(No Model.)

H. GILLEAS.

SAFETY GUARD RAIL.

No. 348,734. Patented Sept. 7, 1886.

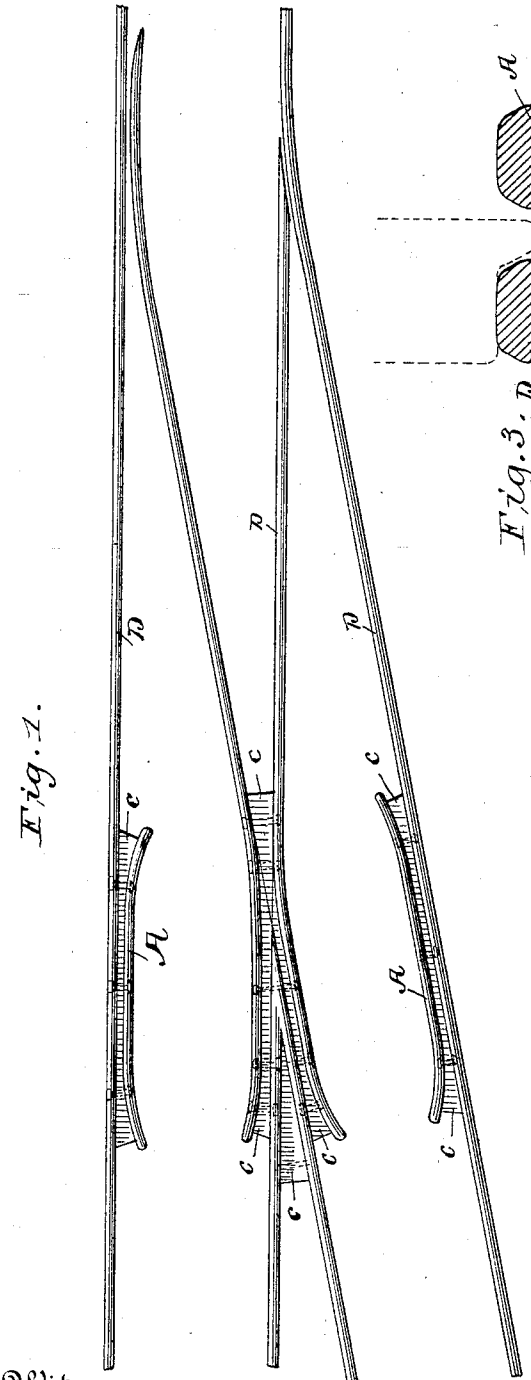

Fig. 1.

Fig. 3.

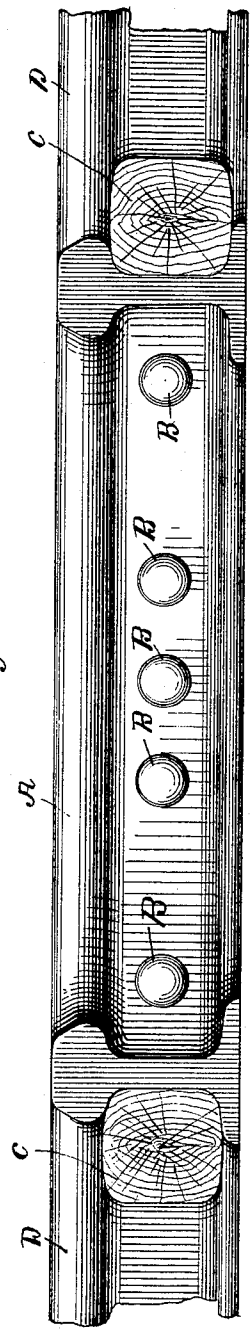

Fig. 2.

Witnesses
Jos. S. Lahmer
E. F. Mundock

Inventor
Hugh Gilleas
By his Attorney, J. Tarbell

UNITED STATES PATENT OFFICE.

HUGH GILLEAS, OF WATERLOO, IOWA.

SAFETY GUARD-RAIL.

SPECIFICATION forming part of Letters Patent No. 348,734, dated September 7, 1886.

Application filed May 15, 1886. Serial No. 202,260. (No model.)

To all whom it may concern:

Be it known that I, HUGH GILLEAS, a citizen of the United States of America, residing at Waterloo, in the county of Black Hawk and State of Iowa, have invented certain new and useful Improvements in Safety Guard-Rails, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improvement in guard-rails placed at switch-junctions to aid in securely conveying the trains to the track desired, and has for its objects to prevent the spreading of the guard-rail from the main rail, to prevent accident to employés or other persons passing across the track by catching their feet in the angles formed about the guard-rails and the frog, and to prevent rotting of the filling between the rails and the retaining-bolts by the percolation of water along the bolt-perforation. These objects are accomplished by means of the construction shown in the accompanying drawings, in which—

Figure 1 is a plan view of a switch-junction provided with my invention. Fig. 2 is a side elevation showing my mode of attaching the guard-rail to the main rail. Fig. 3 is a cross-section of the same.

Guard-rails as now constructed consist of a section of rail bent to the desired shape and attached in position on the sleepers by means of spikes driven alongside. When the train runs onto the switch, and while having its centrifugal tendency, the flange of the wheels bears against the guard-rail, which, unless rigidly held, will spread and allow the opposite wheels to engage the wrong side of the angle of the frog, causing the train to jump the track. This not unfrequently happens in the present mode of construction, unless great caution is taken in re-enforcing the spikes, or when the wooden sleepers have become softened by rain. The filling between the rails as now constituted is cut to fit the spaces and is secured therein by spikes driven through into the sleepers. By the constant vibration incident to the passing of trains these pieces become loose, and are liable to jump a train by rising above the rail and having débris washed under them, offering a solid resistance to the pressure of the train.

In the construction shown in the drawings, A is the guard-rail ordinarily used provided with perforations to receive the bolts B B.

C is a solid wooden filling cut to conform with the space between the guard-rail and main rail and its edges formed to fit the sides of the rails. It is provided with holes for the bolts B B.

The main rail D is provided with perforations corresponding to those of the guard-rail. Through these perforations in the guard-rail and main rail and wooden filling are passed the bolts B B. These bolts are provided with inner and outer washers, and suitable nuts for tightening the pressure upon the wooden filling. The filling in the frog is secured in the same manner, the bolts being passed through the rails and filling at the positions indicated in the drawings. By this construction water is prevented from entering into the bolt-holes in the filling, as it cannot pass the washer B′. The rotting of the bolt and filling is therefore in a great measure prevented. When the train now passes upon the switch and the strain comes upon the guard-rail, the latter is prevented from changing its relative position to the main rail by means of the bolts B B and filling C, thus securing the passage of the train upon the desired track with greatly lessened possibility of accident. In this construction the loosening of the filling and danger incident thereto is entirely obviated.

What I claim is—

In a railway system, the combination of the main rail, a guard-rail directly secured to said main rail, both rails provided with corresponding perforations, substantially as shown, bolts provided with washers on the inner sides of said rails, and a filling between the rails, provided with perforations for bolts, and recesses at either end of such perforations for the reception of the said washers, substantially as set forth.

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

HUGH GILLEAS.

Witnesses:
J. T. MORAN,
O. J. FULLERTON.