J. Cochrane,

Railway Chair.

No. 106,256. Patented Aug. 9. 1870.

Fig. 1.

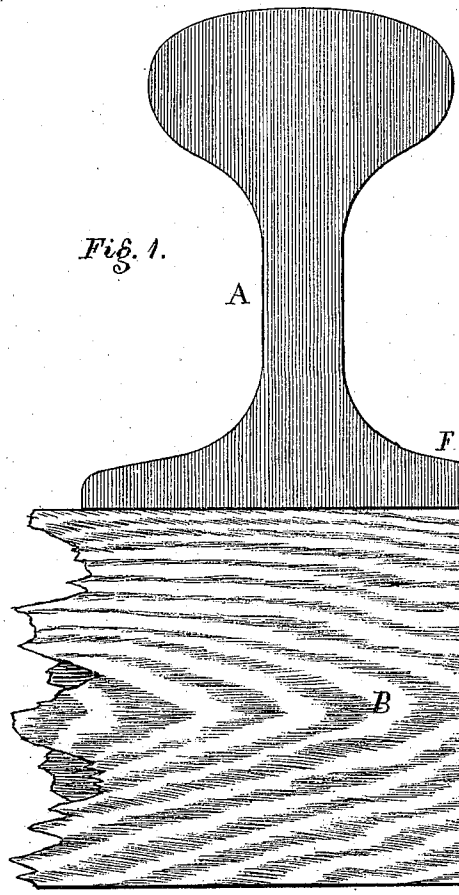


Fig. 2.

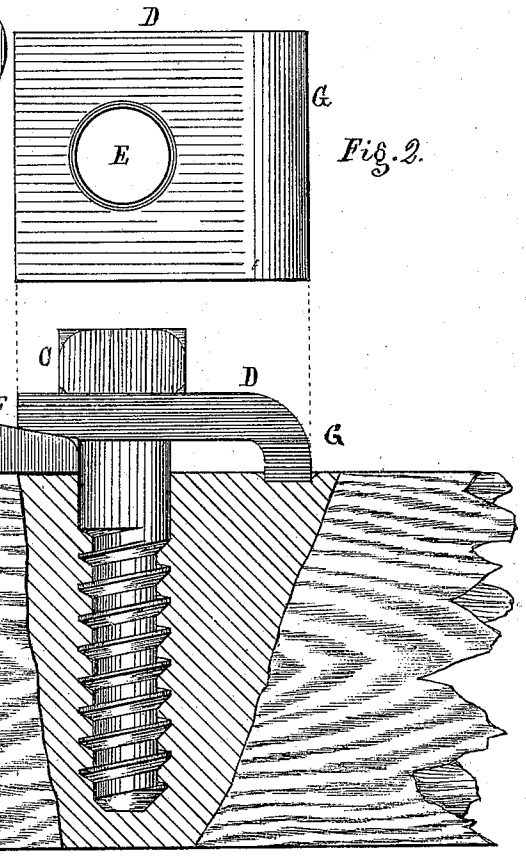


Fig. 3.

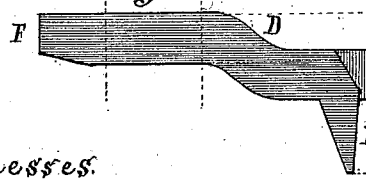
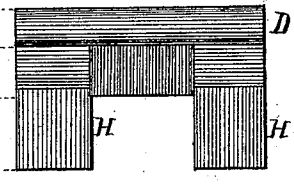


Fig. 4.



Witnesses.

A. M. Malcomson

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Inventor.

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United States Patent Office.

JOHN COCHRANE, OF FARMINGDALE, NEW JERSEY.

Letters Patent No. 106,256, *dated August* 9, 1870.

IMPROVEMENT IN RAILWAY-RAIL FASTENING.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, JOHN COCHRANE, of Farmingdale, in the county of Monmouth and State of New Jersey, have invented a new and useful Improvement in what is known as the Cleat and Bolt-Fastening for Securing Railroad Rails to the Cross-Ties; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the figures and letters marked thereon—

Figure 1 being an end elevation of a railroad rail upon a cross-tie, and a side view of the cleat in position, showing also the holding-down bolt, by which the rail and cleat are secured to the cross-tie; and

Figure 2 is a top view of the cleat.

The same letters of reference are used to designate the same parts in all the figures.

The device herein described is an improvement upon the cleat and screw-bolt fastening patented by me May 21, 1867, and in which the cleat was so formed as to have a bearing against the edge of the rail-flange, as well as upon the top of it.

The present improvement consists in placing the holding-down bolt in such a position in the cleat that it shall have a bearing against the edge of the rail-flange, and also against the cleat, so as to transfer a portion of the disturbing force impinged by the lateral thrust or action of the wheels of passing trains upon the rails from the holding-down bolt to the cleat.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and the manner in which it acts.

I make the improved cleat of flat bar iron, about two inches in width, and about three-eighths of an inch in thickness, and forge or press it into such form or shape as shall give a bearing upon the flange of the rail, and also upon the cross-tie.

I also make an opening through it at or near the end which bears upon the rail-flange, for the holding-down bolt to pass through.

In fig. 1, A is a cross-section of the rail;

B is the cross-tie, from which a portion of the timber is removed, to expose the holding-down bolt C; and

D is the cleat, having an opening E, fig. 2, for the holding-down bolt to pass through.

The lip F of the cleat bears upon the flange of the rail A, and the heel G bears upon the cross-tie; or pointed spurs may be used upon the heels of the cleats, so as to enter into the cross-tie, as shown in fig. 3.

The pointed heel-spurs H, shown in fig. 3, are of chisel-form, which is the shape I usually make them, but when so formed it is advisable to have them in two parts, as shown in fig. 4, so that when driven into the cross-tie they shall not check or cut the grain of the wood in the line of the holding-down bolt, as such checking or cutting would impair the holding and resisting power of the timber.

The form and arrangement of the heels of the cleats, however, are not material, provided they bear upon or in the cross-tie, so as to resist, or partially resist the lateral thrust of the wheels against the rails; they may therefore be made single and of the full width of the cleat, and with a beveled or square bearing upon the cross-tie, as shown in fig. 1, or they may have pointed heel-spurs, if preferred, as shown in figs. 3 and 4.

I do not claim the pointed heel-spurs under this patent, as they are claimed in my before-referred to patent, of May 21, 1867, nor do I limit myself to any particular form of the cleat, but claim the right to vary the sizes, shapes, and proportions of its parts, so long as the principle of the device is retained and adhered to.

Having thus described my improvements in cleat and bolt-fastenings for securing railroad rails to the cross-ties,

What I claim therein as new, and desire to secure by Letters Patent of the United States, is—

A metallic cleat, having a bearing by one of its ends upon the flange of the rail, and also a bearing by its opposite end upon or in the cross-tie, in combination with a holding-down bolt that has a bearing against the rail-flange, substantially as described.

JOHN COCHRANE.

Witnesses:

A. B. MALCOMSON, JR.,

J. H. HUNTER.