

No. 697,540.

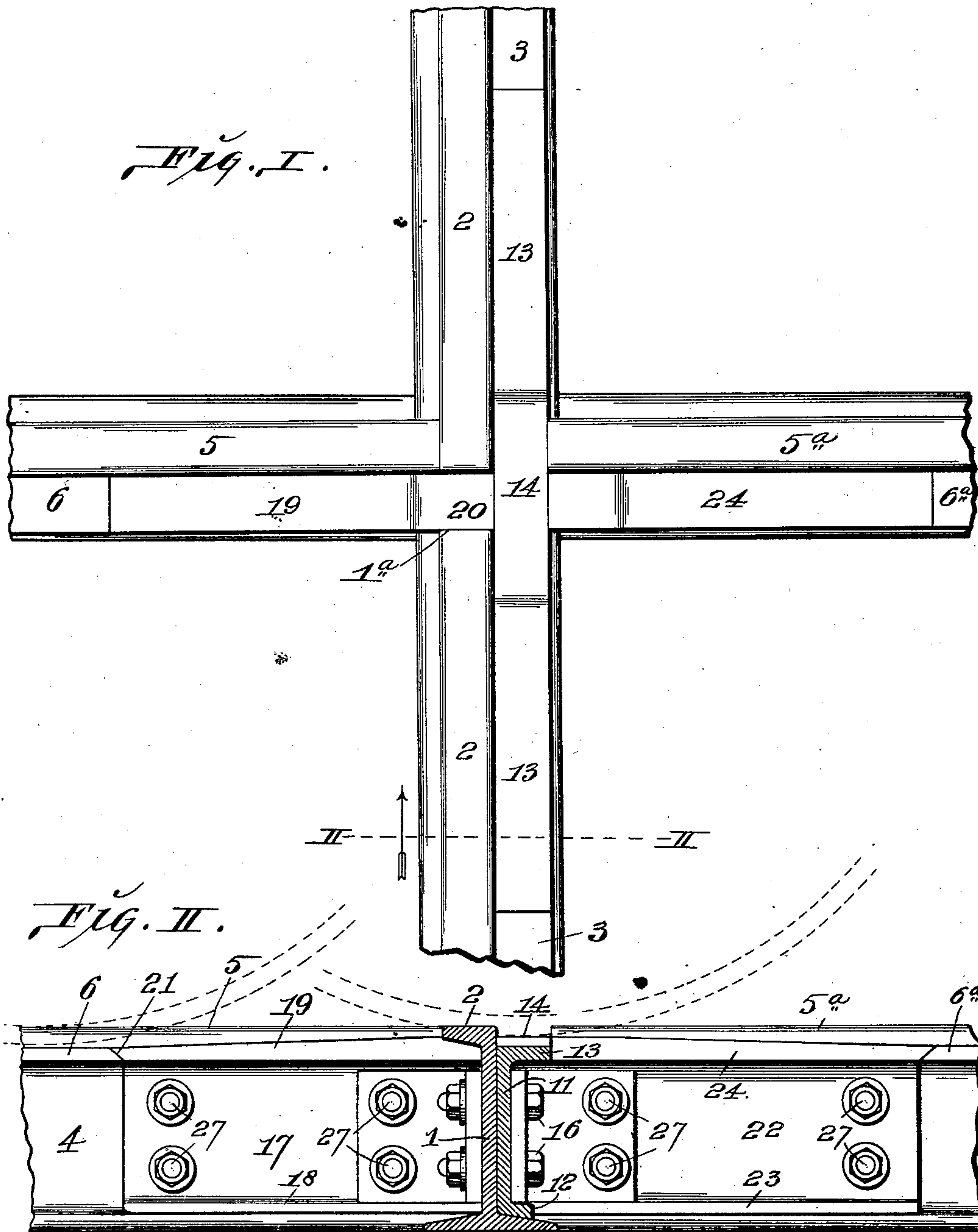
Patented Apr. 15, 1902.

B. M. RAWLINGS.  
RAILROAD CROSSING.

(Application filed June 5, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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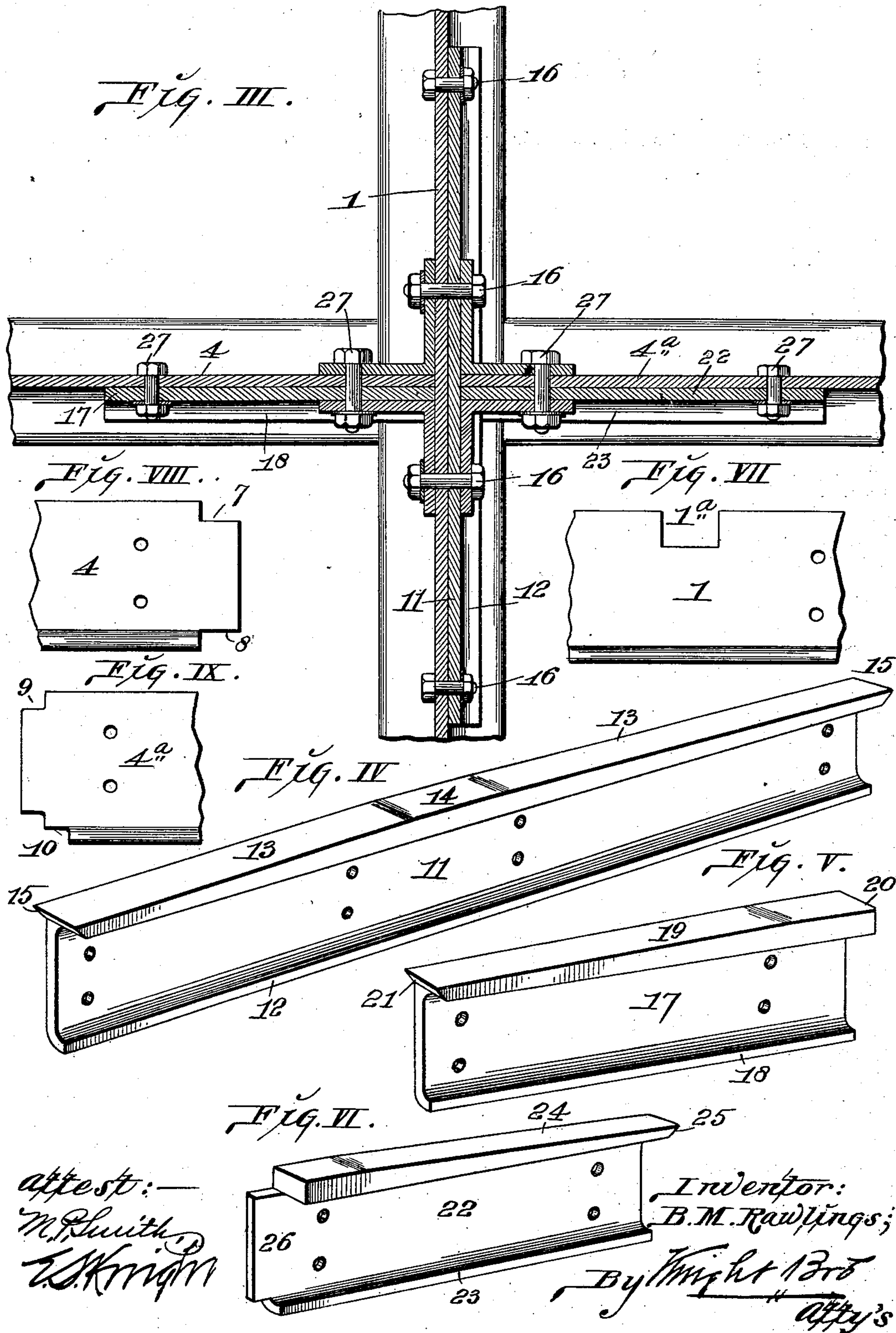
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# UNITED STATES PATENT OFFICE.

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## RAILROAD-CROSSING.

SPECIFICATION forming part of Letters Patent No. 697,540, dated April 15, 1902.

Application filed June 5, 1901. Serial No. 63,247. (No model.)

*To all whom it may concern:*

Be it known that I, BUDD M. RAWLINGS, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Railroad-Crossings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to the construction of a street-railway crossing, and has for its object the production of a crossing wherein the pounding or jarring of the car-wheels upon the crossing-tracks occasioned by the existence of notches for the passage of the wheel-flanges is avoided.

Briefly stated, the invention consists in the introduction in a crossing of removable members having inclined upper tread-surfaces adapted to receive the flanges of the car-wheels to carry said wheels over the crossing-rails in such manner that the treads of the wheels do not descend into the notches at the junctions of the crossing-rails.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view of a section of crossing constructed in accordance with my invention. Fig. II is a view, partly in elevation and partly in cross-section, taken on line II II, Fig. I, looking in the direction of the arrow shown at said line. Fig. III is a horizontal sectional view through the crossing. Fig. IV is an enlarged detail perspective view of one of the double-inclined members of the crossing. Figs. V and VI are detail perspective views of the two single-inclined members of the crossing. Fig. VII is a detail view of a fragment of the continuous rail of the crossing. Figs. VIII and IX are detail side views of the ends of the meeting rail-sections that abut against the continuous crossing-rail.

1 designates a continuous rail of a track provided with the usual tread 2 and flange 3.

4 and 4<sup>a</sup> designate the rails of a crossing-track positioned at angles to the rail 1. The rails 4 and 4<sup>a</sup> are provided with treads 5 and 5<sup>a</sup> and flanges 6 and 6<sup>a</sup>.

The continuous rail 1 is provided with a notch 1<sup>a</sup>, that provides for the travel of the flange of the car-wheel as said wheel crosses the rail. The rail 4 is cut away at 7 and 8 to permit of its fitting between the base and tread of the continuous rail 1, and the rail 4<sup>a</sup> is cut away at 9 and 10 to permit of its being fitted in like manner between the base and tread of the inclined member located at the corresponding side of the rail 1.

11 designates a double-inclined member positioned beside the continuous rail 1. This member 11 is provided with a curved foot 12 and has inclined treads 13, that extend upwardly from each end of the member to the apex 14 thereof, as most clearly seen in Fig. IV. The flange 3 of the continuous rail 1 is cut away at the location of the crossing, as seen in Fig. I, and the member 11 occupies a position between the ends of the flange, being fitted thereto by an angle-joint provided for by beveling the ends of the flange and beveling the ends of the tread 13, as seen at 15, Fig. IV. The member 11 is secured to the continuous rail 1 by bolts 16, that pass through the member and through the web of said rail.

17 designates a single-inclined member positioned beside the rail-section 4, provided with a curved foot 18 and having an inclined tread 19 extending upwardly from its outer end to its inner end, said tread being provided with an extension 20, adapted to project into the notch 1<sup>a</sup> in the tread of the continuous rail 1 and abut against the side of the apex 14 of the tread 13 of the double inclined member. The flange 6 of the rail-section 4 is cut away to permit of the introduction of the inclined member 17, and the tread 19 of said member is beveled at 21 (see Figs. II and V) to fit a corresponding bevel at the end of the flange 6.

22 designates a second single-inclined member provided with an outwardly-curved foot 23 and having an inclined tread 24 extending upwardly from the outer end to the inner end, where it abuts against the opposing side of the apex 14 of the tread of the double-inclined member 11. The outer end of the member 22 is beveled at 25 to fit a corresponding bevel at the end of the flange 6<sup>a</sup> of the rail-section 4<sup>a</sup>, that is cut away similarly to



the flange 6, and the inner end of the member is provided with a tongue 26, that fits between the tread and foot of the double-inclined member 11. The single-inclined members 17 and 22 are connected to the rail-sections 4 and 4<sup>a</sup> by bolts 27.

28 designates angle fish-plates positioned at the junctions of the continuous rail 1 and the rail-sections 4 and 4<sup>a</sup>, the said fish-plates being united to said rail-sections and inclined members 11, 17, and 22 by a portion of the bolts 16 and 27.

It will be seen from the foregoing that the inclined treads 13, 19, and 24 of the members 11, 17, and 22 all lead to a common raised center or crown having a greater elevation than the flanges 3, 6, and 6<sup>a</sup> of the track-rails, but less than the elevation of the treads of said rails. Therefore as a car reaches the crossing the wheels thereof approach the inclined treads of the members referred to and their flanges pass onto the outer ends of the treads of said members and gradually ascend them to the junction of the crossing-rails, thereby elevating the treads of the car-wheels from the treads of the rails, so that when the wheel crosses the cut-out portion of the crossing-rail there is no contact between the wheel-tread and the rail-tread and the wheel passes smoothly across said cut-out portion without the usual jarring or pounding effect occasioned from the wheel descending into said cut-out portion. As the car-wheel continues its travel onto the rail-tread at the far side of the crossing the wheel-flange travels gradually down the inclined tread of the member at that side of the crossing-rail and the tread of the wheel reaches the rail-tread without any jar and continues its travel thereon.

By the construction herein set forth it will be seen that the inclined tread-carrying members being connected to the track-rails by bolts and made in sections they are easily applied to the track-rails in the proper relative positions and may be readily removed and new ones introduced in their stead whenever they become worn by the travel of the car-wheel flanges thereon or there is need to replace them for any reason.

I claim as my invention—

1. In a railroad-crossing, the combination with a continuous rail and crossing-rails at angles thereto; of a series of members having inclined treads extending to a common center at the junction of said rails, bolts

passing horizontally through said members and removably securing them to said rails, whereby the strain on said members will be borne by said rails.

2. In a railroad-crossing, the combination with a continuous rail and crossing-rails, at angles thereto; of a series of members having inclined treads extending to a common center at the junction of said rails, bolts passing horizontally through said members and removably securing them to said rails, and said members also having curved feet bearing against the base of said crossing-rails, whereby the strain on said members will be borne by said crossing-rails.

3. In a railroad-crossing, the combination with a continuous rail and crossing-rails, at angles thereto; of a double-inclined member having inclined treads extending upwardly from the ends thereof to an apex, and a pair of members having single-inclined treads extending upwardly from their outer ends and arranged to abut against said double-inclined member at the apex thereof, all of said members being removably connected to the webs of said crossing-rails by means of bolts passing horizontally therethrough and having curved feet bearing upon the base of said rails, whereby the strain on said members will be borne by said rails.

4. In a railway-crossing, the combination with a continuous rail, a notch in the tread of the same, and cross-rails positioned at angles thereto; of a double-inclined member positioned beside said continuous rail and having inclined treads extending upwardly from the ends thereof to an apex, a pair of members positioned beside said cross-rails and having single-inclined treads extending upwardly from their outer ends, the inner end of one of said single-inclined members abutting said continuous rail, the tread of the same extending through the notch in said continuous rail and abutting the tread of the double-inclined member at the apex, the other inclined member being provided with a tongue on its inner end, said tongue adapted to fit between the tread and foot of the double-inclined member and to hold the tread of said inclined member in abutment against the tread of the double-inclined member at the apex thereof.

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In presence of—

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