

S. H. Smith,

Railway Chair.

No. 105,504.

Patented July 19, 1870.

fig. 1.

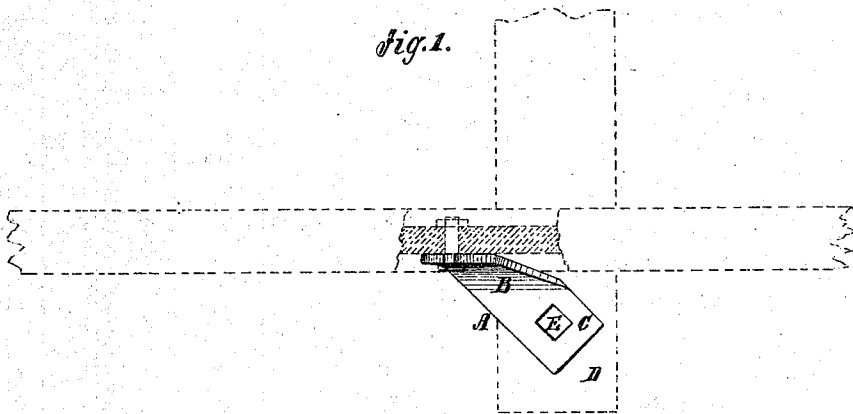
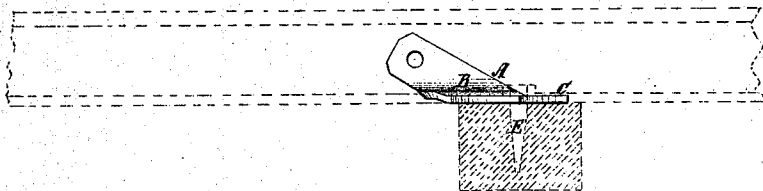


fig. 2.



Witnesses:

A. J. Mendenhall
S. S. Makee

Inventor:

S. H. Smith
PER *Mimm & Co*
Attorneys.

United States Patent Office.

SAMUEL HULBERT SMITH, OF ALTOONA, PENNSYLVANIA.

Letters Patent No. 105,504, dated July 19, 1870.

IMPROVEMENT IN RAILWAY-RAIL CHAIRS.

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, SAMUEL HULBERT SMITH, of Altoona, in the county of Blair and State of Pennsylvania, have invented a new and improved Stop-Chair; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in stop-chairs, for employment in connection with railroad rails, to prevent end movement of the same under the action of the driving-wheels of the locomotives.

The invention consists in chairs formed of short, narrow plates of iron or steel, twisted spirally between the ends, and shaped so that, while one end lies flat upon the tie, so as to be spiked thereon by the side of the rail, the other end will fit against the side of the rail, at some distance from the tie, at an acute angle with the rail, whereby, being bolted to it, the tendency of the rail to move, acting on the holding-spike in a line parallel with the rail, or nearly so, will be more easily overcome by one bolt than by two bolts in the stop-chairs now used, as hereinafter more fully specified.

Figure 1 is a plan view of my improved stop-chair applied to a rail and tie, the rail being partly sectioned, and both the rail and tie being shown in dotted lines.

Figure 2 is a side elevation of the stop-chair.

Similar letters of reference indicate corresponding parts.

A represents the stop-chair, consisting of a narrow plate of metal, twisted about a quarter of a turn between the ends, as shown at B, to rise up over the base when one end, C, rests on the tie D, and support the other end against the web of the rail, between the base and the tread, or against the side of the fish-plate, at a suitable distance along the rail beyond the tie, so that, when bolted to the rail or fish-plate, the force having the tendency to move the rail endwise will be delivered on the stop-chair nearly in the same direc-

tion, and similarly on the spike E, but transversely on the tie.

The stop-chairs now used are made broad at the end resting on the tie, and have two spikes for attaching them thereto. They rise up against the rail directly in the transverse line thereof, so that the endwise force of the rail on the chairs causes them to act on the spikes as a lever, being turned around a point between the two spikes as a center, the effect of which is to make the action on the spikes much greater than when delivered in the line parallel, or nearly so, with the rail, as in my improved arrangement, thereby forcing the spikes alternately back and forth, and elongating the upper part of the holes in the ties by gradually forcing the walls back, ultimately working the spikes loose.

Moreover, the movement of the rail lengthwise will be greater with a given amount of space in the holes for the spikes to move in, in the old arrangement, than in mine; for while in my arrangement the movement of the rail must be limited to the amount of the movement of the spike in the old arrangement, the end of the chair attached to the rail swinging around the center, as above described, will, of course, move further than the spikes do which are nearer the center on which the chair oscillates, than the said end.

It is, therefore, believed that my improved stop-chairs will hold better and admit of less movement of the rails with one spike than the chairs now used do with two.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

Stop-chairs A, formed of short, narrow plates of metal, twisted spirally at B, to enable one end to be spiked flat upon the tie, while the other end is bolted to the rail at some distance therefrom, as shown in the drawing, and for the purpose specified.

Witnesses:

SAMUEL H. SMITH

A. McCORMICK,

JAS. H. DYSART.