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RAILROAD CROSSING CONSTRUCTION

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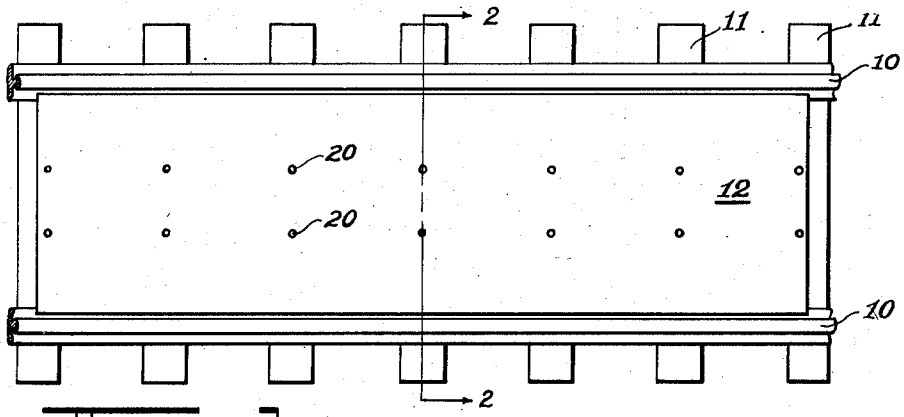


FIG. 1

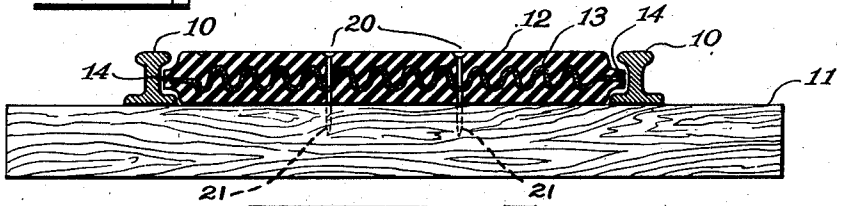


FIG. 2

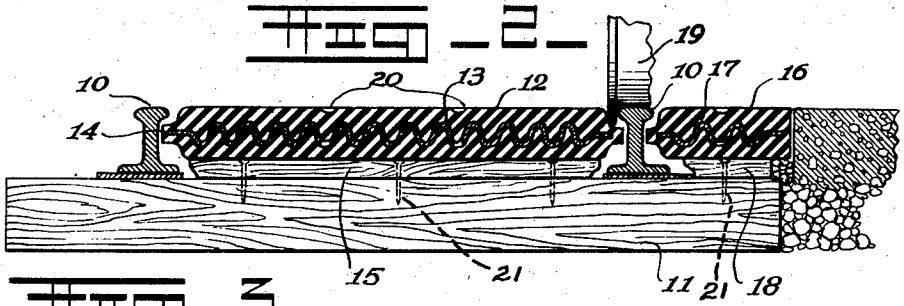


FIG. 3

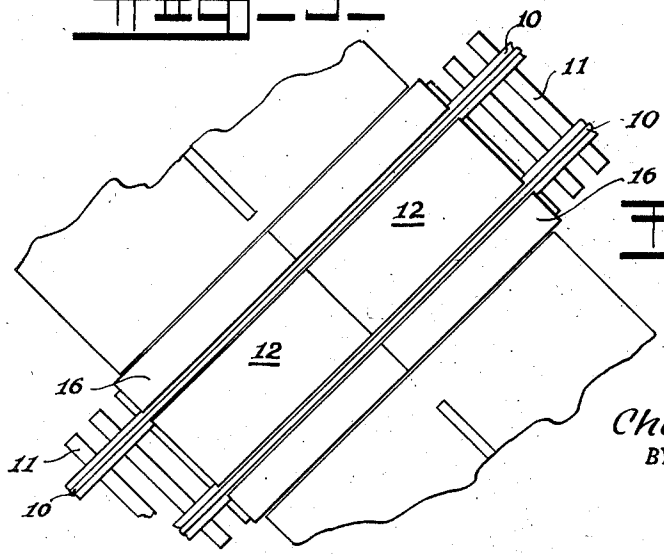


FIG. 4

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RAILROAD CROSSING CONSTRUCTION

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8 Claims. (Cl. 238—8)

This invention relates to railroad crossing constructions and particularly to a resilient slab of a size and shape enabling it to be positioned in self-retaining relation between the rails and on the ties of a railroad.

The principal object of the invention is the provision of a railroad crossing construction that will yieldably support vehicles and the like crossing the railroad and at the same time be self-adjusting and self-positioning with respect to the ties on which it is supported.

A still further object of the invention is the provision of a railroad crossing construction comprising a slab-like body of resilient material reinforced longitudinally thereof to render the same capable of self-support between the supporting ties of a railroad upon which the slab is positioned.

A still further object of the invention is the provision of a railroad crossing construction which may be readily installed on the ties of the railroad between the rails thereof and readily shaped to fit the particular width or angle of crossing desired.

A still further object of the invention is the provision of a railroad crossing construction comprising a reinforced rubber-like slab capable of self-support between the ties of the railroad and flexibly adaptable to the movement of said ties as occasioned by a railroad train and providing a resilient surface substantially level with the uppermost portions of the rails.

A still further object of the invention is the provision of a unitary railroad crossing construction suitable for use on highway grade crossings and for the formation of platforms and the like, as at railroad stations.

The railroad crossing construction disclosed herein comprises a solution to the problem of establishing a satisfactory grade crossing construction on railroads which constructions have heretofore commonly comprised planks and other similar floor or deck structures, concrete slabs and various fillings of road materials including asphaltic concrete and the like. Such constructions have the common point of objection in that they adversely effect the proper ballasting of the railroad and constitute hazards for the operating equipment due to their lack of conformation with the track structure. Such constructions frequently become loose and misplaced and thereby form rough crossings, hazardous to those vehicles using the crossing as well as to the operating equipment on the railroad concerned.

The principal difficulties with such constructions as have heretofore been known in the art have been their relatively rigid characteristics as compared with the movable track structure.

The present invention accordingly has as one of its principal objects the elimination of such difficulties by the provision of a crossing construction that eliminates the possibility of displacement or damage to the crossing, the vehicle using it and the operating equipment on the railroad concerned.

These objects are attained by forming the crossing of several slabs of resilient construction properly reinforced

and of a size equal to the width between the rails and of a height enabling the top surface of the structure to be positioned substantially flush with the tops of the rails, the reinforcement of the slab being so arranged that substantial longitudinal rigidity of the slab is realized enabling it to support itself between the spaced ties of the railroad.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a top plan view of the railroad crossing construction.

Figure 2 is a cross sectional elevational taken on line 2—2 of Figure 1.

Figure 3 is a cross sectional elevation of a modified form of a railroad crossing construction.

Figure 4 is a top plan view of a highway grade crossing showing the railroad crossing construction in position.

By referring to Figures 1 and 2 of the drawings it will be seen that a pair of rails **10—10** are shown in parallel spaced relation on a plurality of ties **11—11**. A slab **12** of rubber-like resilient material reinforced by a longitudinally corrugated member **13** and of a width substantially equal to the space between the rails **10—10** is positioned therebetween with longitudinally extended flanges **14—14** on its opposite sides overlying and underlying the base and the head portions of the rails **10—10** respectively.

The uppermost surface of the slab **12** is arranged to be substantially flush with the uppermost surface of the rails **10**, either by forming the slab **12** of a thickness equal to the height of the rails **10—10** or by positioning spacing members **15** on each of the ties **11**, as best shown in Figure 3 of the drawing, whereby the slab **12** is supported in elevated relation to the ties **11** with its uppermost surface flush with the tops of rails **10—10**. In either event, the slab **12** is retained in position between the rails **10—10** by the flanges **14**. The slab **12** may be formed in a length capable of spanning a plurality of ties so that several of the slabs may be used in forming a crossing construction between the rails on a typical grade crossing.

Those skilled in the art will recognize that portions of such slabs, either cut to such desired size or so formed may be likewise employed on the outer sides of the rails **10—10** over the ties **11** to extend the crossing construction to the full width of the ties of the railroad track. Such a construction is shown in Figure 3 of the drawings, the secondary slab used for such purpose being indicated by the numeral **16** and is provided with a reinforcing member **17** and the secondary slab **16** is positioned on spacers **18** comparable (except as to length) with the spacers **15** heretofore referred to.

In such constructions, the highway pavement may be terminated a desirable distance beyond the ends of the ties so that it will not interfere with the ballasting of the track structure and the slabs **16** provided in a suitable width.

Still referring to Figures 2 and 3 of the drawings it will be observed that the flanges **14—14** on the sides of the slab **12** provide space for the flanges of the wheels of the railroad equipment, one of such wheels being partially illustrated in Figure 3 of the drawing and indicated by the numeral **19**.

It will occur to those skilled in the art that if desired openings **20** may be formed in the reinforcing member **13** to facilitate vulcanization of the same to the slab and

through which spikes **21** may be positioned to insure against the unwanted movement of the slab with respect to the ties, if desired, two or three such spikes **21** are sufficient to anchor the slab if the same are employed.

It will be observed that the relative motion of the ties with respect to the track structure will be compensated for by the resilience of the slab **12** as the spikes **21**, if used, will move with respect to the slab **12** rather than impart motion thereto other than that directly imparted the slab **12** by its tendency to follow the motion of its supporting ties.

Those skilled in the art will also recognize that while a longitudinally corrugated reinforcing member such is shown herein as preferred, iit may be possible to alternately employ pipe, rods, I-beams, or other longitudinally positioned members to enable the slab to support itself on the spaced ties **11**, and a further modification will be obvious, in that the slab may be formed completely above the reinforcing member **13** which would then serve as a base for the resilient slab. In such event, the otherwise desirable characteristic of double wearing surfaces obtained through turning the slab upside down is eliminated.

It will thus be seen that the several objects of the invention may be achieved by the formation of a railroad crossing construction in accordance with the disclosure herein given.

Having thus described my invention, what I claim is:

1. A crossing construction for a railroad track structure including ties and rails and comprising one or more slabs of rubber-like resilient material having a longitudinally extending flange on each opposite side edge, positioned on said ties between said rails with each of said flanges underlying the head of the adjacent rail and overlying the base of the adjacent rail, said resilient slab having a corrugated reinforcing member disposed therein, the corrugations of said member extending parallel with said rails and acting to render said slab semi-rigid in the direction of said corrugations.

2. A crossing construction for a railroad track structure including spaced ties and spaced parallel rails positioned thereon at right angles thereto comprising spacing members positioned one on each of said ties and a slab of resilient material having a longitudinally extending,

outwardly projecting flange on each opposite side edge, positioned on said spacing member between said rails with said flanges positioned in closely spaced relation thereto, the combined height of said slab and said spacing members being substantially equal to said rails, a reinforcing member in said slab, said reinforcing member being corrugated parallel with said rails.

3. The railroad crossing construction set forth in claim 1 and wherein the reinforcing member has openings formed therein through which the resilient material of the slab extends and through which fasteners joining said slab and ties may be positioned.

4. The railroad crossing construction set forth in claim 1 and wherein the longitudinal edges of the reinforcing plate end within said slab adjacent said longitudinal flanges thereof.

5. The railroad crossing construction set forth in claim 2 and wherein the reinforcing member has openings formed therein through which the resilient material of the slab extends and through which fasteners joining said slab, spacing members and ties may be positioned.

6. The railroad crossing construction set forth in claim 2 and wherein the longitudinal edges of the reinforcing member end within said slab adjacent said longitudinal flanges of said slab.

7. The railroad crossing construction set forth in claim 1 and wherein the flanges are flexible and contact the webs of said rails.

8. The railroad crossing construction set forth in claim 1 and wherein the reinforcing member terminates short of the sides of the slabs to allow the flanges to flex past the heads of the rails when the slabs are positioned therebetween.

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