

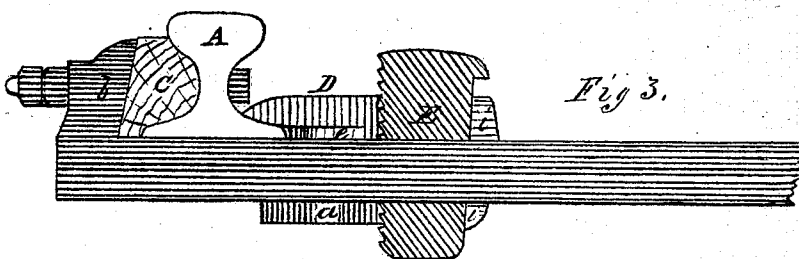
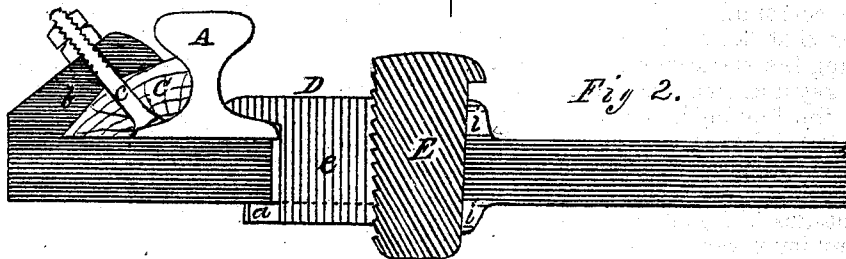
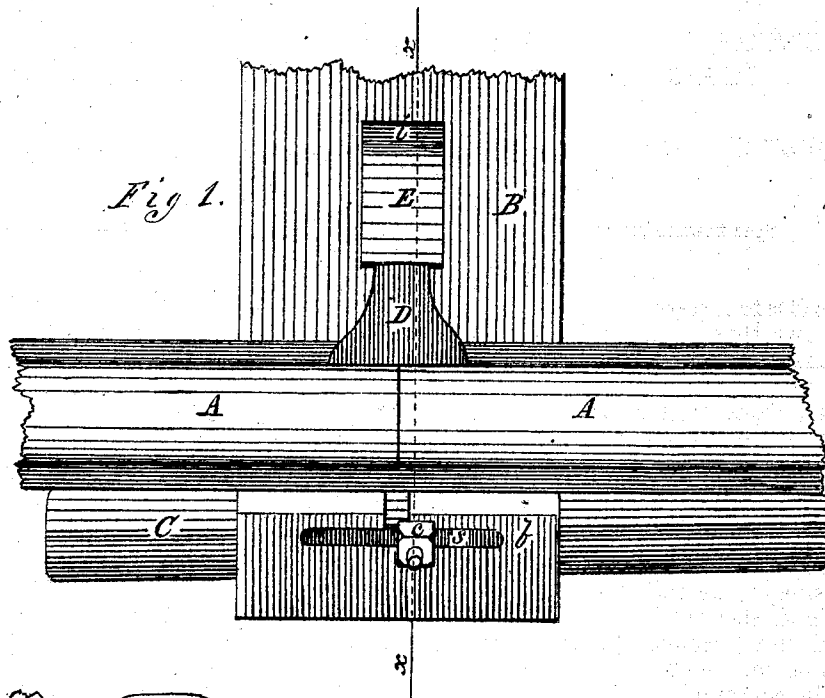
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JASON NEWTON.

Improvement in mode of securing Railway Rails to Iron Ties.

No. 121,956.

Patented Dec. 19, 1871.



WITNESSES:

Silas Robinson
Otto Lee Johnson.

INVENTOR:

Jason Newton.
by Atty in fact George Johnson.

UNITED STATES PATENT OFFICE.

JASON NEWTON, OF MARENGO, MICHIGAN, ASSIGNOR OF TWO-THIRDS OF HIS
RIGHT TO HENRY MOORE AND CHARLES B. MOORE.

IMPROVEMENT IN MODES OF SECURING RAILWAY RAILS TO IRON TIES.

Specification forming part of Letters Patent No. 121,956, dated December 19, 1871.

To all whom it may concern:

Be it known that I, JASON NEWTON, of Marengo, in the county of Calhoun and State of Michigan, have invented an Improvement in Railway-Rail Fastenings to Iron Ties or Chairs, of which the following is a specification:

My invention relates to an improved mode of securing railway rails to iron ties or chairs by means of a serrated key and clamping-jaw inserted in a suitable two-way groove in the tie or chair to estop and hold down the base-flange on the inner side of the rail, its outer side being supported and secured by a tapering wooden fish-bar driven in between the rail and an end flange-stop on the tie or chair, the several parts operating in combination to secure the rail in such manner that, when the fish wedge bar is driven up snug the serrations on the contiguous faces of the key and clamping-jaw stem will interlock, and the key be immovably secured in place until the fish-bar is driven back, when the rails may be pried back just enough to liberate the key and clamping-jaw for shifting the rails.

The advantages will be described hereinafter peculiar to my improved rail-fastening, which is fully embodied in the accompanying drawing, in which—

Figure 1 is a plan or top view of a broken-off end section of an iron joint-tie, and end sections of rails attached. Fig. 2 represents a vertical longitudinal section in the line *x*, Fig. 1. Fig. 3 is a side elevation.

A A are the two rail-sections. B represents a broken-off end of an iron joint-tie provided with an end flange, *b*, inclining toward the rail at any suitable angle. C is the fish-bar, of hard wood, made tapering lengthwise, and of such shape in cross-section as to fill a proper intervening space left between the outer side of the rail and the inner side of the tie-flange *b*. D is the clamping-jaw, which overlaps and bears on the inner base-flange of the rail, and is held firmly down thereon by means of the side flanges *a*, with which the bottom end of its stem *e* is furnished, said flanges overlapping the slot in the tie and bearing against the lower side. E is the serrated key, which passes through a wider slot in the tie opening into the stem-slot of the jaw-clamp, and is designed to fill the opening through the

tie, through which the flanged head of the clamp-stem must pass before being driven to place. The edges of the key and jaw-stem in contact have shallow cross-serrations cast in them, as shown, or other ridges and furrows that will match and interlock together in a manner to prevent the key from being pulled or jarred out. I usually make the key with a gib-shaped upper end for convenience in starting it up, and form lining-ribs *i i* on the tie to give additional bearing for the key; but the insertion of a gib behind the key might answer the same or a better purpose. To secure the fish-bar in place when driven tight I cast a right-angled two-way groove in the flange *b* for the reception of a bolt, *c*, driven through the fish-bar, the length of said groove having such corresponding relation with the draft or taper of the fish-bar that the traversal of the bolt within the groove will gear or ungear the key with and from the clamping-jaw; but in case it is deemed best to bolt the fish-bar to the rail, then it will be necessary to modify the shape of the cross-section, both of the fish and abutting-flange *b*, somewhat, as shown in Fig. 3, the proper motion of the fish-bar being obtained by suitable longitudinal grooves, through which the bolts pass.

To secure rails in place the fish-bar is first placed in contact with the flange *b* in a slackened position, and the rail or rails laid on the ties with their outer sides abutting against the fish-bar. The flanged head and stem of the clamping-jaw are now inserted through the key-way in the tie and driven or pried along in the longitudinal groove, so that it stops, and, by means of the projecting jaw and shoulders, clamps down the inside rail-flange against the tie. The key is then inserted as far as practicable in a position to gear with the clamp. The fish-bar is now driven in snug, so as to force the serrated faces of the jaw and key in close contact; and, the nut of the fish-bar bolt being tightened, the rails and fastenings are all firmly and fully secured to place. As will be readily seen, when the nut is slackened and the fish-bar driven back, the key can be taken out and the clamping-jaw forced back to remove old rails and replace them by others.

The fish-bars will be formed, as usual, by ma-

chines to widths and shapes to suit the different styles of rails and maintain a proper uniform gauge; and as the clamping-jaw and key may be of malleable cast metal, made from patterns conforming to the various thicknesses and contour of flange, rails of all variations may be furnished with cheap and secure fastenings, requiring no hand-fitting by the track-layers.

I claim as my invention, and desire to secure by Letters Patent—

The serrated key E and serrated clamp D, op-

erating in suitable grooves in the iron tie or chair B to secure the inner side of the rail A, in combination with the tapering fish-bar C and end flange *b* of the tie B, supporting and securing the rail's outer side, substantially in the manner and for the purpose set forth.

JASON NEWTON

Witnesses:

HENRY MOORE,
OTTO L. JOHNSON.

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