No. 834,962. PATENTED NOV. 6, 1906.

C. F. BOYENS.

RAILWAY FROG.

APPLICATION FILED JUNE 29, 1906.

2 SHEETS—SHEET 1.

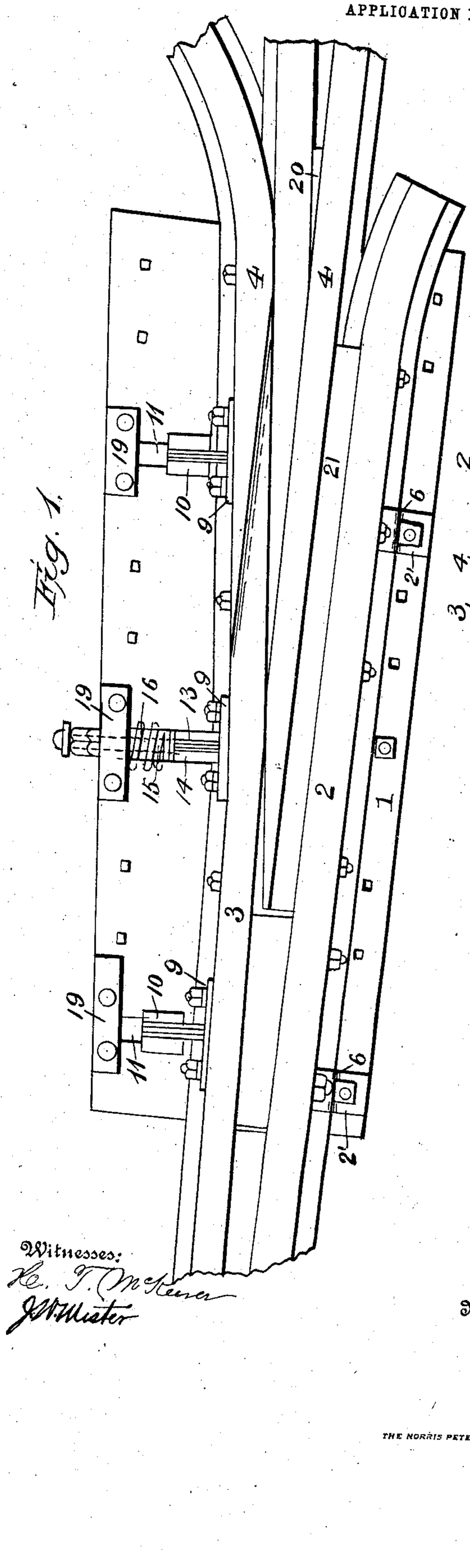

Fig. 1.

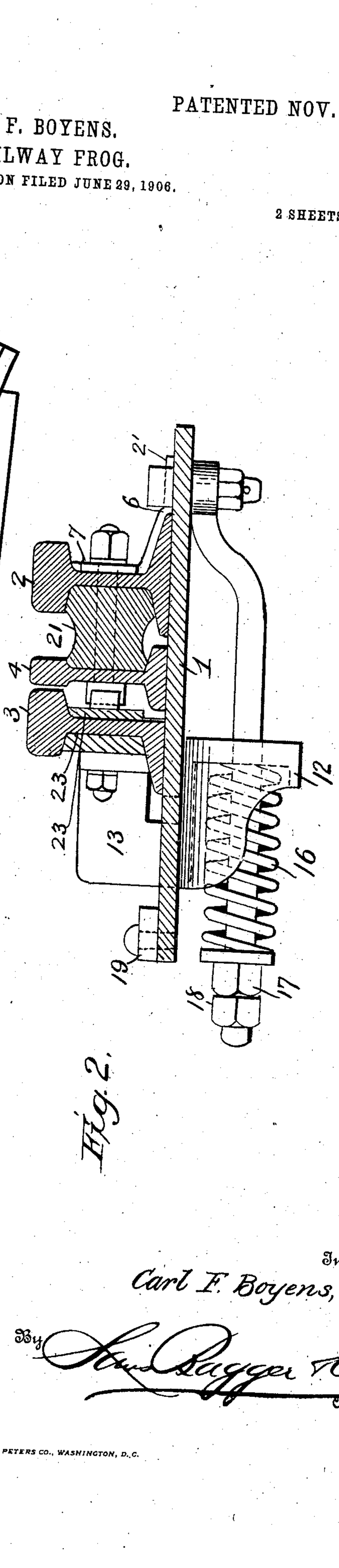

Fig. 2.

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2 SHEETS—SHEET 2.

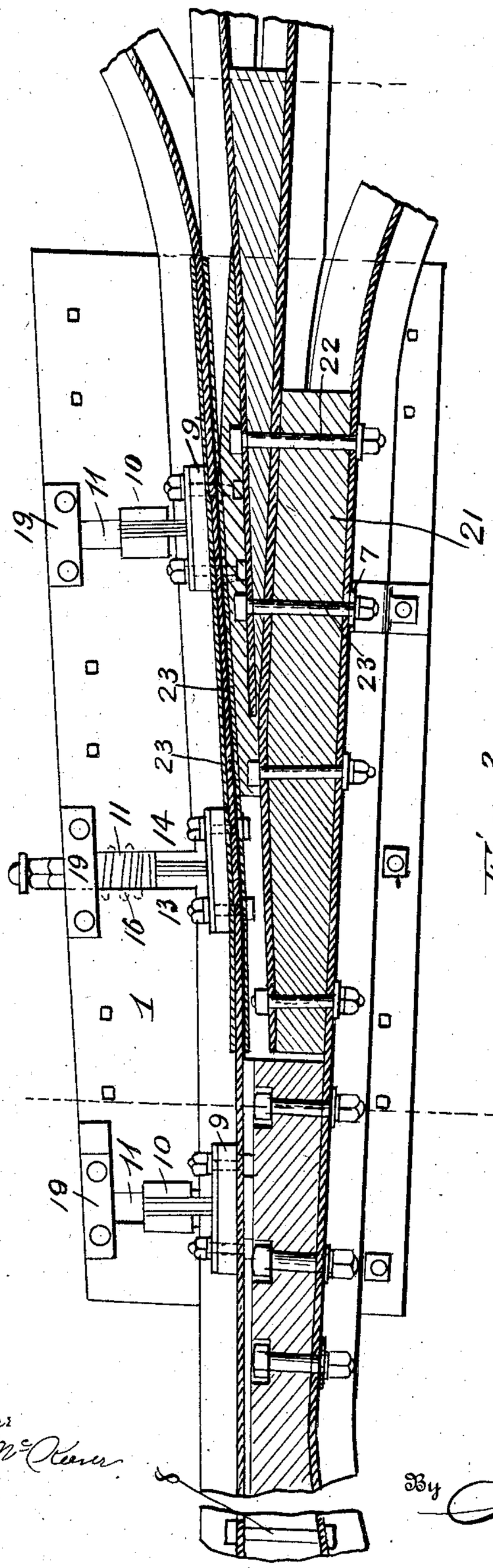

Fig. 5.

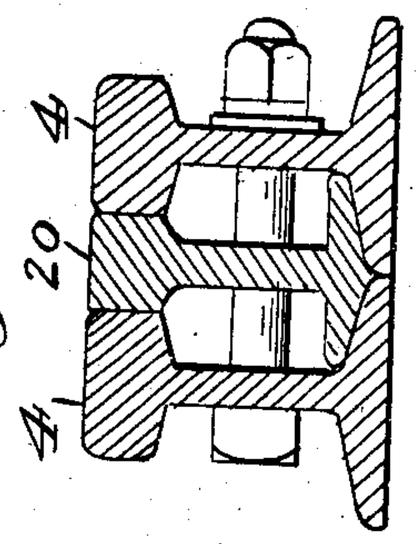

Fig. 4

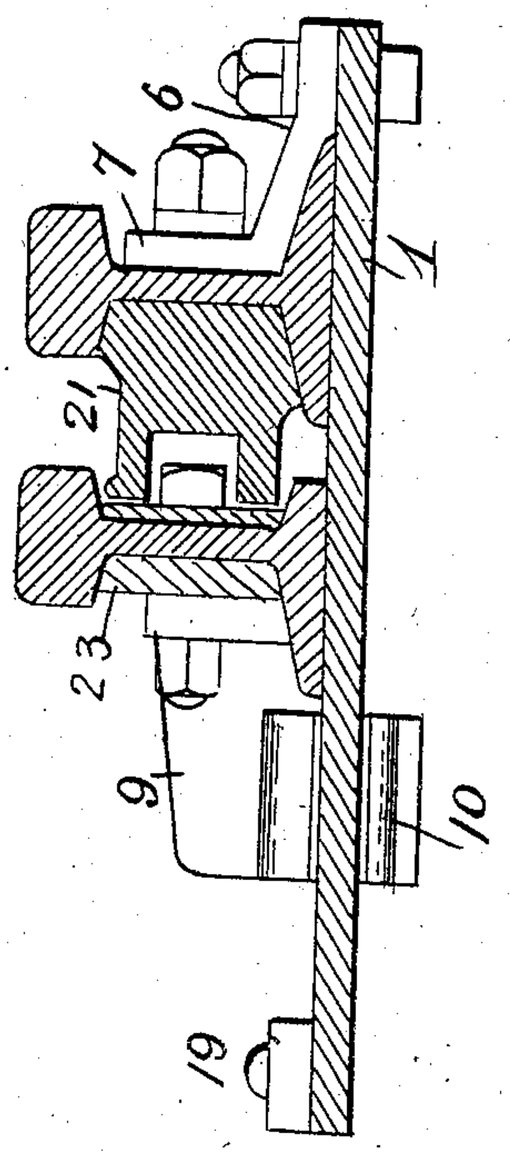

Fig. 3.

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UNITED STATES PATENT OFFICE.

CARL F. BOYENS, OF ALLENTOWN, PENNSYLVANIA.

RAILWAY-FROG.

No. 834,962. Specification of Letters Patent. Patented Nov. 6, 1906.

Application filed June 29, 1906. Serial No. 324,090.

To all whom it may concern:

Be it known that I, CARL F. BOYENS, a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Frogs, of which the following is a specification.

My invention pertains to improvements in railway-frogs. Its object is to permit of a yielding or spring action of a wing-rail at the juncture of the frog-point, forming rails therewith as the wheels pass over the same in crossing from one track to another; to guard against derailment at this point in event of breaking of said movable rail; to provide for the effective retention and bracing of the rails in place upon a base-plate; to prevent the upward displacement of the movable wing-rail, as well as of the adjunctive means permitting of the yielding action of the movable wing-rail; to control or limit the lateral or sliding movement of the movable part, and to carry out these ends in a simple, durable, and effective manner.

Said invention consists of certain features substantially as hereinafter disclosed, and specifically pointed out by the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a plan view thereof. Fig. 2 is a cross-section of the same produced in the line of the spring controlling the movable wing-rail. Fig. 3 is a like section taken in the line of one of the rail retaining and bracing clips or fastenings upon one side of the movable wing-rail and a clip upon the opposite side of the opposite wing-rail. Fig. 4 is also a like view produced through a filling-in piece or member at the bifurcation of the frog. Fig. 5 is a horizontal section taken principally through the rail securing or retaining clips or fastenings or adjunctive parts.

In the disclosure of my invention I provide a foundation or base plate 1, suitably fixed in position upon embedded transverse pieces, all arranged in a plane below the tracks. Upon this foundation or base plate 1 are arranged or supported the wing-rails 2 3 and the frog-point-forming portions of the rails 4 4 of the tracks, all generally assembled in the usual way. The wing-rail 2 is fixed, being held in place by the approximately right-angled clips or fastenings 2′, having their vertical portions bolted to the web of the rail and their horizontal portions bolted to the foundation-plate 1 and recessed in their lower surfaces, as at 6, to receive and conform to the rail flange or base, the same having their upper surfaces correspondingly upraised or thickened, as at 7, the purpose of which is obvious. The opposite or movable wing-rail 3, suitably or yieldingly connected by a nut-equipped bolt 8 to the aforesaid fixed wing-rail, has bolted to its web portion the upper plate-terminated ends of practically right-angled clips or fastenings 9, whose vertical portions are each of a greater general cross-section than the horizontal arms thereof and have opposite lateral recesses or grooves 10, which receive the corresponding edges of slots 11, produced in the base or foundation plate 1. The effect of this arrangement is to form a slidable or movable connection between this latter wing-rail and the foundation or base plate 1, the purpose of which will be presently apparent.

A somewhat tapered sleeve or cuff 12, having also an upward and inward extended plate-terminated arm 13 passing through slots 14 in the foundation or base plate 1 and bolted to the web of the movable rail, is arranged underneath or below the foundation-plate 1, and through this sleeve or cuff passes a rod 15, having one end also secured to the under side of said plate. Upon this rod 15 is arranged a preferably coiled or helical spring 16, with one end seated in and delivering its pressure upon said sleeve or cuff 12 and having its opposite end held in place upon said rod by a nut 17, and this locked from reversely turning by a jam or lock nut 18, both said nuts being screwed upon said rod. By this arrangement it will be noted that as the wheel-flange engages the movable wing-rail the latter will yield laterally or horizontally and accordingly after the passage of the wheel or wheels be automatically restored to its initial position in contact with the pointed rails by the recoil action of the spring 16, which had become compressed by such engagement of the wheel-flange with said wing-rail. The several slots 11 14 have secured across them at predetermined points for requisitely limiting or restricting the movement of the several clips 9 and the cuff 12 plates 19, suitably bolted to the foundation or base plate 1, as disclosed particularly in the plan view. It is also noted that the clips 9 and cuff 12 have the effect to prevent the upward displacement of the movable wing-rail, as well as to permit of the sliding

movement of the latter, as it is subjected to the action of the wheel-flange.

A suitable filling-in piece 20 is inserted into the bifurcation between the converging rails forming the frog-point, with its heel or enlarged end somewhat chamfered or sloped, and a second filling-in piece or block 21 is inserted between one of said point-forming rails and the opposed fixed wing-rail, these pieces being designed to guard against the liability of the railway employees or others having their feet caught or wedged in between the rails at those points. These pieces or blocks are suitably secured in place to said rails by means of nut-equipped bolts 22 23, respectively, passing therethrough, as indicated.

Steel or metal plates 23 are suitably applied and bolted to the movable wing-rail 3 along its web portion to provide, should the rail become broken, against the displacement of the thus dismembered parts thereof, and thus prove effective against accidental derailment of the "rolling-stock."

I claim—

1. A device of the character described, comprising a movable wing-rail, a base or foundation plate for the support of said wing-rail and clips secured to said rail and having lateral recesses or grooves in their vertical portions which recesses or grooves receive the lateral edges of slots in said base or foundation plate.

2. A device of the character described, comprising wing-rails opposed to the frog-point-forming rails, a base-plate for the support of said rails, and clips, one set being right-angled in outline and adapted to conform to the flange of one of said rails and secured to the web thereof and to said plate, and the other set of said clips having their vertical portions provided with lateral or horizontal slots receiving the edges of slots in said plate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL F. BOYENS.

Witnesses:
HARRY HARDENSTON,
CHARLES GOMBER.