(No Model.)

J. M. WOODCOCK.

TRACK FASTENING.

No. 490,704. Patented Jan. 31, 1893.

Fig. 1.

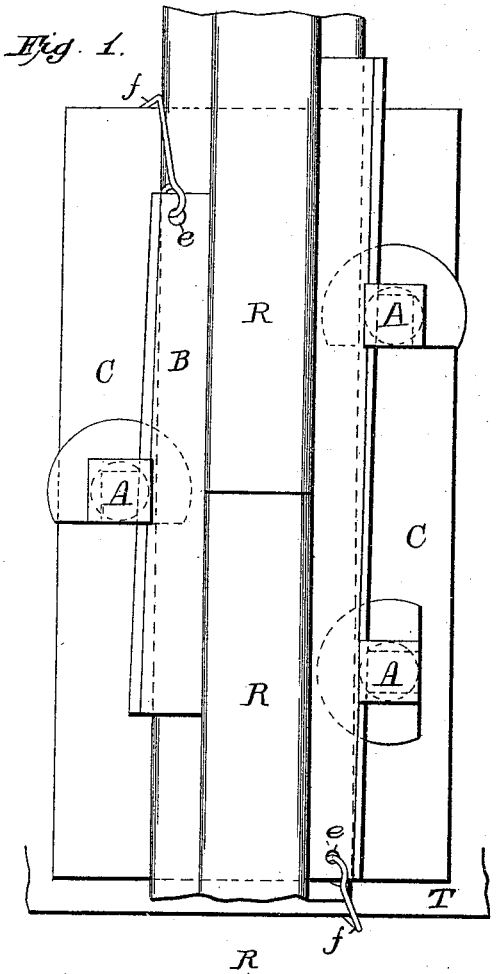


Fig. 3.

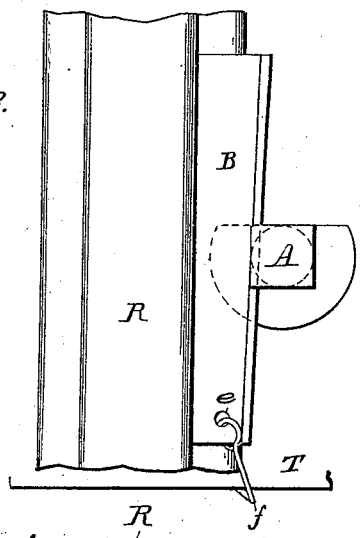


Fig. 4.

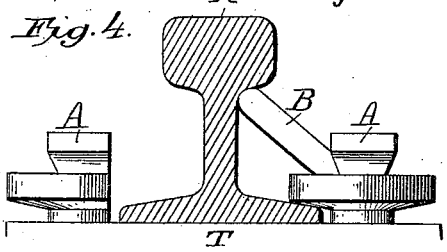


Fig. 2.

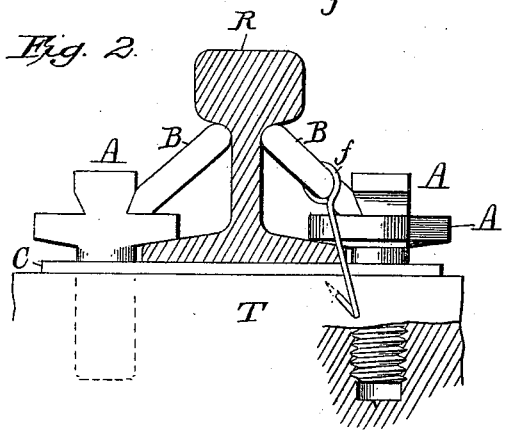


Fig. 5.

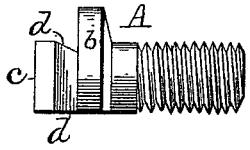


Fig. 6.

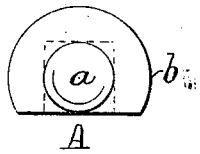


Fig. 7.

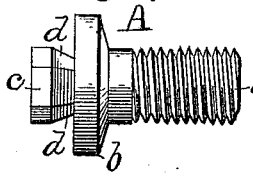
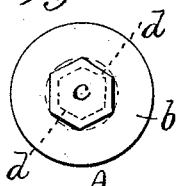


Fig. 8.



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UNITED STATES PATENT OFFICE.

JAMES M. WOODCOCK, OF BRIDGEPORT, OHIO.

TRACK-FASTENING.

SPECIFICATION forming part of Letters Patent No. 490,704, dated January 31, 1893.

Application filed April 11, 1892. Serial No. 428,640. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. WOODCOCK, a citizen of the United States, and a resident of Bridgeport, Belmont county, in the State of Ohio, have invented a new and useful Improvement in Track-Fastenings, of which the following is a specification.

This invention relates to means for securing ordinary T-rails or rails having a like form of base to the ordinary cross-ties of railways; and the invention consists in certain novel fastening devices hereinafter set forth and claimed; the object of the invention being to provide cheap and efficient substitutes for the insecure and troublesome spikes still commonly used, and at the same time for the ordinary fish-joints with their screw-bolts and nuts, and for ordinary rail-braces with their separate fastenings.

A sheet of drawings accompanies this specification as part thereof.

Figures 1 and 2 of these drawings are respectively plan and sectional views showing the improved fastenings as applied at a rail-joint; Figs. 3 and 4 are like views showing the improved fastenings as applied at intermediate points; Figs. 5 and 6 are respectively side and end views of one of the fastening screws or "screw-posts" shown in Figs. 1 to 4; and Figs. 7 and 8 are side and end views of a modified screw-post.

Like letters of reference indicate corresponding parts in the several figures.

Each of the improved track-fastenings includes one or more vertical screws or "screw-posts" A, of the peculiar construction represented in Figs. 1 to 6, or Figs. 7 and 8, and one or more combined key-wedges and rail-braces B, with or without a shoe-plate C, Figs. 1 and 2, which is only required at rail-joints, for the rail ends to rest upon. Said screw-posts A are intended to be made of malleable iron, and each of them comprises a screw-threaded lower end *a*, Figs. 5 to 8, a wide collar or circumferential flange *b* beveled on its underside, an angular head *c* at its upper end, and undercut portions or notches *d* in some or all of the sides of said head at its intersection with said flange. In that form of screw-post shown in Figs. 1 to 6 a square head *c* has notches *d* in three of its sides, and at the unnotched side of the head the flange *b* is cut away so that when the screw-post is in the position represented at the left in Fig. 4 the rail may be removed and replaced without removing the screw-post. In the modification represented by Figs. 7 and 8, the screw-post A has a six-sided head *c* with notches *d* in all its sides, and the flange *b* is circular. Each screw-post is screwed into a properly located hole in the cross-tie T until its flange *b* presses tightly upon the subjacent flange or flanges of the rail or rails R, and the object of said notches *d* is to provide for locking the screw-post against becoming loosened by jarring. Said combined key-wedges and rail-braces B coact with the heads of the rails R and with the screw-posts A at their said notches, for so locking them, and for bracing the rails at the same time in such a way as to keep the track from spreading. One edge of each key-wedge is preferably rounded to engage with the head of the rail at its intersection with the web, and the other edge is V-shaped to fit into said notches; and the smaller end is preferably provided with a hole *e*, and with a hook *f* loosely attached to the key-wedge at said hole, and adapted at its free end to be driven into the wooden cross-tie, as in Figs. 1 2 and 3, to prevent the key-wedge from working loose. At rail-joints, Figs. 1 and 2, the said shoe-plates C are inserted beneath the rail ends on wooden cross-ties; and each shoe-plate is provided with two holes at the outside of the rail and a central hole at the inside of the rail for locating three of the screw-posts A as in Figs. 1 and 2. A long key-wedge B serves for both screw-posts at the outside of the rail, and a shorter key-wedge for the screw-post at the inside of the rail. At intermediate points, the screw-posts A with short key-wedges B are used singly in Figs. 3 and 4, alternating as to the side of the rail R on successive cross-ties T.

The improved fastening is primarily intended for securing rails on ordinary wooden cross-ties, as above, but the screw-posts may obviously be adapted to screw into metallic or composite cross-ties, and other like modifications will suggest themselves to those skilled in the art.

Having thus described the said improvement, I claim as my invention, and desire to patent under this specification:

1. In a railway track-fastening, a screw-post having a screw-threaded lower end, a circumferential flange immediately above the threaded-portion, and an angular head above said flange, the flange being cut away in line with one side of said head, substantially as hereinbefore specified.

2. In a railway track-fastening, a screw-post having a screw-threaded lower end, a circumferential flange immediately above the threaded portion, and an angular head above said flange provided with notches in some or all of its sides, in combination with a rail one base-flange of which is engaged by said flange of the screw-post, and a key-wedge the respective edges of which engage with the head of the rail and with a notched side of the head of the screw-post, substantially as hereinbefore specified.

3. The combination with a wooden cross-tie and a superposed rail of one or more screw-posts, each of which is screwed into said cross-tie and has a flange which engages with a base-flange of the rail, and one or more key-wedges interposed between the head of the rail and said heads of the screw-posts, and each provided with a hook which is driven into the cross-tie to keep the key-wedge from working loose, substantially as hereinbefore specified.

4. In combination with a wooden cross-tie and the adjoining ends of two superposed rails, the metallic shoe-plate C, a pair of screw-posts at the outside of the rail and a central screw-post at the inside of the rail inserted through said shoe-plate into the cross-tie, a key-wedge common to said pair of screw-posts, and a shorter key-wedge at the inside of the rail, said screw-posts having flanges which engage with the subjacent rail-flanges and angular heads above the flanges first named, and said key-wedges serving to lock said screw-posts and to brace the rails, substantially as hereinbefore specified.

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