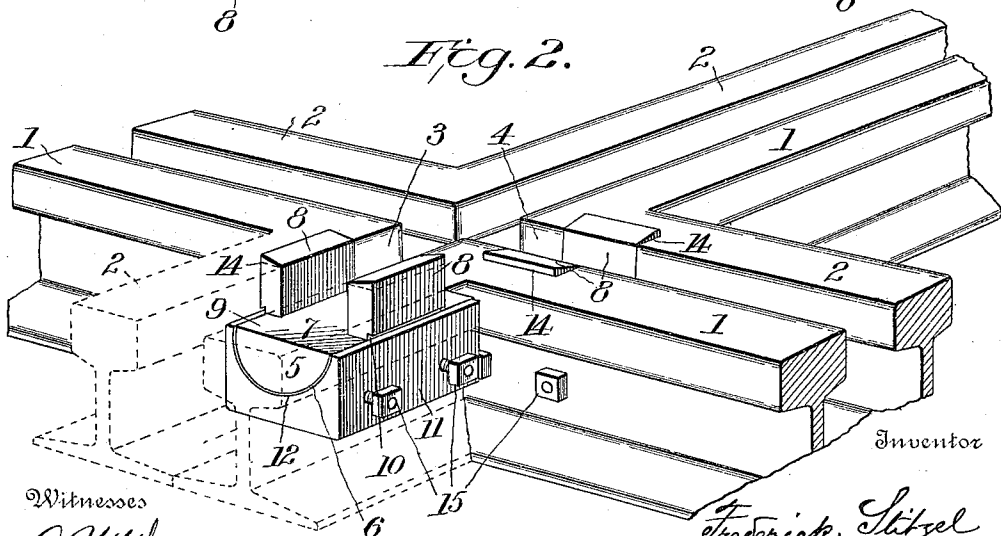
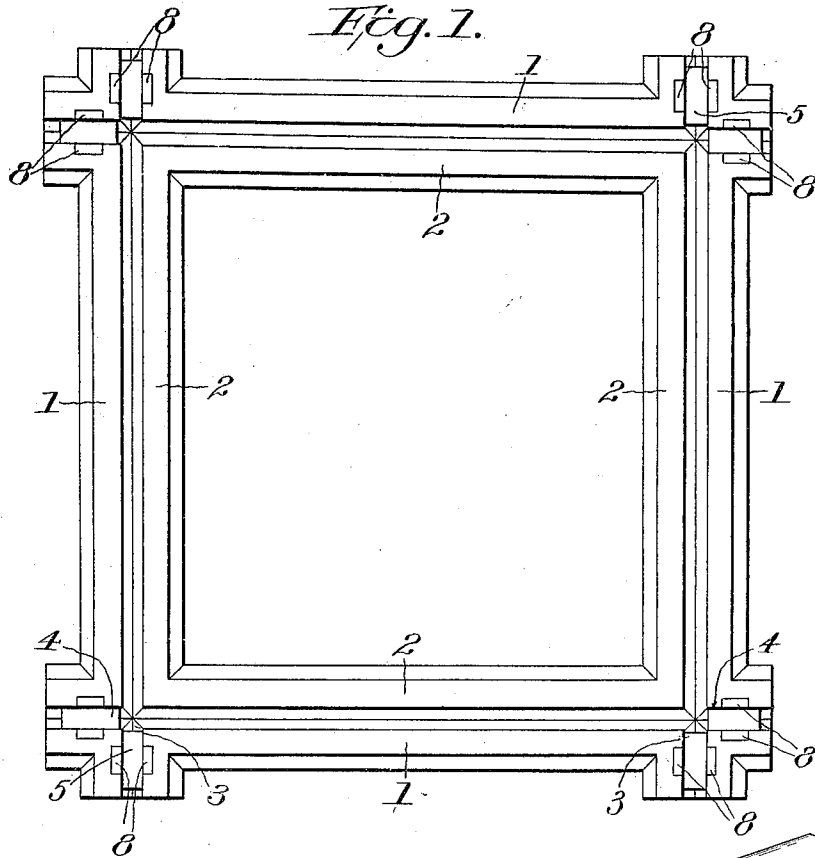


F. STITZEL.
RAILWAY CROSSING.
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963,258.

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2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

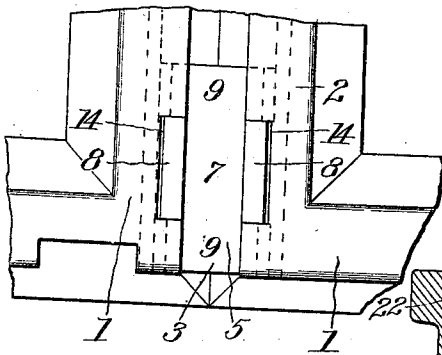


Fig. 6.

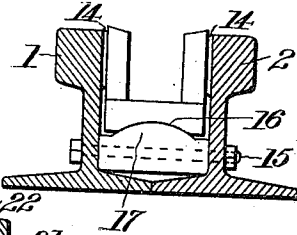


Fig. 8.

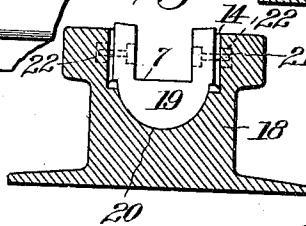


Fig. 7.

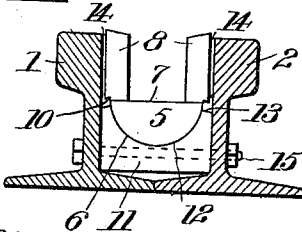


Fig. 4.

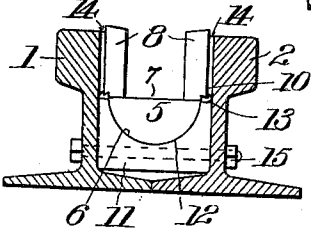


Fig. 9.

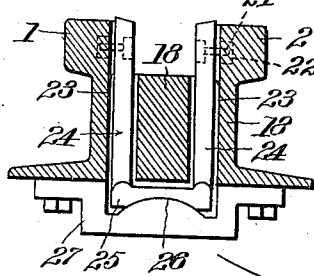


Fig. 5.

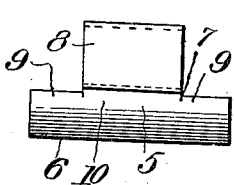


Fig. 11.

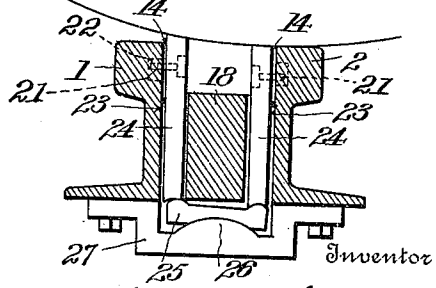
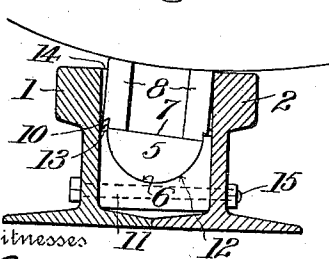


Fig. 10.



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UNITED STATES PATENT OFFICE.

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RAILWAY-CROSSING.

963,258.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed November 24, 1909. Serial No. 529,725.

To all whom it may concern:

Be it known that I, FREDERICK STITZEL, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a certain new and useful Improvement in Railway-Crossings, of which the following is a full, clear, and exact description.

This invention relates to railway crossings, and particularly to crossings which are provided at the gaps of the intersecting rails with means for supporting the wheels of the cars as they pass over said gaps.

The object of the invention is to provide a railway crossing, the gaps at the intersections of the rails of which are provided with wheel-supporting devices of simple, effective and economical construction.

The invention consists in a railway crossing having gaps at the intersections of the rails, and rocker-blocks arranged at and spanning said gaps, to support the wheels of the cars as they pass over said gaps, and transfer the wheels from one side of the gap to the other side thereof, all as I will proceed now to more particularly set forth and finally claim.

In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a plan view of a railway crossing, with the invention applied thereto. Fig. 2 is a perspective view, on a larger scale, of one of the crossing intersections, a portion of the rails being shown in dotted lines. Fig. 3 is a plan view, on a larger scale, of a portion of the rails at the intersection of the crossing. Fig. 4 is a vertical cross-section showing one form of rocker-block and its bearing in elevation. Fig. 5 is a side elevation of one of the rocker-blocks, detached. Fig. 6 is a vertical cross-section showing another form of rocker-block and its bearing in elevation. Fig. 7 is a vertical cross-section showing another modified form of rocker-block in elevation. Fig. 8 is a similar vertical cross-section, showing another manner of securing the rocker-block between the rails. Fig. 9 is a similar vertical cross-section, showing still another form of rocker-blocks. Figs. 10 and 11 are similar sectional views showing the operation of two of the forms of rocker-blocks when acted upon by the tread of a car-wheel.

The crossing-rails may be of any usual or approved construction, and comprise the

main rails 1, and guard rails 2, with the gaps 3 and 4 at the intersection of the rails.

Arranged at and spanning the gaps 3 and 4 and extending sufficiently into the heads of the corners of the main rails 1 to be engaged by the treads of the wheels, are the rocker-blocks, and preferably the rocker-blocks as shown in Figs. 2, 3, 4, 5, 7 and 10 are constructed of a single piece of metal having a base 5 provided with a semi-circular bottom 6 and a flat top 7, and wheel-engaging portions 8 projecting upwardly from the opposite longitudinal edges of the top 7 of the base, and of less length than the base to leave portions 9 of the base extending beyond the wheel-engaging portion for a purpose presently appearing. Preferably the upper wheel-engaging surfaces of the portions 8 are beveled or inclined inwardly to more perfectly conform with the curvature of the tread of the wheel when engaged thereby. These projections are parallel to one another, and one projects on one side of the gap and the other on the other side of the same gap, thus leaving the gap itself always open.

As shown in Figs. 2 and 4, the rocker-blocks are provided with shoulders 10 to form stops to limit the rocking motion of the blocks.

As shown more clearly in Figs. 2, 4 and 7, the rocker-blocks are supported in bearing-blocks 11, having in their upper surface a semi-circular bearing 12 in which the semi-circular portion 6 of the rocker-block fits, the upper edges of the bearing blocks being shouldered to form stops 13 to coact with the stops or shoulders 10 of the rocker-blocks to limit the rocking motion of the rocker-blocks. As shown in Fig. 7, these stops and shoulders are inclined or beveled to better shed dust or dirt that may enter the rails around the rocker-blocks and prevent the same from getting into the bearing-surfaces.

The bearing-blocks 11 are of a size to fit snugly between the webs of the rails and below the heads thereof, and are preferably bolted in place.

In applying the rocker-blocks, the heads of the main and guard rails at the gaps are cut away, as shown more clearly in Fig. 2, to form recesses 14 for the wheel-engaging portions 8 of the rocker-blocks, and the rocker-blocks and their bearing-blocks 11, being properly assembled, and placed be-

tween the rails, with the portions 8 of the rocker-blocks in their respective recesses, the parts are securely bolted together by bolts 15, passing through the webs of the rails and the bearing-blocks. In this form of the device the projecting ends 9 of the rocker-blocks extend under the heads of the rails adjacent to the recesses 14 and secure the rocker-block against upward displacement.

The wheel-engaging surfaces of the rocker-blocks project slightly above the heads of the rails and extend sufficiently into the heads of the main rails of the intersections to be engaged by the tread of the wheel or wheels running upon said rails.

As shown in Fig. 6, the rocker-block is provided with a curved concavity 16, to engage a complementally curved raised portion 17 on the bearing-block.

The invention is applicable to street railway crossings as well as to steam railway crossings, and in Figs. 8 and 9 I have shown the invention as applied to a street railway crossing, wherein the main rails and guard rails are made as a casting with a solid web 18.

As shown in Fig. 8, the rocker-block 19 is constructed with a curved base adapted to engage a complementary bearing 20 formed in the solid web of the casting. In this form of the device the wheel-engaging portions of the rocker-blocks are provided with stops or lugs 21, such as bolts or screws passing therethrough and engaging recesses 22 formed in the heads of the rails, and also serving to secure the rocker-blocks against upward displacement, the recesses 22 being elongated sufficiently to permit the rocking motion of the rocker-blocks.

As shown in Fig. 9, the casting is bored with vertical openings 23, to receive sliding wheel-engaging blocks 24, the said blocks resting upon a rocker 25 engaging a complementary bearing surface 26 formed in a stirrup or bracket 27 secured to the underside of the rail casting.

It will be observed that the wheel-engaging portions of the respective rocker-blocks are arranged at the gaps in the main rails at each intersection of the crossing, and that the space between the said wheel-engaging portions is sufficient to allow the flanges of the wheels to pass therethrough, the flanges of the wheels having no contact with the rocker-blocks and no function in the operation of said rocker-blocks.

The operation of the device is as follows: Assuming that a train is approaching the crossing, it will be seen by reference to Figs. 10 and 11, that the tread of the wheel will first strike that wheel-engaging portion of the rocker-block on that side of the gap nearest the approach of the wheel and depress that portion of the rocker-block and

cause the wheel-engaging portion thereof on the opposite side of the gap to be elevated or forced into engagement with the tread of the wheel at a point in advance of its first engagement with the rocker-block, and thus constituting a rocking support for the wheel as it passes over the gap, the wheel with its load being supported by the rocker-block and transferred from one side of the gap to the other without jar. The wheel in leaving the gap depresses the wheel-engaging portion of the rocker-block on the far side of the gap to the level of the head of the rail and elevates the opposite wheel engaging portion slightly above the head of the rail at the approaching side of the gap in readiness to be engaged by the next succeeding wheel, and the rocker-block performs its function of transferring the several successive wheels of a train from one side of the gap to the other without jar or shock.

It is to be noted, that these rocker-blocks span the gaps and are not engaged by the flanges of the wheels, and hence the liability of derailment by the undue lifting of the wheel flanges is eliminated. The rocker-blocks are operated solely by contact with the treads of the wheels, and their wheel-engaging projections are relatively so close that when one projection is thrown down by wheel contact, the other is elevated into engagement with the wheel at such close range that the wheel is practically supported upon a rocking bearing and maintained on a level with the rails during its entire passage across the gap.

I do not wish to be understood as limiting the invention to the details of construction and installation herein shown and described, as the same may be changed in various particulars and still be within the scope of the invention.

What I claim is:

1. A railway crossing, having gaps at the intersections of the rails, and rocker-blocks independently supported in and spanning the gap of each rail at each intersection of the rails and adapted to support the wheels of a car as said wheels pass over the gaps and transfer said wheels from one side of the gaps to the other.

2. A railway crossing, having gaps at the intersections of the rails, rocker-blocks arranged in and spanning said gaps and having parallel wheel-engaging projections extending up into the heads of the rails and clear of the gaps and in the line of the travel of the treads of the wheels and out of possible contact with the flanges of the wheels, the near wheel-engaging projection relatively to the approaching wheel being depressed by engagement with the tread of the wheel and the far wheel-engaging projection of the same rocker-block being thereby elevated into contact with the tread of the

said wheel, whereby the wheel is supported and transferred across the gap without shock.

3. A railway crossing, having gaps at the intersections of the rails, and rocker-blocks arranged at said gaps, each having wheel-engaging portions at opposite edges of its gap adapted to be engaged by the tread of a wheel to cause both of said wheel-engaging portions to engage the wheel and thereby support the wheel on said rocker-block as it passes over said gap and transfer the wheel from one side of the gap to the other.

4. A railway crossing, having gaps at the intersections of the rails, and rocker-blocks arranged at said gaps, each having wheel-engaging portions at opposite edges of its gap provided with beveled wheel-contacting surfaces conforming with the curvature of the wheel and adapted to be engaged by the tread of the wheel to cause both of said wheel-engaging portions to engage the wheel and thereby support the wheel on said rocker-block as it passes over said gap and transfer the wheel from one side of the gap to the other.

5. A railway crossing, having gaps at the intersections of the rails, and rocker-blocks arranged at said gaps, each rocker-block having wheel-engaging portions at opposite edges of its gap projecting above the head of the rails and adapted to be engaged by the tread of the wheel to cause both of said wheel-engaging portions to engage the tread of the wheel and thereby support the wheel as it passes over the gap and transfer the wheel from one side of the gap to the other.

6. A railway crossing, having gaps at the intersections of the rails, and rocker-blocks arranged at said gaps, each rocker-block comprising a curved base and upwardly projecting wheel-engaging portions arranged at opposite sides of the gap adapted to be engaged by the tread of the wheel to cause both of said wheel-engaging portions to engage the tread of the wheel as it passes over the gap to thereby support said wheel on said rocker-block and transfer it from one side of the gap to the other, and complementally curved bearings for said rocker-blocks in said crossing.

7. A railway crossing, having gaps at the intersections of the rails, and rocker-blocks arranged at said gaps, each rocker-block comprising a curved base and upwardly projecting wheel-engaging portions arranged at opposite sides of the gap adapted to be engaged by the tread of the wheel to cause both of said wheel-engaging portions to engage the tread of the wheel as it passes over the gap to thereby support said wheel on said rocker-blocks and transfer it from

one side of the gap to the other, complementally curved bearings for said rocker-blocks in said crossing, and stops for limiting the rocking movement of said rocker-blocks.

8. A railway crossing, having gaps at the intersections of the rails, and rocker-blocks arranged at said gaps, each rocker-block comprising a curved base and upwardly projecting wheel-engaging portions arranged at opposite sides of the gap adapted to be engaged by the tread of the wheel to cause both of said wheel-engaging portions to engage the tread of the wheel as it passes over the gap to thereby support said wheel on said rocker-block and transfer it from one side of the gap to the other, complementally curved bearings for said rocker-blocks in said crossing, stops for limiting the rocking movement of said rocker-blocks, and means for securing said rocker-blocks and their bearings in place.

9. A railway crossing, having gaps at the intersections of the rails, and rocker-blocks arranged at said gaps, each rocker-block comprising a rocker base and upwardly projecting wheel-engaging portions fitted in recesses in the rails upon opposite sides of the gap and adapted to be engaged by the tread of a wheel to cause both of said wheel-engaging portions to engage the tread of the wheel as it passes over the gap, to thereby support the wheel on said rocker-block and transfer it from one side of the gap to the other.

10. A railway crossing, having intersecting main and guard rails, and gaps at the intersections of the rails, the said main and guard rails being provided with recesses in their heads adjacent to said gaps, rocker-blocks arranged at said gaps, each rocker-block comprising a base having a curved bottom portion and a flat top portion and wheel-engaging portions extending upwardly from opposite sides of the top portion of the base between its ends and adapted to fit in the recesses in the heads of the main and guard rails and extending into the head of the main rails upon opposite sides of the gap with the base upon opposite sides of the wheel-engaging portions extending beneath the heads of the rails to secure the rocker-blocks against upward displacement, and bearing-blocks arranged between the rails in which said rocker-blocks are mounted.

In testimony whereof I have hereunto set my hand this 22'd. day of November A. D. 1909.

FREDERICK STITZEL.

Witnesses: -

FRANK MERCKE,
GEORGE MERCKE.