Dec. 12, 1933. H. E. WHITE 1,939,425

RAILROAD CROSSING

Filed Nov. 11, 1931 2 Sheets-Sheet 1

Fig. 1.

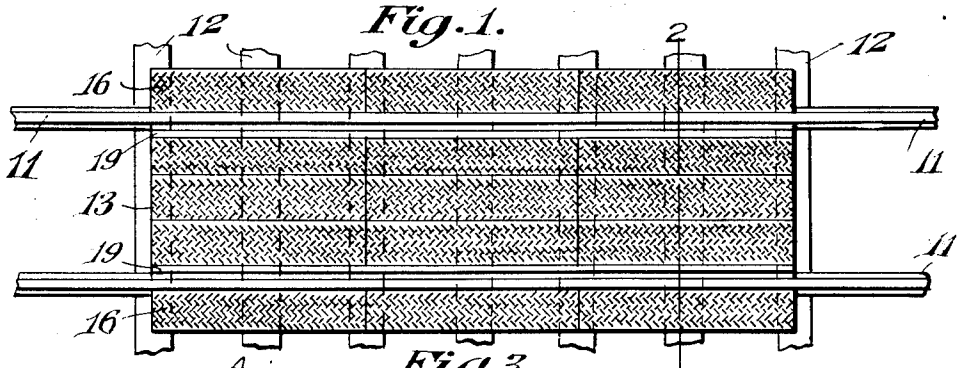


Fig. 3.

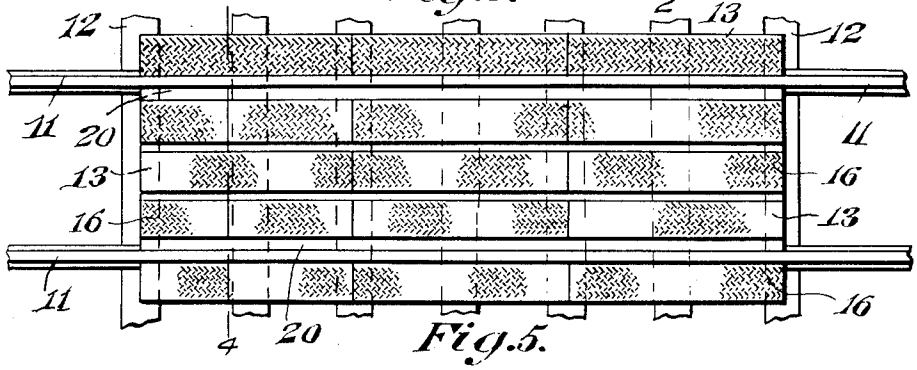


Fig. 5.

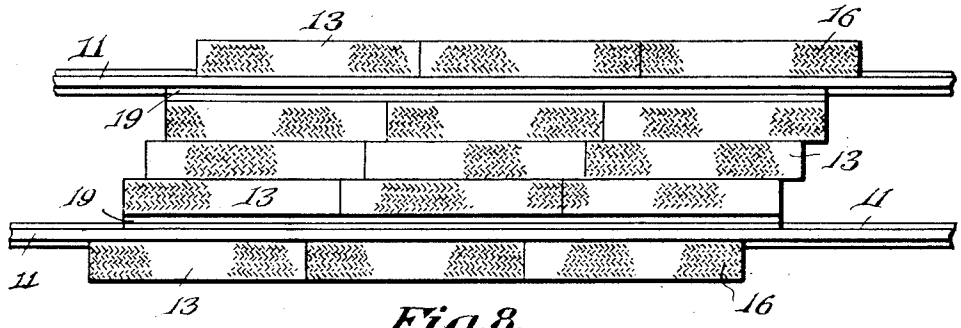


Fig. 8.

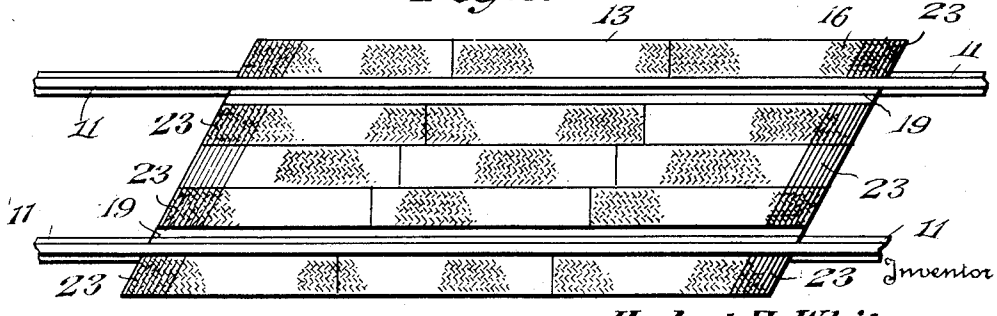
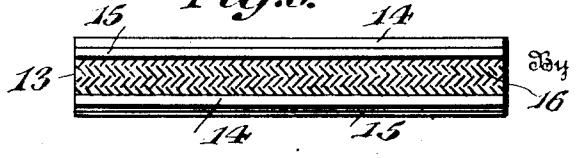


Fig. 9.



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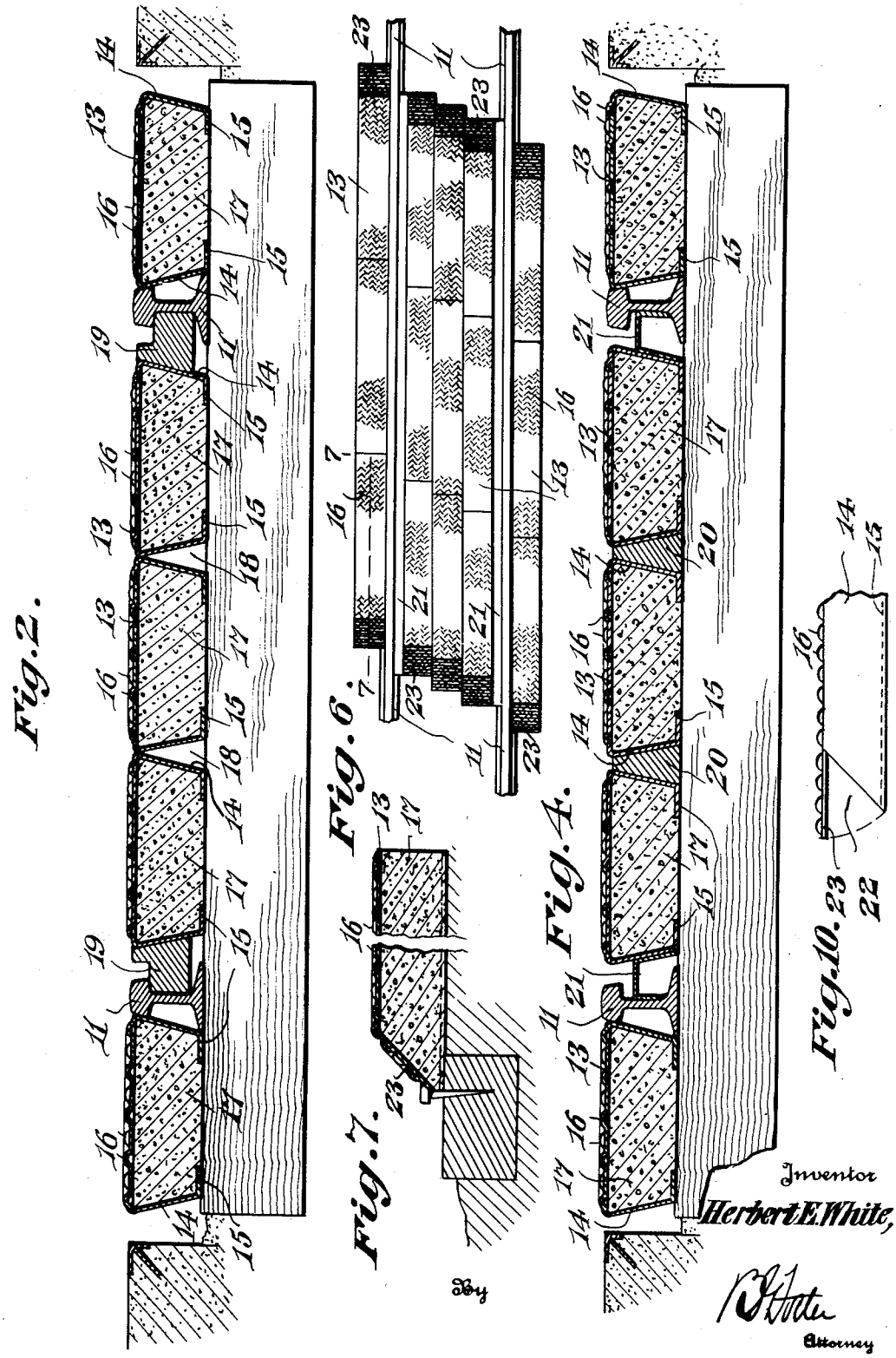


Fig. 2.

Fig. 6.

Fig. 7.

Fig. 4.

Fig. 10.

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UNITED STATES PATENT OFFICE

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RAILROAD CROSSING

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Application November 11, 1931
Serial No. 574,412

8 Claims. (Cl. 238—8)

The object of the present invention is to provide a structure including units that can be readily fabricated of plate metal, can be easily laid, and will constitute a crossing much more permanent in its character than those now in common use.

A further object is to provide a structure in which the units may be easily removed in case of repairs and the like becoming necessary to the track.

Still another object is to provide a unit that lends itself to the use of electrical insulating elements, the form thereof automatically locking said elements in place, the contour of the units furthermore serving to provide air spaces that prevent the accumulation of moisture and the consequent rusting out of the metal portions.

In the accompanying drawings:

Figure 1 is a plan view of one embodiment of the invention.

Figure 2 is a cross sectional view on an enlarged scale and on the line 2—2 of Figure 1.

Figure 3 is a plan view of a modified form of construction.

Figure 4 is a cross sectional view on the line 4—4 of Figure 3 and on an enlarged scale.

Figure 5 is a plan view of one embodiment of the invention where a diagonal crossing is necessary.

Figure 6 is a plan view of a modification of the same.

Figure 7 is a detail sectional view on the line 7—7 of Figure 6.

Figure 8 is a plan view of still another form a diagonal crossing may take.

Figure 9 is a plan view of one of the units.

Figure 10 is a detail view showing how the outer ends of the terminal units may be formed.

In the embodiment disclosed in Figures 1 and 2 the usual rails of a railroad are designated 11, and are supported by the cross ties, indicated at 12. The crossover consists of a plurality of units laid side by side and end to end on the ties and longitudinally of the rails 11, both between the same and preferably also on the outer sides thereof. As these units are all of the same construction a description of one it is believed will suffice. Each unit consists of a casing or shell formed by deforming a metal plate or sheet. As shown this shell has a top wall 13 forming a tread plate with depending side walls 14, which it will be noted, converge downwardly and terminate with inturned integral flanges 15. The top wall 13 may be roughened, as indicated at 16. In the complete structure the unit is preferably filled with concrete 17 or other cementitious material. The units are each of a length to bridge the space between two or more ties, so that their ends will rest on the ties, and in the preferred form of construction, these units when filled with concrete, are sufficiently heavy to maintain their position against upward displacement by their own weight, or in other words, by gravity, so that fasteners and the like, except at the outer ends of the end units, are unnecessary.

In actual practice the manufacture need only make the shells and the railroad company or other user can fill them with concrete. This obviously saves much weight in transportation and makes it possible for the user to complete the structure and install the same without material difficulty.

The advantages of the structure, it is thought, will be clear by reference to Figure 2. It will be noted that by reason of the downwardly convergent supporting walls of the units open air spaces 18 may be left between the adjacent side walls of adjacent units so that moisture will not settle against the walls and consequently rust them out as quickly as if they were abutted or substantially abutted. More than that, as shown in Figure 2 electrical insulating strips 19 of wood or the like can be interposed between the rails and adjacent units and by having these strips upwardly tapered, they are automatically locked against upward displacement by reason of the form of the side walls 14 that are associated therewith.

Moreover, it is not necessary that the insulation by placed directly at the rails. If desired, as shown in Figures 3 and 4, insulating strips 20 that are wedge-shaped in cross section, can be placed between intermediate units and will be effectively held in place. In such a structure metal spacing elements 21 are preferably employed between the inner sides of the rails and the adjacent units, these strips being U-shaped in cross section and serving to provide the necessary channels in which the flanges of the wheels travel.

The structure lends itself moreover to diagonal crossings as illustrated in Figure 5. In this form of structure the outer terminals of the end units are still maintained perpendicular to the track and have the advantage that if an object hanging from a passing car should strike the same, it will not be thrown toward the rail.

In Figure 8 a modification is shown in which the outer terminals of the end units are beveled, providing continuous lines at the sides of the crossing.

As illustrated in Figures 6 and 7 the outer terminals of the end units may be beveled so as to avoid the danger of low hanging equipment

of passing cars catching upon the same. In such case these beveled ends may be formed as illustrated in Figure 10. That is to say, V-shaped portions 22 may be removed from the side walls 14 and the portion of the top wall 23 bent down and welded to the beveled end edges of the side walls.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:

1. A unit for railroad crossings and the like comprising a shell of deformed metal having a top tread plate wall and depending side walls that converge downwardly, said side walls having inset supporting feet located between the side walls.

2. A unit for railroad crossings and the like comprising a shell of deformed metal having a top tread wall and side walls depending from the outer edges of the tread wall and inclined inwardly to provide a supporting base of a width less than that of the tread wall, said side walls having inset flanges along their lower edges extending laterally towards each other.

3. A railroad crossing or the like comprising a plurality of units located side by side, the units consisting of metal shells having top tread walls and supporting side walls, a filling of cementitious material filling the shells and providing sufficient weight to the units to hold them by gravity against upward displacement, and means securing the cementitious material in the shells.

4. A railroad crossing or the like comprising a plurality of units located side by side, the units consisting of metal shells having top tread walls and supporting side walls, a filling of cementitious material filling the shells and providing sufficient weight to the units to hold them by gravity against upward displacement, and means for securing them against longitudinal displacement, and means securing the cementitious material in the shells.

5. A railroad crossing or the like comprising a plurality of metal units having top walls, and side walls extending downwardly from the side edges of the top walls, the side walls of adjacent units forming between them a space that generally tapers in an upward direction, and insulating strips in certain of said spaces.

6. A railroad crossing or the like comprising a plurality of metal units having top walls and side walls extending downwardly from the side edges of the top walls, the side walls of adjacent units forming between them a space that generally tapers in an upward direction, and insulating strips located alongside the inclined side walls of certain of the units and being thereby held against upward displacement.

7. A railroad crossing or the like comprising a plurality of units located side by side and end to end, the units being of a length to bridge the spaces between the ties, and said units consisting of metal shells having top tread walls and supporting side walls, a filling of cementitious material filling the shells and providing sufficient weight to the units to hold them by gravity against upward displacement, and means securing the cementitious material in the shells.

8. A railroad crossing or the like comprising a plurality of units located side by side and end to end, the units being of a length to bridge the spaces between the ties, and said units consisting of metal shells having top tread walls and supporting side walls, a filling of cementitious material filling the shells and providing sufficient weight to the units to hold them by gravity against upward displacement, and means for securing them against longitudinal displacement, and means securing the cementitious material in the shells.

HERBERT E. WHITE.