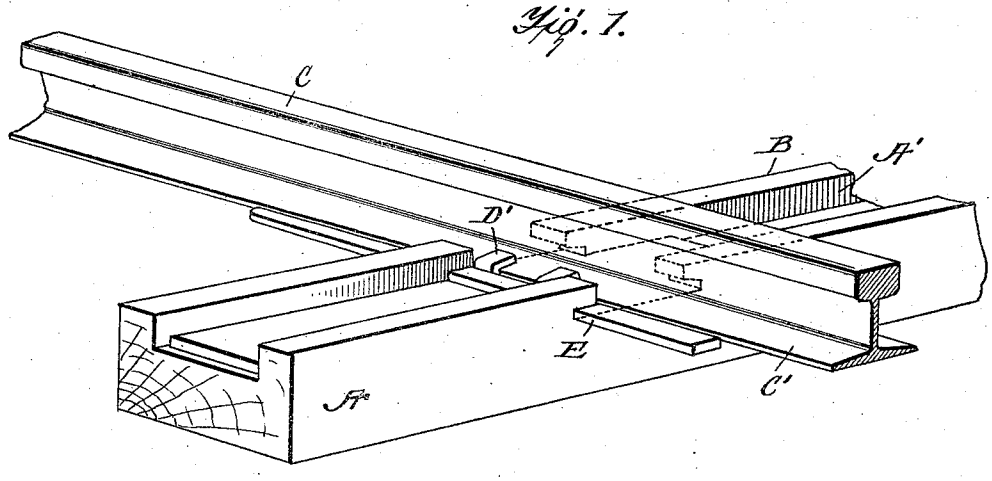


Fig. 2.

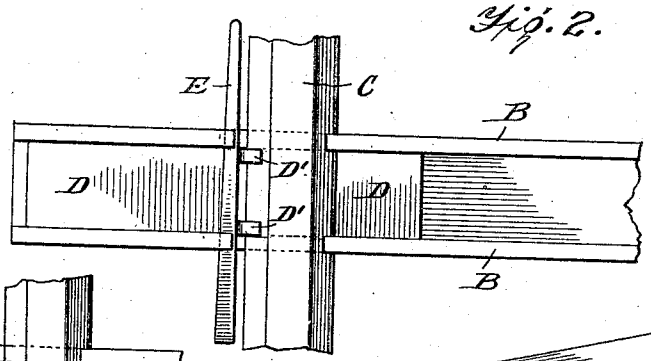


Fig. 5.

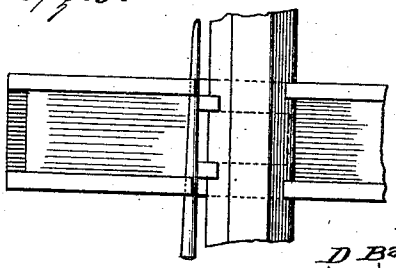


Fig. 6.

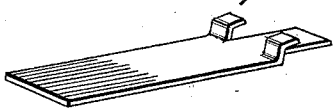


Fig. 3.

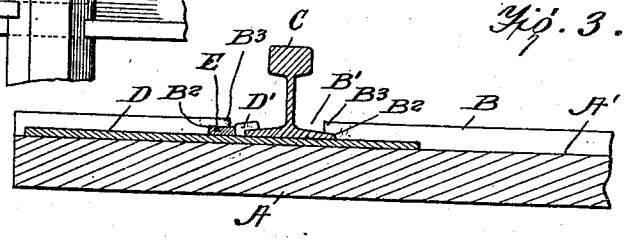
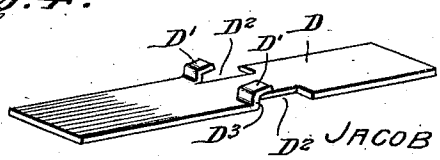


Fig. 4.



WITNESSES

L. H. Schmidt.

Perry B. Turpin

INVENTOR

JACOB ENGEL,

BY Munn & Co.

ATTORNEYS

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JACOB ENGEL, OF MILLERSBURG, OHIO.

RAIL-FASTENER.

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To all whom it may concern:

Be it known that I, JACOB ENGEL, a citizen of the United States, and a resident of Millersburg, in the county of Holmes and State of Ohio, have made certain new and useful Improvements in Rail-Fasteners, of which the following is a specification.

This invention is an improvement in ties and rail fastening devices, and consists in certain novel constructions and combinations of parts as will be hereinafter described and claimed.

In the drawing Figure 1 is a perspective view, and Fig. 2 is a top plan view, and Fig. 3 is a sectional view of a construction embodying my invention. Fig. 4 is a perspective view of the chair plate shown in Figs. 1, 2 and 3. Fig. 5 is a top plan view illustrating a round key, and Fig. 6 is a perspective view of the chair plate shown in Fig. 5.

In the construction shown the tie A may be of metal or other suitable material, and is channeled longitudinally in its upper face at A′, forming the longitudinally extending flanges B at the opposite edges of the tie and projecting outwardly above the body of the tie as shown. These flanges B are cut away at B′ to receive the rail C, and the opposite walls of the cut away portions are notched at B^2, see Fig. 3, to form the inwardly projecting hooks B^3 of the flanges B on opposite sides of the opening B′ for the rail C.

The chair plate D is adapted to fit between the flanges B and within the channel A′ of the tie, and this chair plate forms a base for the rail C, and is provided at its opposite edges with the hooks D′ cut out at D^2 from the metal of the plate D and adapted to overlie one edge of the rail base as shown in Figs. 1, 2 and 3 of the drawing. These hooks D′ it will be noticed project upwardly above the plane of the plate D so they overlap the rail base C′, and the upwardly projecting portions or openings D^3 of the hooks form abutments for a key E, which fits partially within the proper hook B^3 and abutting the hooks D′ operates to force the chair plate D and the rail carried thereby to the position shown in Figs. 1, 2 and 3, in which the rail base C′ will be engaged and held by the hooks B^3 opposite those hooks entered by the wedge E. If desired the opposite hooks B^3 may be alike as shown in Fig. 5, and instead of using a flat key as shown in Figs. 1, 2 and 3 of the drawing I may use a round key as shown in said Fig. 5, and the chair plate instead of being notched in its opposite edges as shown in Fig. 4, to produce the hooks D′ may have the said hooks produced similarly to those in Fig. 4, but the plate beyond the said hooks is of a uniform width to its end as best shown in Figs. 5 and 6 of the drawing.

Manifestly the chair plate may be adjusted with its hooks D′ on the inner or outer sides of the rail base and when the tapered key is driven to its place it will be held by the hooks of the tie flange and will operate to force the hooks of the chair plate into engagement with the rail base at one edge of the latter and to force the other edge of the rail base into engagement with the hook flanges as shown and before described, so that the rail will be held at one side directly by the hooks of the rail flanges and at its opposite side or edge by the hooks of the chair plate, said hooks being held in engagement with the rail base by the key and cooperating hooks of the tie flanges.

In the operation of my invention the rail can be fastened or loosened with a sledge and I avoid the use of bolts or nuts to work loose.

Manifestly, the fastener can be applied to a joint as well as to any part of a rail between the joints, and the gage of the track can be changed by simply removing the metal plate fasteners or chairs from one side of the rail and placing them on the opposite side. The tie and fastener are thus adapted for use on a curved as well as a straight track.

The fastener and tie as described will permit the rail to contract and expand without loosening the key and will thereby prevent any creeping of the rails, and by varying the size of the keys any size of rail within reasonable limits may be fastened by using the proper width of key.

I claim—

1. The combination of a tie having upwardly projecting longitudinal flanges, a chair plate between said flanges and provided with upwardly projecting hooks to engage one edge of a rail base, the tie flanges having hooks to engage the opposite edge of the rail base, and a key and coöperating hooks on the tie flanges for pressing the hooks of the chair plate into engagement with a rail base, substantially as set forth.

2. A tie having at its upper side an opening for the reception of a rail base, and having at the edges of said opening hooks pro-

jecting thereinto and adapted to receive one edge of the rail base, a chair plate to underlie a rail and hooked to engage upon the rail, and a key operating in one of the hooks of the tie and upon the hooked portion of the chair plate to press the same into engagement with the rail base, substantially as set forth.

3. The combination of a tie, a chair plate fitted thereto and provided at its opposite edges with cut out portions bent forming hooks to engage upon a rail base, and a key to operate upon said hooks for pressing the same into engagement with a rail base, substantially as set forth.

JACOB ENGEL.

Witnesses:
HOWARD J. ANDERSON,
CHARLES E. LARIMER.