Oct. 30, 1928. 1,689,278

G. D. CRABBS

RAILROAD CROSSING

Filed June 29, 1926

Fig. 1.

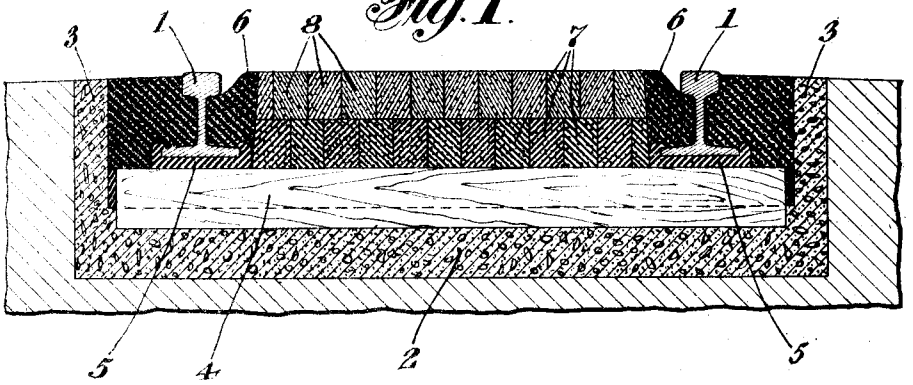
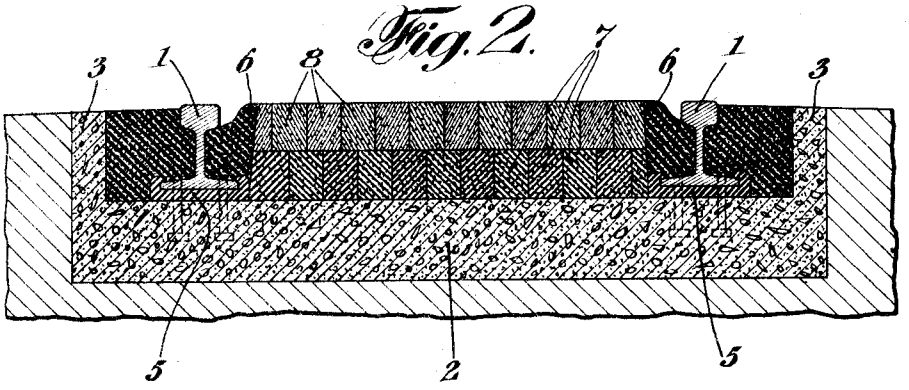


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE D. CRABBS, OF CINCINNATI, OHIO, ASSIGNOR TO THE PHILIP CAREY MANUFACTURING COMPANY, A CORPORATION OF OHIO.

RAILROAD CROSSING.

Application filed June 29, 1926. Serial No. 119,299.

My invention relates to railroad highway crossings. Heretofore it has been necessary to repair such crossings several times a year and generally to replace them by a new crossing within a year from date of installation.

In my invention I have overcome the defects in forming crossings and provided a crossing having many advantages. My crossing provides for keeping out moisture, for insulating the tracks, provides for reducing or absorbing the noise vibrations, absorbs all vibrations of track movement without damage to adjacent portions of the crossings, which has heretofore been one of the chief causes of trouble, and my crossing gives many other advantages which will be readily seen by railroad construction and highway engineers.

In the drawings Fig. 1 is a cross section of my invention and Fig. 2 is a modification thereof.

In the drawing 1, 1 are the rails, 2 is the foundation upon which the tracks are to be laid. As shown, this foundation is of concrete, forming a bed the length of the width of the highway and having vertical sides 3, 3 parallel to the rails 1, 1. This form of foundation entirely separates the crossing from adjacent portions of the highway, forming a separate highway unit crossing. Of course, this is not always necessary to my broad invention and may in many instances be dispensed with and the rails laid on ties on the ordinary bed.

As shown in Fig. 1—the ties 4 in this figure shown of wood are laid in, or on, the foundation. I provide for use if desired a rail cushion 5 especially useful where the rails are laid on concrete or concrete ties but also an advantage with wood ties. These cushions 5 are preformed from a homogeneous mass of bitumen and a filler, for instance asphalt and any fibrous filler or asphalt rubber and a fibrous filler formed under pressure to the desired form to readily fit under, and preferably extend up and over a portion of, the rail plate or base. These cushions are resilient and serve to absorb part of the vertical movement and vibration of the rail. On each side of the rail web are placed rail fillers 6, 6. These rail fillers are preformed by moulding under pressure a homogeneous mass of bitumen, a fibrous filler, and if desired a small amount of pulverulent or fine granular mineral filler may be used, but not sufficient to make the rail filler too hard. These rail fillers 6, 6 like the cushion 5, absorb vibrations of the rail serving not only to protect adjacent construction but also by absorbing the vibrations tends to make the crossing quiet as a train passes over.

Upon the ties 4 between the rails 1, 1 but parallel to the rails I lay boards or blocks 7, preferably containing bitumen and a filler, similar to the rail filler material referred to, preformed under pressure to form board like slabs or blocks, readily handled and readily applied in position. Upon these boards or blocks 7, I apply between the rails 1, 1 a wearing surface of blocks or slabs 8. These blocks or slabs 8 forming the wearing or traffic surface are preferably formed from a homogeneous mass of bitumen, a fibrous filler and a quantity of granular or pulverulent mineral material, sufficient to provide when formed to desired shape under pressure a relatively hard form maintaining board, slab or block that will withstand traffic wear, strains and stresses and will absorb to some extent vibrations, it being preferably harder and more rigid than the rail fillers 6, 6.

As will be seen in the modification shown in Fig. 2 the separate ties 4 are dispensed with and the rails laid on the concrete foundation 2, with the cushion 5 between the rail and the foundation.

My crossing, as will be evident from the above, provides for absorbing vibrations and movement of the rail so that adjacent portions of the highway are protected from damage or deterioration due to movement or vibration of the rail. It also provides by reason of the waterproof nature of the rail fillers 6, 6 and the slabs 8, 8 and 7, 7, protection from deterioration due to moisture, water, oil, etc. It protects the rails from water and likewise the foundation upon which the rails are laid, as well as the ties. By reason of the unit construction of the separate parts such as the traffic surface slabs or boards 8, 8 and other parts of my crossing, access may be readily obtained to any part of the crossing without damage to the surface, it being apparent that any of the parts may be readily taken up and replaced without damage.

My invention provides a crossing composed of slabs of nonflowing, nonwarping, waterproof material adapted to absorb traffic strains and stresses.

Many modifications and changes can be made without departing from my broad invention which is a railroad crossing having a traffic surface composed of preformed units of waterproof material and a suitable filler.

Claims—

1. A track pavement consisting of a rail, a rail filler in contact therewith, and a plurality of independent preformed non-laminated slabs containing bituminous material and a fibrous filler having the characteristics of having been formed under pressure into slabs adapted to absorb vibrations without fracture, adjacent to said rail filler.

2. A track pavement consisting of a rail, a rail filler of bituminous material, and a filler in contact therewith, and a plurality of independent preformed non-laminated slabs containing bituminous material and a fibrous material adjacent to said filler, said slabs being relatively harder than said rail fillers.

3. A railroad crossing consisting of rails and a traffic surface, said surface composed of a plurality of independent preformed non-laminated units of bituminous material containing a fibrous material having the characteristics of having been formed under pressure into independent slabs.

4. A railroad crossing consisting of rails and a traffic surface, said surface composed of a plurality of independent preformed non-laminated units of bituminous material containing a pulverulent mineral material having the characteristics of having been formed under pressure into independent slabs adapted to withstand strains and stresses without fracture.

5. A railroad crossing consisting of rails and a traffic surface, said surface composed of a plurality of independent preformed non-laminated units of bituminous material containing fibrous and pulverulent mineral material therein having the characteristics of having been formed under pressure into independent slabs adapted to withstand strains and stresses without fracture.

6. A track pavement composed of a rail, a rail filler, in said rail, containing bituminous material, a traffic surface composed of a portion of said rail filler and a plurality of independent slabs containing bituminous material and a fibrous material having characteristics resulting from having been formed under pressure into slabs adapted to absorb traffic strains and stresses whereby the rail, the rail filler and the said slabs form a waterproof traffic surface.

In testimony whereof, I have signed my name to this specification.

GEORGE D. CRABBS.