

No. 890,384.

PATENTED JUNE 9, 1908.

C. SWITZER & F. SUNDMAN.

GUARD RAIL CLAMP.

APPLICATION FILED FEB. 28, 1907.

2 SHEETS—SHEET 1.

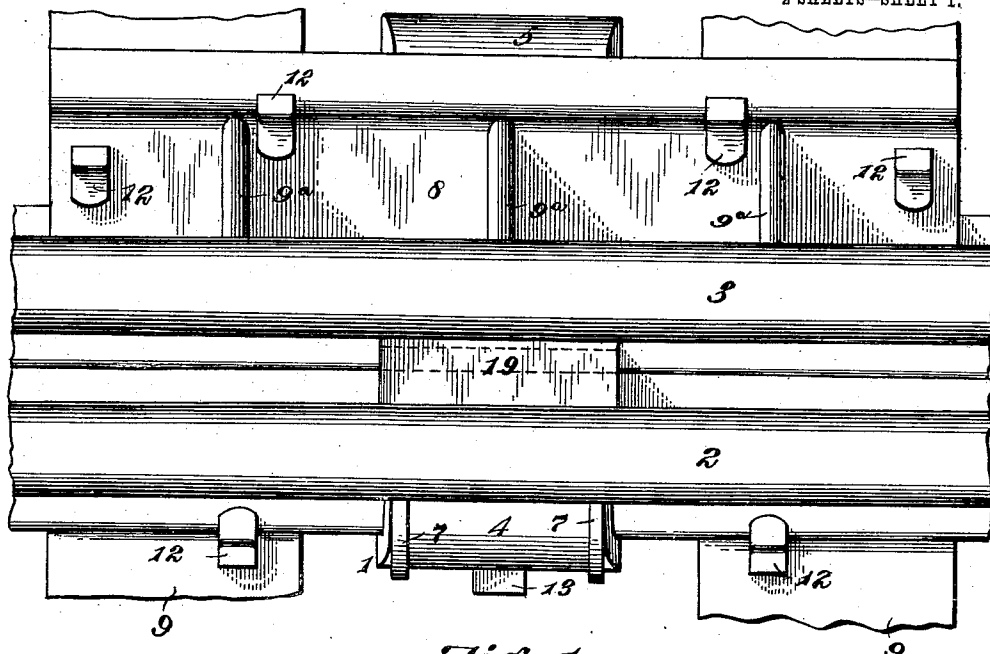


Fig. 1.

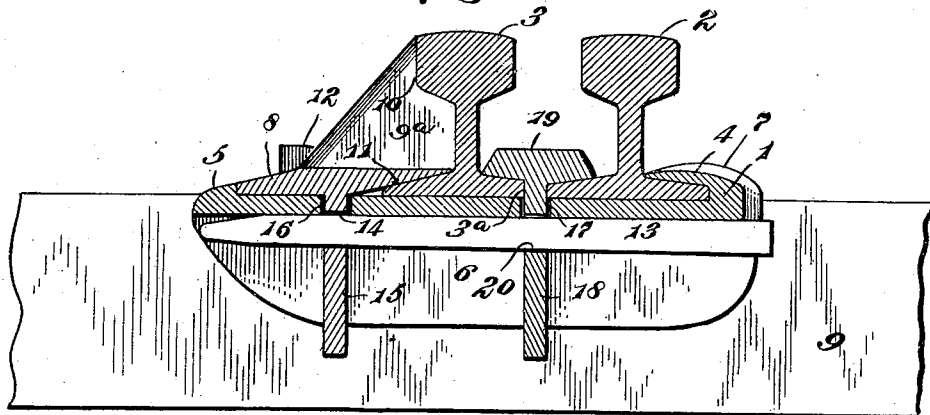


Fig. 2

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Witnesses
J. Howard Bishop.

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By

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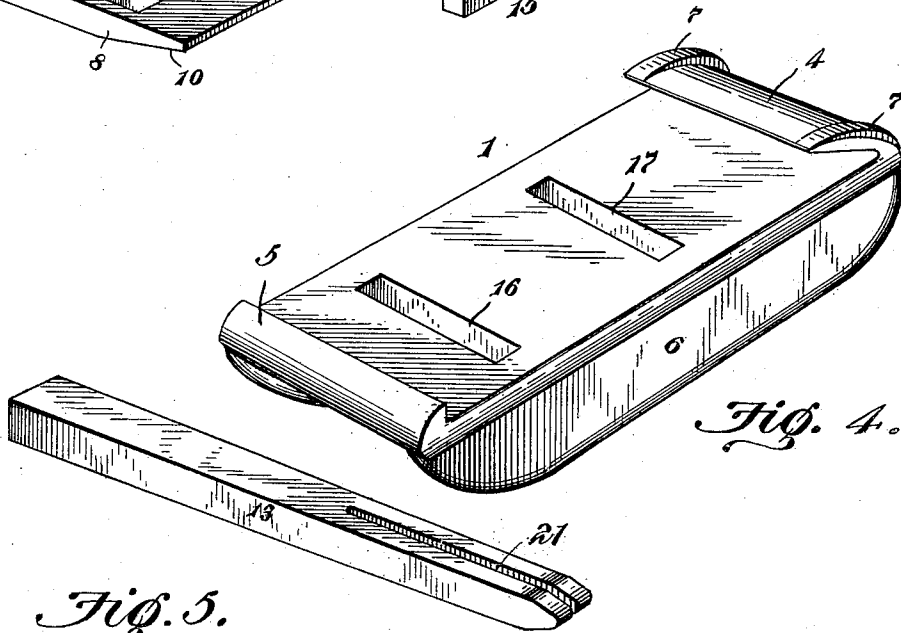
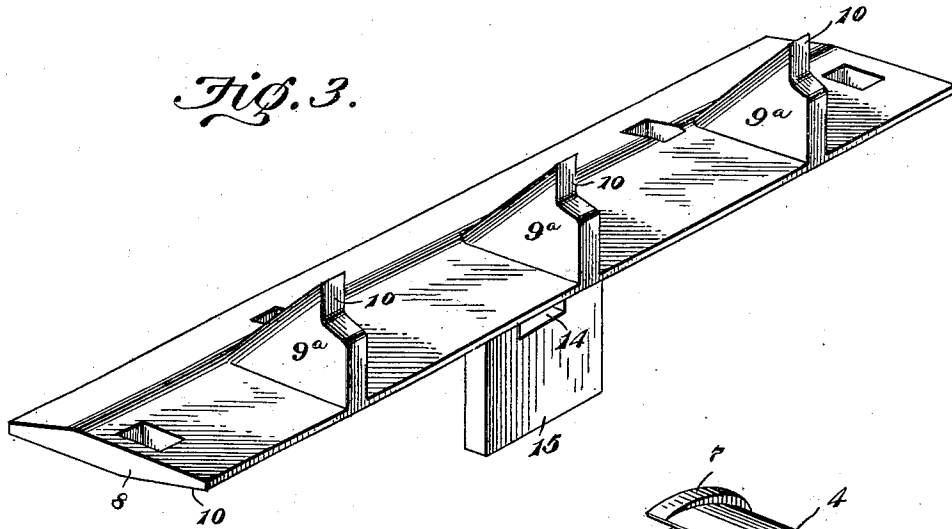


Fig. 5.

*Christopher Switzer and
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UNITED STATES PATENT OFFICE.

CHRISTOPHER SWITZER AND FREDRECK SUNDMAN, OF DOE RUN, MISSOURI.

GUARD-RAIL CLAMP.

No. 890,384.

Specification of Letters Patent.

Patented June 9, 1908.

Application filed February 28, 1907. Serial No. 359,801.

To all whom it may concern:

Be it known that we, CHRISTOPHER SWITZER and FREDRECK SUNDMAN, citizens of the United States, residing at Doe Run, in the county of St. Francois and State of Missouri, have invented a new and useful Guard-Rail Clamp, of which the following is a specification.

The invention relates to improvements in guard rail clamps.

The object of the present invention is to improve the construction of guard rail clamps, and to increase their strength, durability and efficiency, and to provide simple and inexpensive means for securely locking a guard rail in position to prevent the same from either lifting up or rolling outward, whereby the percentage of wrecks resulting from inefficient guard rails will be reduced to a minimum.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a plan view of a guard rail clamp, constructed in accordance with this invention. Fig. 2 is a central transverse sectional view. Fig. 3 is a detail perspective view of the guard rail brace. Fig. 4 is a detail perspective view of the transverse clamping member. Fig. 5 is a detail perspective view of the key.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a transversely disposed clamping member, located beneath and extending across a main rail 2 and a guard rail 3, and fitting against the lower faces of the bottom flanges thereof, as clearly illustrated in Fig. 2 of the drawings. The transversely disposed clamping member consists of a plate or body provided at one end with a jaw 4, and having an upwardly projecting lip 5 at the other end. The plate or body of the clamping member is provided at opposite sides with depending flanges 6 to secure the requisite strength with a minimum amount of material. The jaw 4, which is inclined, extends upwardly and in-

wardly and engages the bottom flange of the main rail and is preferably reinforced by exterior end ribs 7, arranged in the same plane as and forming continuations of the depending side flanges 6.

The jaw extends entirely across the end of the clamping member, and its inner engaging face conforms to the configuration of the bottom flange of the main rail, which is wedged in the recess between the jaw 4 and the upper face of the body portion of the clamping member. The lip 5, which also extends across the end of the clamping member, is provided with a vertical inner face or edge for engaging a guard rail brace 8. The guard rail brace 8, which is of a length to extend across the space of two cross ties 9, consists of a base plate and a plurality of upwardly extending transversely disposed approximately triangular wings 9^a, which are located at the outer face of the guard rail, and which engage the same at the web and head thereof, suitable recesses 10 being provided for the reception of the lower outer portion of the head of the rail, as clearly illustrated in Fig. 2 of the drawings. The inner portion of the base plate of the brace has an inclined lower face 11 to fit against and engage the bottom flange of the guard rail, and the guard rail brace is securely held in position by means of spikes 12 and a key 13, which passes through an opening 14 of a depending shank 15 of the guard rail brace.

The guard rail brace is provided at its center with the depending shank 15, which has straight side edges and which extends through a slot 16 of the transversely disposed clamping member 1. The clamping member 1 is also provided with a similar slot 17, which receives a shank 18 of a central rail-engaging device 19, consisting of the said shank 18 and a head, which is interposed between the web portions of the guard and main rails and which engages the bottom flanges thereof, as clearly shown in Fig. 2 of the drawings. The head of the rail-engaging device extends to the web of the guard rail, which is provided at its bottom flange with a recess 3^a to receive the shank of the intermediate clamping device. The key 13, which is tapered, is substantially of the same length as the transversely disposed clamping member, and it passes through the opening 14 of the shank 15 and through a similar opening 20 of the shank 18. The small end of the wedge-shaped key is split longitudinally at 21, and the sides of the

split portion are adapted to be spread to retain the key in position. The spikes 12, which pierce the inner and outer portions of the guard rail brace, are embedded in the cross ties in the usual manner, and the inner spikes are located at the bottom flanges of the guard rail, and are adapted to firmly hold the same to the cross ties.

It will be seen that the guard rail clamp is light, strong and durable, and that it is capable of effectually preventing the guard rail from lifting up and rolling outward. The parts of the guard rail clamp may be constructed of any desired size to suit the various sizes of the rails, and they may be made of any preferred material.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. A device of the class described comprising a guard rail engaging brace having a depending shank, a transversely disposed clamping member provided with an opening through which the shank passes, said clamping member being also provided at one end with means for engaging the main rail, and a locking device piercing the shank and engaging the clamping member for retaining the same in engagement with the guard rail.

2. A device of the class described comprising a guard rail engaging brace having a depending shank, a transversely disposed clamping member provided with an opening through which the shank passes, said clamping member being provided at one end with means for engaging the main rail and having a projecting portion at the other end for engaging the said brace, and a locking device piercing the shank and engaging the clamping member for retaining the same in engagement with the guard rail brace.

3. A device of the class described comprising a guard rail brace having a depending shank, an intermediate rail-engaging member also provided with a depending shank, a transversely disposed clamping member provided at one end with a rail-engaging jaw to receive the main rail and having an upwardly

extending lip at the other end for engaging the guard rail brace, and a key piercing the said shank and extending along the lower face of the clamping member.

4. A device of the class described comprising a guard rail brace consisting of a base plate arranged to be supported by the cross ties and having an inner engaging portion arranged to fit over and engage the bottom flange of a guard rail, and a plurality of upwardly projecting wings arranged to engage the guard rail at the side thereof, said brace being provided with a depending shank, a transversely disposed clamping member provided at one end with means for engaging the guard rail brace and having means at the other end for engaging a main rail, a central rail-engaging device for engaging both the main and guard rails and provided with a depending shank, and means for connecting the depending shanks of the guard rail brace and the central rail-engaging device to the clamping member.

5. A device of the class described comprising a guard rail brace consisting of a base plate arranged to be supported by the cross ties and having an inner engaging portion arranged to fit over and engage the bottom flange of a guard rail, and a plurality of upwardly projecting wings arranged to engage the guard rail at the side thereof, said brace being provided with a depending shank, a transversely disposed clamping member provided at one end with means for engaging the guard rail brace and having means at the other end for engaging a main rail, said member having an opening through which the said shank passes, and means for connecting the said shank to the said member.

In testimony, that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

CHRISTOPHER SWITZER.
FREDRECK SUNDMAN.

Witnesses:

W. J. MARSHALL,
MINNIE SCHAFER.