

L. SCOFIELD, Sr.
RAILWAY RAIL FASTENING.

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J. H. Schott
Wm L. Boyden

Inventor

Lewis Scofield Sr.
per Fred E. Vacker, Atty

UNITED STATES PATENT OFFICE.

LEWIS SCOFIELD, SR., OF CHATTANOOGA, TENNESSEE.

RAILWAY-RAIL FASTENING.

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To all whom it may concern:

Be it known that I, LEWIS SCOFIELD, Sr., a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Railway-Rail Fastenings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in railway-rail fastenings, it being particularly and especially applicable for securing in position the rails of street-railways, the object of the invention being to provide a simple, cheap, and efficient fastening for the rails, in the use of which the rails can be readily removed from the street or replaced in position again; and the invention therefore consists in the construction, arrangement, and combination of parts, substantially as will be hereinafter described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a cross-section of my improved railway-rail fastening, its several parts being shown as arranged in operative connection with a rail and tie. Fig. 2 is a top plan view of the same in partial section on the line *xx* of Fig. 1. Fig. 3 is a reverse plan view of the metallic strap or support on which the rail is seated. Fig. 4 is a reduced perspective view of the clamping-piece for one side of the rail. Fig. 5 is a reduced perspective view of the clamp for the other side of the rail.

Similar letters of reference designate corresponding parts throughout all the different figures of the drawings.

A denotes a portion of a tie for rails, which may be a metal plate or metal tie or any other suitable kind of tie or sleeper.

B designates a U-shaped or right-angled metallic loop or strap arranged in reverse position upon the bed-plate or tie A and transversely to the rail, which is to be supported or seated upon the top of the metallic strap B, it serving, therefore, as a rest to uphold the rail. This support B is in reality a channel-iron having a flat upper surface, and it is provided with flanges *b b*, which rest upon the tie A, said flanges being perforated at *b' b'*

to permit the passage therethrough of certain bolts, by means of which the angular support is secured fixedly and immovably upon the tie. 55

D' D' designate the bolts which fasten the support B to the tie A. They are of any suitable and ordinary construction and are provided with heads and also with inclined or beveled shoulders *d²* between the heads 60 and the main cylindrical stems of the bolts, said inclined shoulders *d²* being cut square, as shown in dotted lines in Fig. 3, so that they may enter correspondingly-inclined square grooves or offsets in the under side of the tie 65 A round about the perforations therein through which the said bolts pass. This construction prevents the bolt from rotating and enables its head to be kept firmly in place. The bolts D' D' pass through the perforations 70 *b'* and are provided with nuts *d'*, which are screwed firmly upon the ends of the said bolts; also nut-locks are provided consisting of flat perforated washers E, located between the nuts *d'* and the upper faces of the flanges *b b*, 75 which washers have flanged edges *e*, adapted to be turned up closely against the nut *d'* after the latter has been screwed firmly in place. (See Figs. 1 and 2.) Furthermore, the support or rest B is provided with perfora- 80 tions in the upper part thereof to permit the passage of bolts D D, constructed similar to the bolts D' D', which bolts D serve to keep the clamps in firm position upon the upper side of the rest B, and thus secure the rail in 85 place.

C denotes an example of rail which in the present form of the invention it is designed to secure in place. It has a web *c*, bottom flanges *c'* *c'*, and upper flanges *c²* and *c³*. On one 90 side of this rail is a side clamp F, which consists simply of an angular plate of suitable size and shape, it having a form which permits it to rest partly upon the flat surface of the upper side of the rest B and partly upon 95 one of the base-flanges *c'* of the rail, its edge being close up against the web *c* of the rail, as shown in Fig. 1. The clamp F is shown in perspective in Fig. 4 and said clamp is perforated, and through its perforation 100 passes the securing-bolt D, which has its upper screw-threaded end provided with a nut *d*, between which nut and the upper face of the clamp F is located a perforated washer

E, whose flanged edge *e* is adapted to bend up closely against the edge of the nut *d* after the latter has been screwed firmly into place, the inner edge of said washer resting neatly
 5 and tightly against the shoulder *f*, formed on the upper side of the clamp F. When the bolt D has been located in position and its nut been tightly screwed, the clamp F will bear firmly and with a strong grip upon the
 10 flange *c'* of the rail, holding it tightly. On the other side of the rail there is another clamp, which is shown in reduced perspective in Fig. 5. This clamp has the vertical portion G, which rests close against the side of
 15 the rail-web *c* and has its upper end bearing neatly against the side of the upper rail-flange *c'*. This clamp is likewise made integral with the inclined part G', which fits neatly against the upperside of the other base
 20 flange *c'* of the rail, and said part G' is integral with the remainder of this clamp, which has a firm seat upon the upper face of the rest B. Thus it will be seen that the clamping device G holds the rail firmly upon the
 25 rest on the one side and that the two clamps F and G together hold the rail very tightly between them and clamp it securely and rigidly upon the rest B. The flat portion of the clamp G is perforated to permit the passage
 30 through it of another bolt D, which has a nut

d, which is kept in place by the locking device consisting of the washer E, having flange *e*, one edge of the washer fitting neatly against the shoulder *g*, formed on the upper side of the clamp. The bolts D D, having the inclined sections which are arranged at right angles to each other on a square in order to fit into the square countersinks *b'* around the perforations *b'* in the upper part of the rest B, are kept from rotating and held fixedly,
 35 and these bolts when connected with the lock-nuts with which they are provided keep the clamps F and G very firmly fixed.

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

In a railway-rail fastening, the combination, with the rest B and rail C, of the clamp F, having shoulder *f*, the clamp G, having inclined part G' and shoulder *g*, and the bolts D D, having inclined sections arranged on a square to fit into correspondingly-shaped recesses *b'* in the rest B and the locked nuts *d d*.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS SCOFIELD, SR.

Witnesses:

W. F. BLATHERWICK,
 J. G. HOLLINGSWORTH.