

(No Model.)

H. H. SPONENBURG.

MEANS FOR SECURING GUARD RAILS TO MAIN LINE RAILS.

No. 471,906.

Patented Mar. 29, 1892.

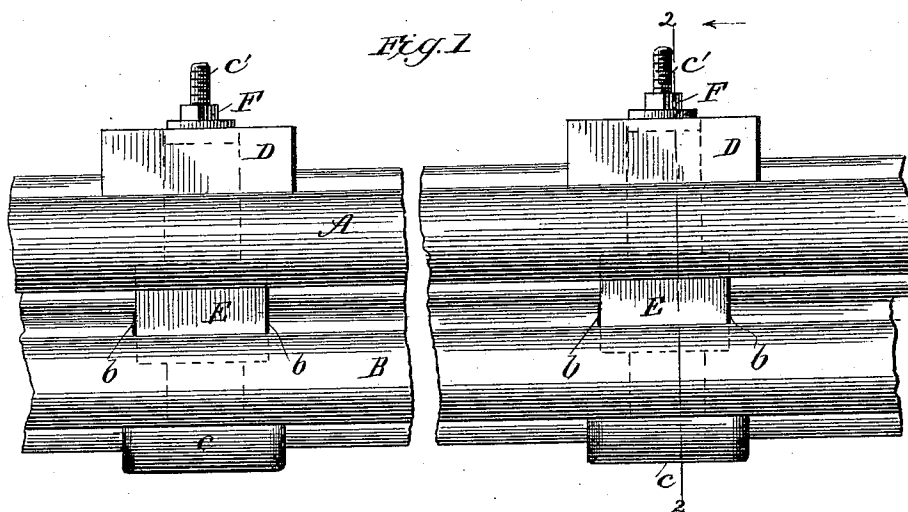


Fig. 2.

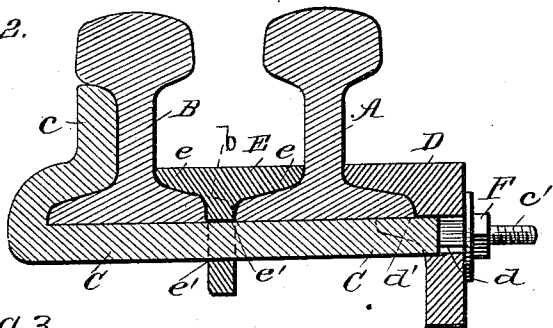


Fig. 3.

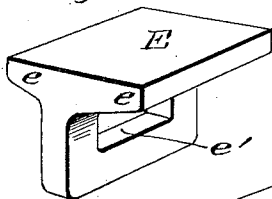


Fig. 4.

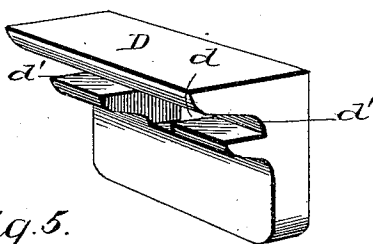
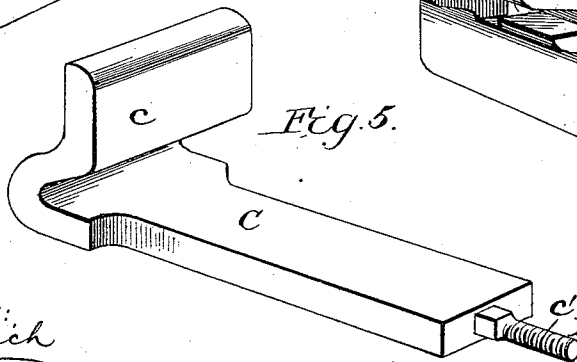


Fig. 5.



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UNITED STATES PATENT OFFICE.

HIRAM H. SPONENBURG, OF MIKADO, ASSIGNOR OF ONE-HALF TO NORMAN B. SPONENBURG, OF EAST TAWAS, MICHIGAN.

MEANS FOR SECURING GUARD-RAILS TO MAIN-LINE RAILS.

SPECIFICATION forming part of Letters Patent No. 471,906, dated March 29, 1892.

Application filed July 11, 1891. Serial No. 399,219. (No model.)

To all whom it may concern:

Be it known that I, HIRAM H. SPONENBURG, residing at Mikado, Alcona county, State of Michigan, have invented a new and useful Improvement in Means for Securing Guard-Rails to Main-Line Rails, of which the following is a specification.

The guard-rails of frogs are usually held in place by means of spikes, and to afford reasonable security a great number of spikes must be employed. Hence the rails require to be very long—to wit, sixteen feet or thereabout; but even this does not attain the desired end since the spikes sooner or later become loosened, owing to shrinkage or decay of the ties, so that the guard-rails are liable to be displaced or overturned by the lateral pressure of the wheels of passing trains, thus causing serious accidents.

I have devised improved means for holding the guard-rails, whereby spikes are dispensed with and the length of the rails reduced to five or six feet, at the same time attaining perfect security against accident from the cause above stated.

My improvement consists in the means for clamping the guard-rails to the main-line rails, as hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a plan view showing my invention applied to a main-line rail and guard-rail. Fig. 2 is a cross-section on line 2 2 of Fig. 1. Figs. 3 and 4 are side views of the respective inner and outer rail-clamps. Fig. 5 is a perspective view of the clamp-box.

A indicates a main-line rail, and B a short guard-rail.

I employ a composite clamp formed of three main parts—to wit, the clamp-bar C, the block-clamp D, the intermediate rail-clamp E. The part C is a straight bar, passing transversely beneath both rails A B and having at one end a vertical head or arm *c*, which embraces the outer flange and bears against the web of the guard-rail B, while its other end *c'* is in the form of a screw-bolt and passes through a slot *d*, formed in the jaw or clamp-block D, which is suitably provided with a longitudinal groove *d'*, adapted to receive the adjacent flange of the main rail A. A nut F screws on the bolt C' and bears against the flat vertical

outer side of the block-clamp D, and thus serves to draw and hold the two rails A B firmly together, as will be readily understood. By means of the nut and screw the clamp can be also adjusted to fit rails of different sizes. The nut F will in practice be provided with a suitable lock.

The clamp E, arranged between the rails A B, is formed of two parts—namely, a head whose laterally-extended edges *e* rest on the adjacent inner flanges of the two rails A B, and a pendent body portion which is provided with a slot or opening *e'*, through which the clamp-bar C passes.

It is desirable the inner flanges of the rails A B shall bear against each other, as shown, and hence the inner flange of the guard-rail is notched or cut away at *b* to provide space for the slotted body of the clamp E.

It will be perceived that by the means above described the guard-rail B is fastened to the main rail A immovably yet detachably without the aid of spikes or supplementary devices, and hence the objections before noted in respect to length of the guard-rail, decay of the ties, and insecurity of the fastening leading to serious accidents are avoided.

In practice two sets of clamping devices will be used for each guard-rail, one being located nearly opposite the point of the frog and the other nearly opposite the knee of the wing-rail on the frog.

I apply my clamp to any rails that require to be secured together and do not limit its use to guard-rails.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An improved rail-fastening composed of the bar-clamp for embracing the outer flange of one rail, the block-clamp for embracing the opposite rail-flange, means for securing one end of the bar-clamp, and the intermediate rail-clamp adapted for attachment to the latter, substantially as shown and described.

2. The improved rail-fastening composed of the bar-clamp having one end provided with a screw or screw-bolt and its opposite end with an arm adapted to embrace the outer flange of one rail, a block-clamp adapted to embrace the outer flange of the adjacent rail

and having an opening through which the
said screw projects, a nut applied to said
screw-bolt, and the intermediate rail-clamp
having a flanged head and slotted body, as
5 shown and described.

3. The combination, with the main-line rail
and guard-rail, of the slotted block-clamp, the
bar-clamp having one end provided with an
arm that embraces the outer flange of the
10 guard-rail and its other end with a screw-bolt

that passes through said block-clamp, a nut
applied to the bolt, and the flanged and slot-
ted clamp E, arranged between the rails and
serving to secure their inner flanges to the
subjacent bar-clamp, as shown and described. 15

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Witnesses:

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