

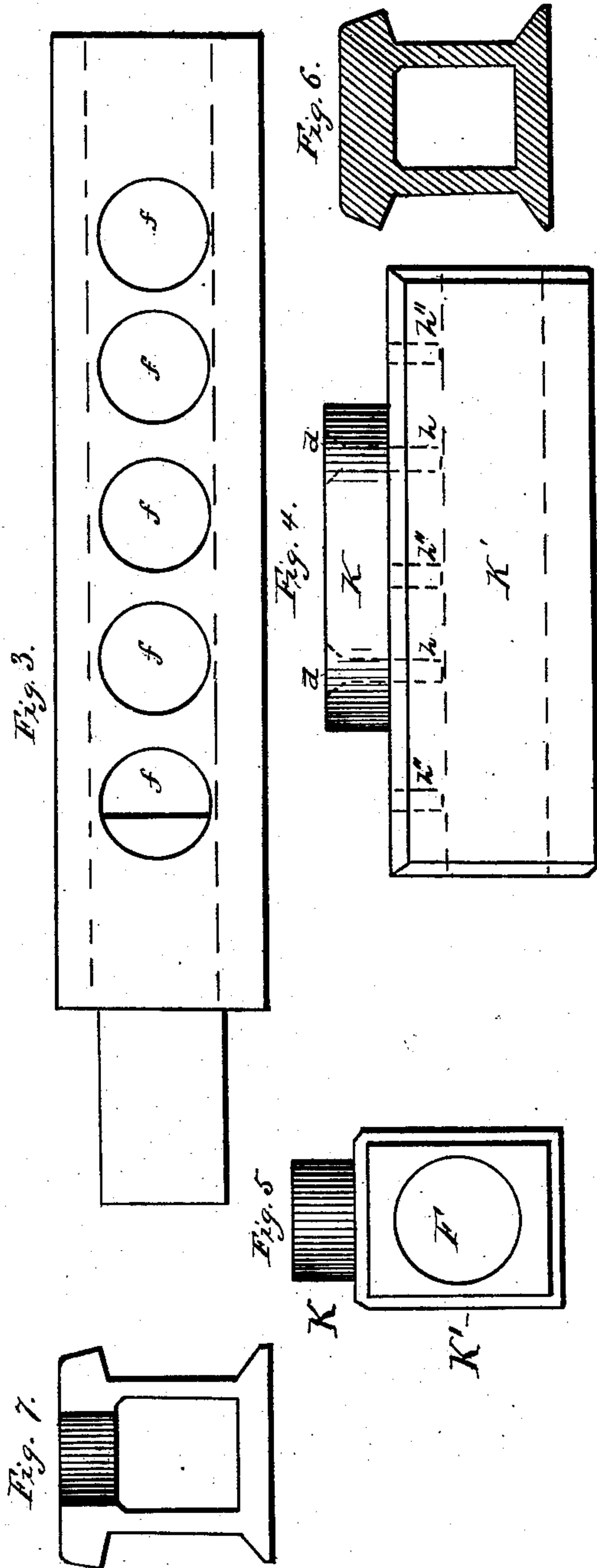
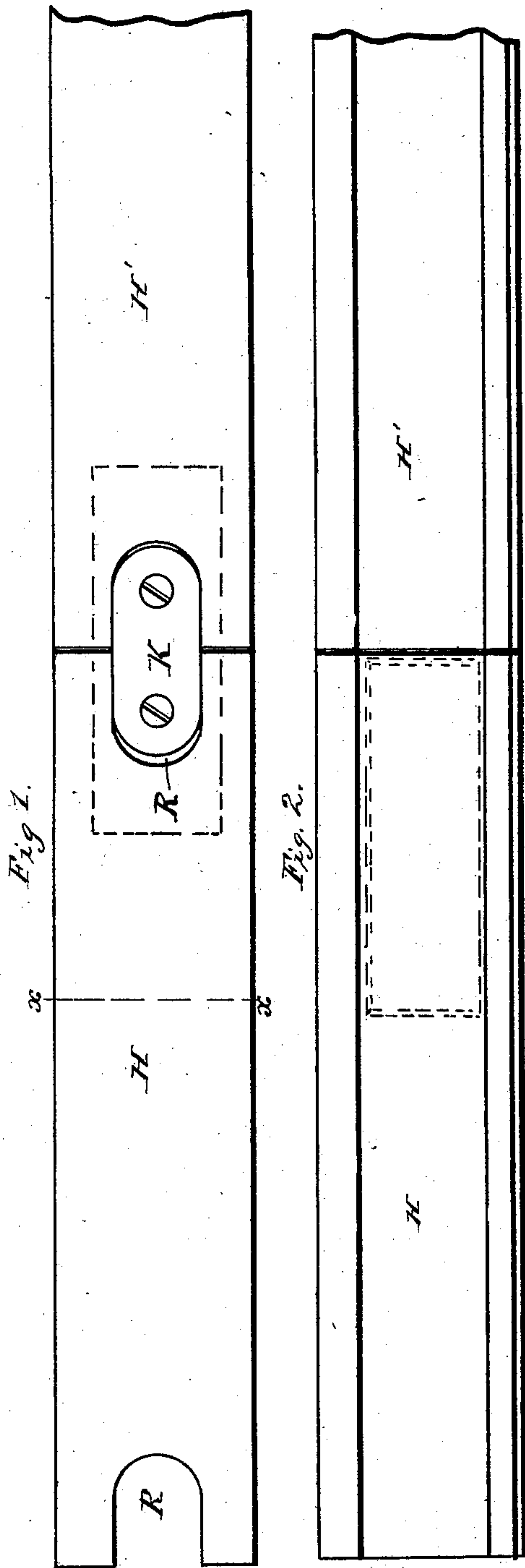
(No Model.)

2 Sheets—Sheet 1.

T. BREEN.
RAILROAD RAIL.

No. 297,965.

Patented May 6, 1884.



WITNESSES

W. E. Bowen.

W. F. Halling.

INVENTOR

Thomas Breen
By *Myers & Co.*
Attorney

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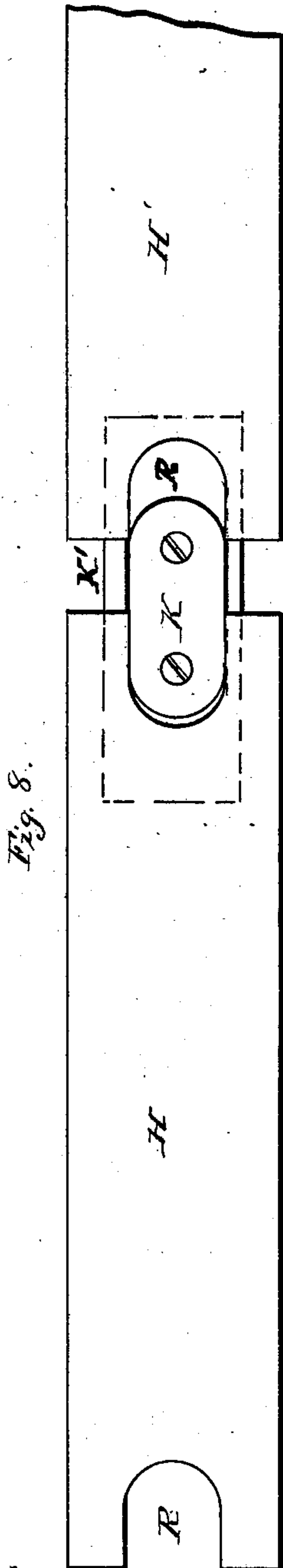
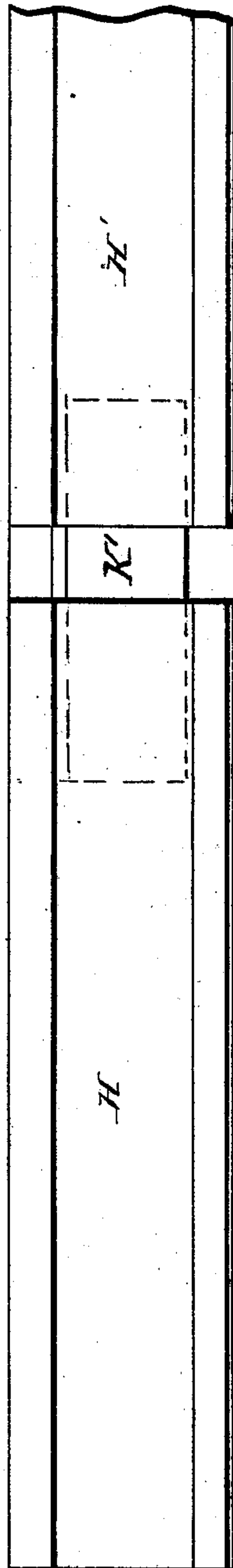


Fig. 9.



WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS BREEN, OF KNOWLTON, PENNSYLVANIA.

RAILROAD-RAIL.

SPECIFICATION forming part of Letters Patent No. 297,965, dated May 6, 1884.

Application filed December 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BREEN, a citizen of the United States of America, residing at Knowlton, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Rails, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improvement in railroad-rails; and it consists in the construction, combination, and arrangement of the parts, as hereinafter more specifically described.

In the drawings, Figure 1 is a plan view. Fig. 2 is a side view, showing the key-bar, in dotted lines, slid into the rail, the key being removed. Fig. 3 is a plan view of the bottom of the rail-flange. Fig. 4 is a side elevation of the key-bar and key. Fig. 5 is an end view of the same. Fig. 6 is a cross-section on the line X X. Fig. 7 is an end view of the rail. Fig. 8 is a plan view, and Fig. 9 is a side of Fig. 8.

In carrying out my invention I construct the tread of the rail with a flat surface, as shown in Fig. 1, and much thicker than its web. I also provide each section of rail, on its upper face, at either end thereof, with a curved longitudinal recess, R, for reception of key K, for locking and jointing the sections together in connection with key-bar K'. The web or vertical walls of the rail-sections connect solidly the tread and flange of the rail-sections, thus forming a solid box-rail. The flange of each rail-section is beveled, as usual, and has formed therein the vertical orifices *f*. The key-bar K', which takes the place and fulfills all the purposes of both a railroad rail-joint and fish-plate, has provided therein the longitudinal orifice F, Fig. 5, which strengthens it against any transverse strain to which it

may be subjected, while economizing weight of metal, on the principle that a hollow bar will withstand a greater transverse strain than a solid one. The upper edges are beveled, as shown, and its face has formed therein the vertical threaded or female-screw orifices *h*, and unthreaded orifice *h''*, for pushing the key-bar back into the rail when removing worn or damaged rails. The key K, whose longitudinal sides are conformed to the same plane as the recess R, formed by the junction of any two of said rails, has provided therein vertical screw-orifices *d*, through which screws are projected.

Thus constructed the removal of worn rails is effected with great facility, as it is only necessary to remove the key K from the key-bar K' and slide the key-bar K' into the adjoining rail to effect such removal. Besides, thus constructed, all fish-plates, ordinary railroad-joints, nut-locks, and nuts are dispensed with, and when the rail-sections become worn, as usual, on their inner edges, they may be taken up and relaid, with the inner edges thereof faced outward.

What I claim, and desire to secure by Letters Patent, is—

1. A hollow railroad-rail, each of whose ends has formed in its tread a recess, R, combined with a key, K, between each pair of rails, and the key-bar K' being movably secured to key K, substantially as shown and described.

2. The combination of the rail-sections H and H', key-bar K', and key K, substantially as shown, and for the purpose described.

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

THOMAS BREEN.

Witnesses:

H. A. HALL,

EDWARD T. TERRY.