July 1, 1930. A. P. RICH 1,769,464

RAILROAD HIGHWAY CROSSING

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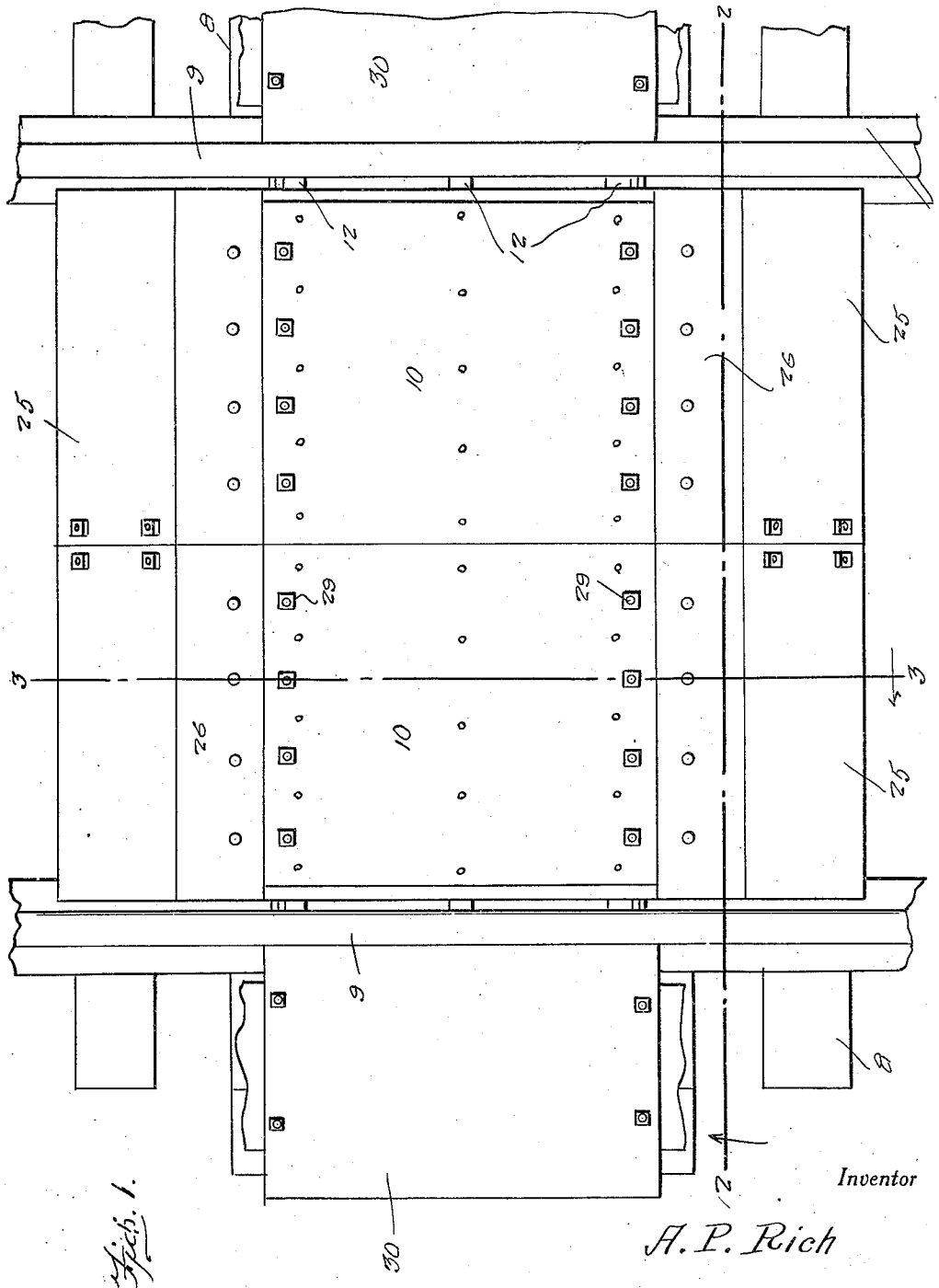


Fig. 1.

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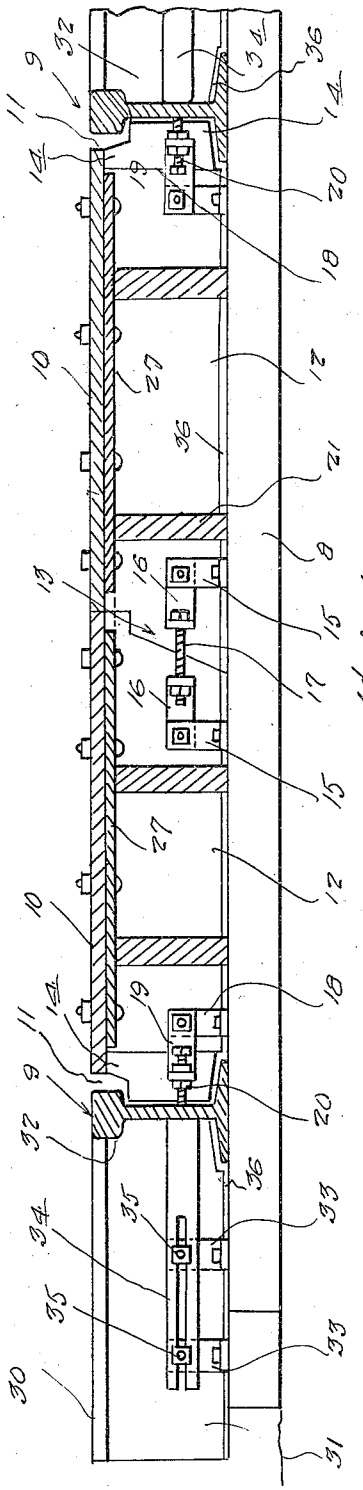


Fig. 2.

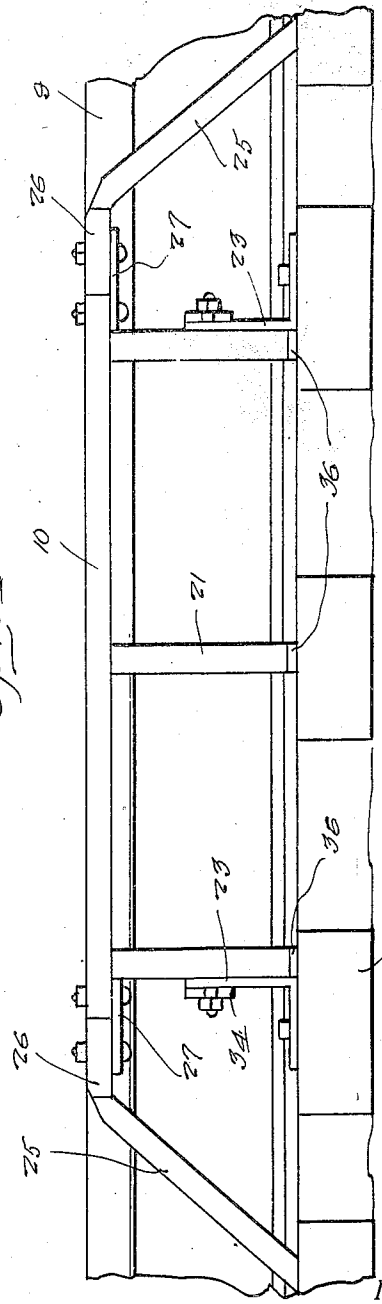


Fig. 4.

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Fig. 3.

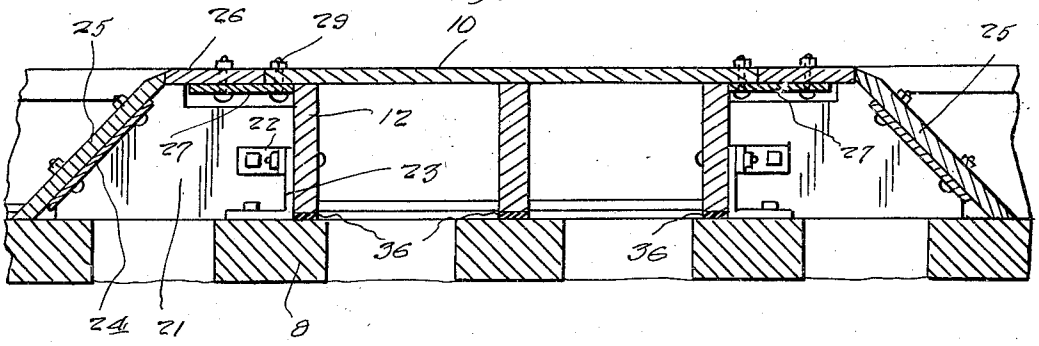


Fig. 5.

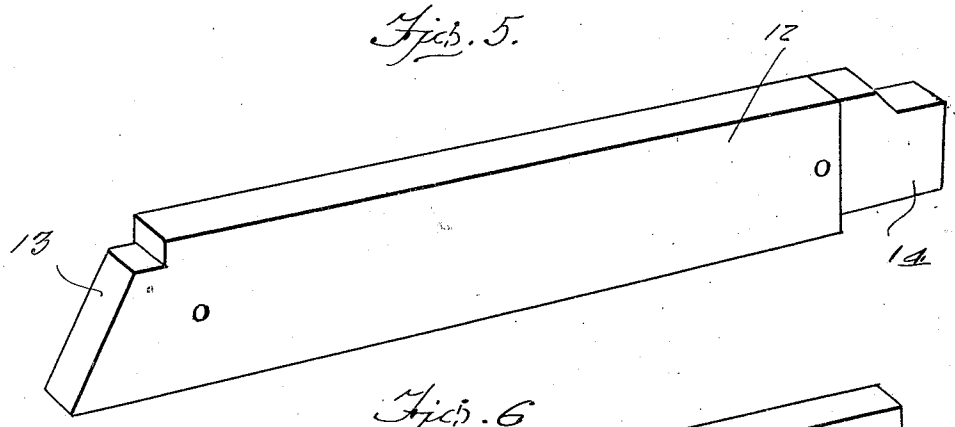


Fig. 6

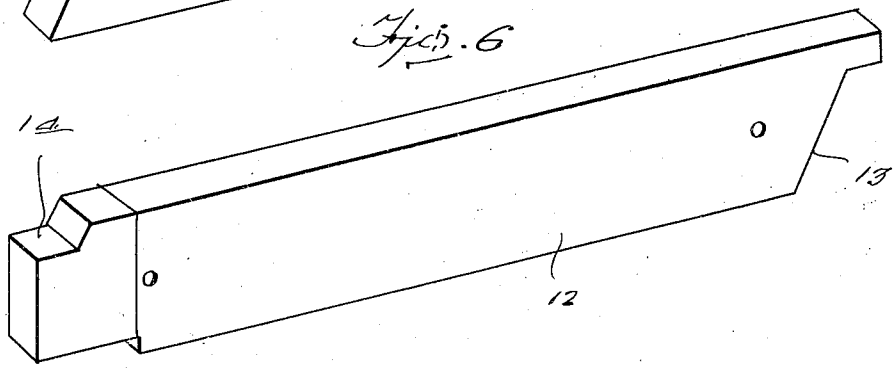
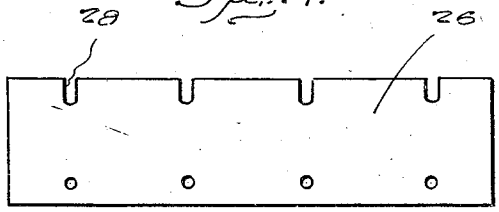


Fig. 7.



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Patented July 1, 1930 1,769,464

UNITED STATES PATENT OFFICE

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RAILROAD HIGHWAY CROSSING

Application filed November 1, 1929. Serial No. 404,042.

This invention relates to an improved crossing of the type generally referred to in the art as a highway crossing, such structures being provided to facilitate pasage of vehicular traffic across railroad tracks.

The invention has more specific reference to a sturdy part-metal crossing characterized by an assembly of rail bed plates and complemental highway bed plates, together with novel and practicable supporting and fastening appurtenances therefor.

In carrying the invention into practice, I have evolved and produced a railbed assembly including companion parts attached together in a reliable manner, supported on the rail ties and adjustably associated with the rail tracks.

In addition, I provide novel highway plates and means for associating these in an efficient manner with the ties and rails.

Other structural features, details, and advantages accompanying the same will become more readily apparent from the following description and drawings.

In the drawings:

Figure 1 is a top plan view of the complete structure as constructed in accordance with the present invention.

Figure 2 is a transverse sectional view taken approximately upon the plane of the line 2—2 of Figure 1.

Figure 3 is a longitudinal sectional view taken on the plane of the line 3—3 of Figure 1.

Figure 4 is a similar longitudinal elevational view with one of the rails removed to show the railbed plate structure.

Figures 5 and 6 are perspective views of the section of the supporting stringers.

Figure 7 is a plan view of one of the details.

Referring to Figure 2, it will be observed that the reference character 8 designates a conventional cross tie while the reference characters 9 represent the conventional track rails. The highway crossing is divided into two principal sections, namely, the railbed plate assembly which is located between the track rails and the highway bed plate parts which are located on opposite sides of the track rails and in alinement with the highway to afford approaches to the first named assembly.

The rail bed assembly comprises a pair of companion plates 10 which are located between the rails 9 with their adjacent edges in abutting relationship, these plates being supported in a plane substantially even with the tread portions of the rails. The edges of these plates 10 adjacent the rails are spaced therefrom to afford clearance channels as at 11 in Figure 2 to accommodate the car wheel flanges (not shown). These plates 10 are bolted or otherwise fastened to the transverse supporting stringers and each stringer embodies a pair of companion sections 12 having their inner ends cut and joined together as at 13 in Figure 2 and having their outer ends formed with insulated extensions 14 to cooperate with the web portion of the rail and to provide the clearance channels 11 as described.

It will be observed that I provide a series of three spaced parallel supporting stringers in the present arrangement. I also invite attention to the fact that these are adjustably connected together by appropriate wear take-up means. For instance, as seen in Figure 2, associated with the joint 13 with each stringer is a pair of L-shaped brackets 15 with which similarly shaped links 16 are connected, the links being joined together through the medium of a nut equipped bolt 17. This affords a firm joint between the sections 12 of the supporting stringer.

The means for attaching the stringer to the rails is somewhat the same. For instance, the means at each end comprises a bracket 18 of L-shaped design fastened to the adjacent end portion of the tie and carrying a similarly shaped right-angularly disposed connecting link 19 with which a retention bolt 20 is joined.

This bolt bears against the web portion of the rail and constitutes an adjustable stop and retaining device.

The rail bed plate assembly also includes guard and approach devices at the opposite end thereof. In other words, as is shown

in Figure 3, it will be noted that the reference characters 21 designates supporting feet which are disposed at right angles to the adjacent stringers and which bridge the complemental ties. These are fastened to the adjacent stringer by complemental brackets 22 and 23 respectively. These feet carry inclined attaching plates 24 on which the guard plate 25 is bolted or otherwise mounted. This guard plate abuts a tread plate 26 which is arranged in flush relationship to the adjacent edge portion of the main plate 10.

This tread plate 26 is bolted to a metal attaching leaf 27 which has notches along one edge as seen at 28 in Figure 7. The notched ends are secured by the bolts 29 to the main plates 10. The elements 25 and 26 afford a convenient approach to the main platform for track walkers and also provide dirt guards which serve to prevent chains and other depending parts of a train, from catching on the crossing.

The road or highway bedplate assembly is the same on each side of the track, and a description of one will suffice for both. I have found it convenient to provide a plate 30 which is bolted to runners 31 which rest upon the extended ends of the ties. Each runner has its inner end constructed as at 32 to conform to the shape of the rails and to bear against it. In addition, each runner carries one or more angular brackets 33 which are fastened to the tie and which carry a slotted adjusting member 34. This adjusting member is fastened to the brackets by bolts 35 and bears at its inner end against the web of the rail as clearly shown in Figure 2. Obviously the plates 30 are intended to be embedded flush with the highway to provide a suitable approach to the main crossings between the rails.

Inasmuch as the major portion of the structure is of metal and susceptible of conducting electricity, it is necessary to include appropriate insulation means to avoid short-circuiting. Thus, the stringers are provided with the aforesaid insulated extremities 14 and I have found it expedient to interpose the strips 36 of insulation material between the ties and the lower edges of the stringers.

A careful consideration of the description in consideration with the drawings will enable the reader to obtain a clear idea of the construction, the method of assembling, and the features and advantages of this improved contribution to the art. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in shape, size, details and rearrangement thereof coming within the field of invention claimed may be resorted to in actual practice if desired.

I claim:

1. In a structure of the class described, a rail bed plate assembly comprising a plurality of spaced parallel stringers adapted to be supported on rail ties, each stringer comprising complemental sections having their inner ends disposed in abutting relation and having their outer ends adapted for arrangement adjacent the web portions of the complemental rail, adjustable means connecting the inner end portions of said sections together, brackets attached to the outer end portions and including extensible retention bolts adapted to engage the web portions of the rails, together with plates bridging said stringers and adapted to be disposed in a plane with the tread portions of the rails.

2. In a structure of the class described, a rail bed plate assembly comprising a plurality of spaced parallel stringers adapted to be supported on rail ties, each stringer comprising complemental sections having their inner ends disposed in abutting relation and having their outer ends adapted for arrangement adjacent the web portions of the complemental rail, adjustable means connecting the inner end portions of said sections together, brackets attached to the outer end portions and including extensible retention bolts adapted to engage the web portions of the rails, together with plates bridging said stringers and adapted to be disposed in a plane with the tread portions of the rails, and inclined guards and approach means at the opposite longitudinal edge portions of said plates comprising supporting feet disposed at right angles to said stringers and fastened to the adjacent stringers, each approach means including an inclined plate fastened to the feet, and a horizontal tread plate separably fastened to the main bedplate and interposed between the bed plate and the complemental inclined approach plates.

3. In a structure of the class described, a rail bed plate assembly comprising a plurality of speced parallel supporting stringers adapted to be seated upon supporting cross ties, each stringer being composed of a pair of half sections, the inner ends of said sections being disposed in interlocking abutting relationship, the outer ends being provided with rail clearance extensions for cooperation with the web portions of the adjacent track rails, a pair of companion brackets fastened to the inner end portions of said stringer sections, links connected with said brackets, and a bolt joining said links together for securing the abutting ends of the sections together, a pair of substantially L-shaped brackets also fastened to the outer end portions of said sections, links joined to said brackets, and adjusting stop bolts carried by said links and adapted to bear against the adjacent web portion of the complemental rail, platform plates bolted to the

stringers and constructed to assume a position substantially flush with the tread portions of the track rails, the longitudinal edge portions of said plates terminating inwardly of the aforesaid extensions to provide wheel flange clearance spaces, approach means at each end of said structure comprising an inclined plate adapted to extend transversely between the track rails, supporting feet therefor joined to the adjacent stringers, an intervening tread plate between the inclined plate and the main platform plate, and notched connecting plates fastened to the underside of said tread plates and also fastened to the corresponding sides of the main platform plate.

In testimony whereof I affix my signature.

ANTHONY PETER RICH.