E. H. STEEDMAN.

FROG AND CROSSING.

APPLICATION FILED JULY 6, 1914.

1,120,558. Patented Dec. 8, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

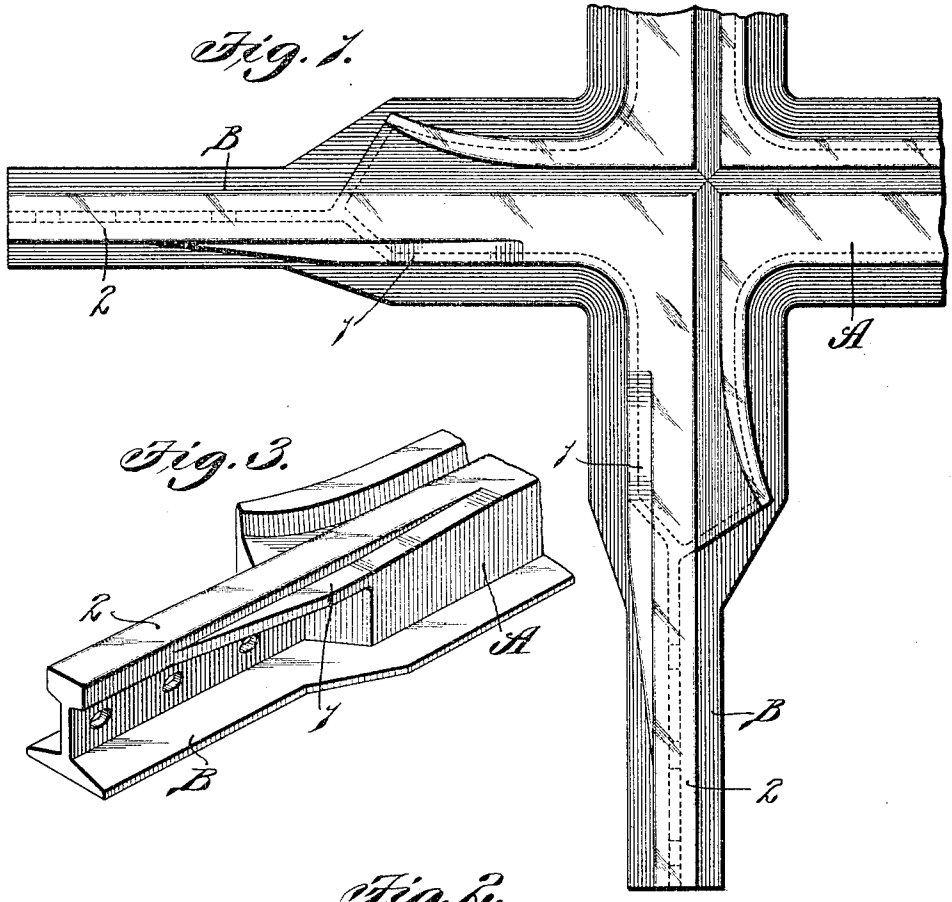


Fig. 3.

Fig. 2.

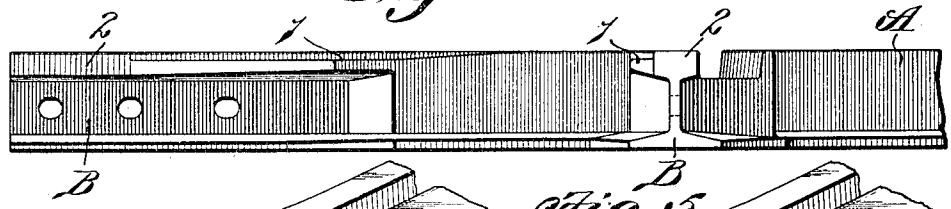


Fig. 4.

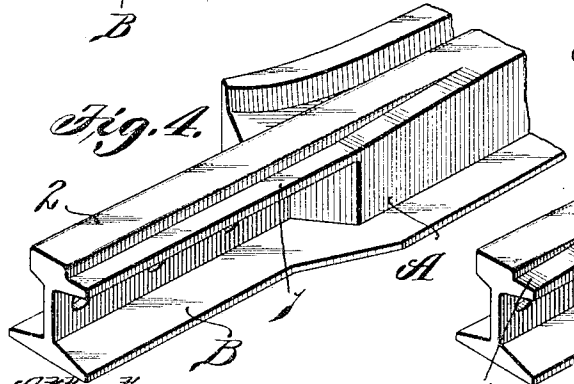
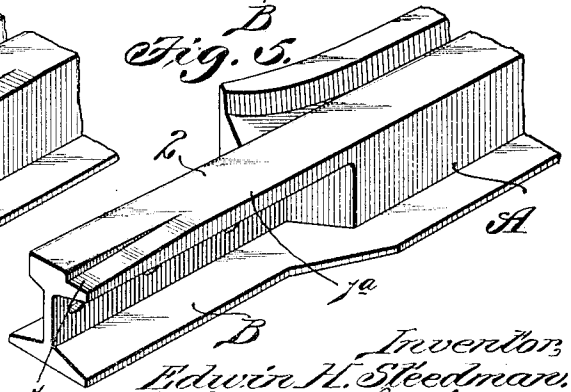


Fig. 5.



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2 SHEETS—SHEET 2.

Fig. 6.

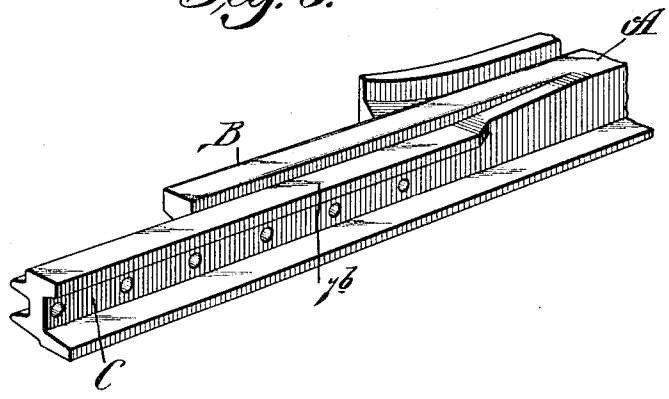
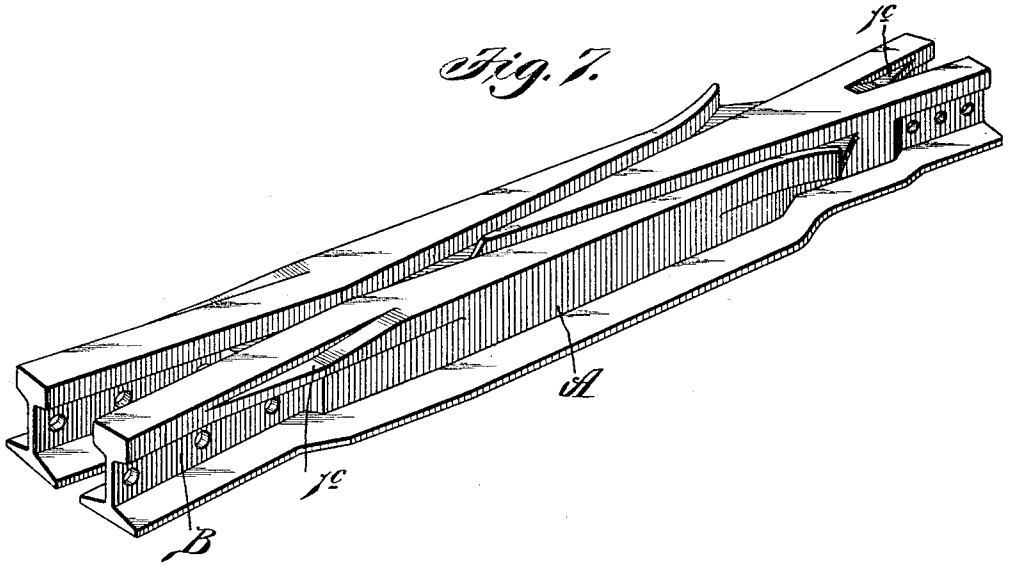


Fig. 7.



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UNITED STATES PATENT OFFICE.

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FROG AND CROSSING.

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To all whom it may concern:

Be it known that I, EDWIN H. STEEDMAN, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Frogs and Crossings, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cast metal railway frogs and crossings of the type that comprises a body portion provided with integral arms, extensions or ends to which the track rails are connected. The arms or extensions of structures of the character referred to are always of different cross-sectional shape and area than the parts of the body portion to which they are connected, and in service frequently break at the point where they merge into said body portion.

The main object of my present invention is to provide a cast metal railway track structure of the type referred to which comprises means for reinforcing and strengthening same at the points where the track rail arms or extensions are joined to the body portion of the structure.

Another object is to provide a cast metal crossing or frog which is equipped with "risers" or inclined surfaces adjacent the extremities of the crossing or frog that will guide the outer flange of a guttered or double-flanged wheel upwardly onto the running surface of the structure, said risers being formed integral with the body portion and the track rail arms and constituting reinforcing gussets that bridge the junction points of the arms and body portion and thus prevent the arms from breaking off.

Figure 1 of the drawings is a top plan view of a portion of a railway crossing constructed in accordance with my invention. Fig. 2 is a side elevational view of same. Fig. 3 is a perspective view of a portion of the crossing shown in Fig. 1. Figs. 4 and 5 are perspective views illustrating slight modifications of my invention. Fig. 6 is a perspective view illustrating a reinforced arm or extension, namely, an arm that has an integral splice member to which the adjacent track rail is bolted; and Fig. 7 is a perspective view of a railway frog constructed in accordance with my invention.

My invention is applicable to any type of cast metal railway track structure that comprises a body portion having rail portions provided at their outer ends with integral arms or extensions to which the track rails are adapted to be connected, and while I prefer to reinforce and strengthen the arms by means of risers on the body portion that are integrally connected to the heads of the arms, I do not wish it to be understood that my invention is limited to a track structure in which the track rail arms are reinforced and strengthened by members that act as risers, for my broad idea consists in providing a cast metal crossing or frog with means separate and distinct from the main running surface portions, the webs and the base flanges for reinforcing the structure at the points where the track rail arms merge into the body portion of the structure, it being, of course, understood that the track rail arms are of different cross-sectional area than the immediate portions of the structure to which they are joined.

The crossing shown in Fig. 1 is provided with a body portion that comprises intersecting rail portions A of approximately inverted channel-shape in cross-section and integral arms or extensions B at the outer ends of said rail portions A to which the track rails (not shown) are adapted to be connected, said arms B being of the same cross-sectional shape as the track rails so that the ends of the rails will abut against the ends of the arms. The arms or extensions B are of different cross-sectional shape than the rail portions A of the structure, and in order to reinforce and strengthen the arms B at the points where they are joined to the body portion A of the crossing, I have provided the crossing with risers 1 that are integrally connected to the body portion A and to the heads 2 of the arms B, thus forming reinforcing gussets or strengthening devices that bridge the junction points of the arms and body portion.

The risers 1 can either terminate some distance inwardly from the ends of the arms B, as shown in Figs. 1, 2 and 3, or they can extend the entire length of the arm to the end of same, as shown in Fig. 4.

In the form of my invention shown in Fig. 5 a flange 1^a that is formed integral with the body portion A and the head 2 of the arm B and whose top face is flush with the running surface of said arm and body portion, bridges the junction point between

the arm and body portion, and the outer end of said flange is inclined downwardly so as to form a riser 1.

In the form of my invention shown in Fig. 6 the reinforcing and strengthening device 1^b extends clear to the end of the arm B and also longitudinally of a splice member C that projects beyond the end of the arm and to which the track rail is adapted to be bolted.

In Fig. 7 I have illustrated a railway frog constructed in accordance with my invention, the reference character 1^c designating reinforcing devices preferably constructed to act as risers that are integrally connected to the body portion and to the heads of the arms B in practically the same manner as in the crossing previously described. At the heel of the frog are similar reinforcing devices 1^c which are integrally connected to the track rail arms and to the parts of the body portion to which said arms are joined and which are so designed that they act as risers.

Having thus described my invention, what I claim is:

1. A railway track structure, comprising a cast metal body portion provided with integral branching arms which are of less cross-sectional area than the parts of said body portion to which they are connected, and risers integrally connected to said body portion and to the heads or upper portions of said arms so as to reinforce and strengthen the structure at the junction points of said arms and body portion.

2. A railway track structure of the character described, comprising a cast metal body portion provided with integral arms of approximately the cross-sectional shape of an abutting rail, and laterally projecting portions on the heads of said arms that are integrally connected to said body portion.

3. A railway track structure of the character described, comprising a cast metal body portion provided with integral arms of approximately the cross-sectional shape of an abutting rail, and laterally projecting portions on the heads of said arms that are integrally connected to said body portion, each of said laterally projecting portions having an upwardly inclined surface that acts as a riser.

4. A railway track structure of the character described, comprising a cast metal body portion provided with integral arms of approximately the cross-sectional shape of an abutting rail, a lateral reinforcing flange extending from along the side of the body portion along the side of the arm portion so as to strengthen the section where the arm portion joins the body portion, and a riser portion being formed in said lateral reinforcing flange.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this nineteenth day of June, 1914.

EDWIN H. STEEDMAN.

Witnesses:
L. P. LESSARD,
L. S. BUCKLES.