Oct. 30, 1928. 1,689,300

H. L. ROGERS

TRACK PAVEMENT

Filed Feb. 18, 1927

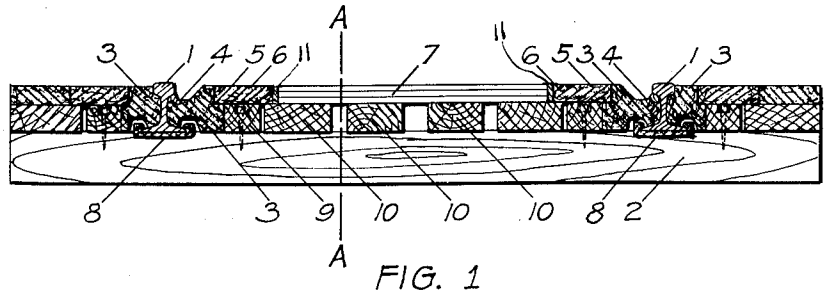


FIG. 1

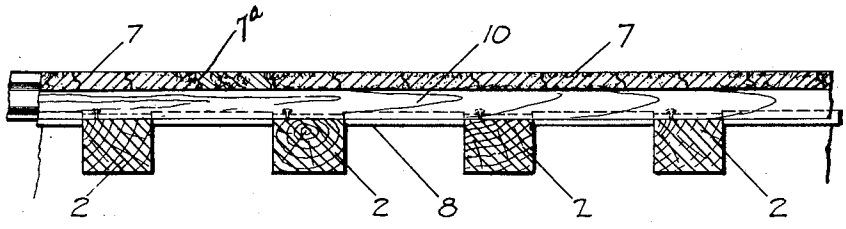


FIG. 2

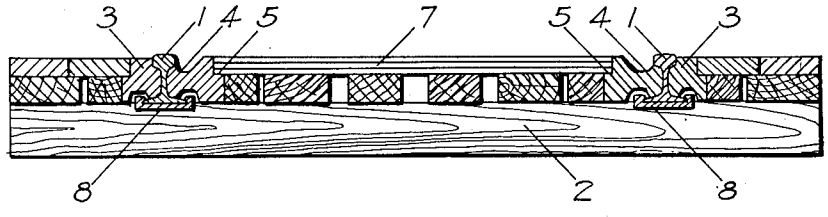


FIG. 3

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UNITED STATES PATENT OFFICE.

HOMER L. ROGERS, OF CINCINNATI, OHIO, ASSIGNOR TO THE PHILIP CAREY MANUFACTURING COMPANY, A CORPORATION OF OHIO.

TRACK PAVEMENT.

Application filed February 18, 1927. Serial No. 169,343.

My invention relates to track pavement, that is, to pavements arranged between track rails or adjacent to track rails. As is known, heretofore pavements adjacent to track rails, and pavement between track rails as in the case of railroad crossings, have been constantly replaced at great expense with considerable annoyance to the public and obstruction to traffic. I have sought to provide a track pavement which will absorb or dissipate the causes of the trouble and provide a pavement of long life, greater efficiency and one having a low maintainance cost.

My track pavement and crossing permits easy access to the track rails, tends to exclude water and frost, is easily installed, being preformed in a factory and delivered ready to lay, is easily renewed in whole or in part, forms substantially a single unit of the track and pavement, is very quite, absorbing and dissipating within its structure vibrations and noise. My construction provides a non-warping traffic surface with corresponding reduction of danger which arises when the ordinary construction is used. My construction also provides a protection to the automatic train control systems and to the signal control systems, especially those using electricity.

In the drawings Figure 1 is a cross section of my track pavement and Figure 2 is a longitudinal section of Fig. 1 on the line A—A. Figure 3 is a modification of Fig. 1.

In the drawings I have shown in Figures 1 and 2 the preferred form of my track pavement for a railroad crossing—1, 1, are the track rails; 2, 2 are the rail ties laid in the usual manner; 3, 3 are rail fillers formed to conform to the rail on each side as shown, filling the space in the rail below the ball. These rail fillers 3, 3 may be, if desired, provided with a flange way 4. A shoulder 5 is provided on the rail filler to receive the lumber or slabs forming the traffic surface. I also provide for use if desired, but same is not essential, a rail pad 8 which preferably is arranged between the rail 1 and the ties 2. The rail 1, rail filler 3, 3 and the rail pad 8 if used, all being in position I then place against the rail filler a lumber stringer 9 and fixedly secure same in place by attaching it to at least every other tie 2. This stringer 9 is of the height from the tie 2 to its top such that its top surface is in line with the shoulder 5 on the rail filler 3. Next to the stringer 9, but slightly spaced therefrom, is laid a second stringer 10, and next to that, but spaced therefrom is laid another stringer 10, the number of stringers used depending upon the pavement to be provided. In a track crossing the space between the rails would control the number laid between the rails and on the outside of the track either the length of the ties or the amount of approach that is to be provided controls. Each of the stringers 9 and 10, especially between rails must be of the same vertical height from the ties 2, 2 so as to afford a level foundation for the surface slabs. These stringers 9, 10 laid longitudinally of the track are fixedly secured preferably to at least every other tie 2. Upon the shoulder 5 of the rail filler 3, the upper surface of the stringer 9, and a portion of the upper surface of the next adjacent stringer 10—spanning the space between stringers 9 and 10 is laid longitudinally of the track a surface or traffic bearing slab 6, which is spiked, lag screwed, or otherwise fixedly secured, to the stringers 9 and 10 or both.

For convenience in obtaining access to rail or rail filler I prefer to attach it to stringer 9 only. Arranged at an angle to said traffic bearing slag 6 are traffic bearing slabs 7, 7. These slabs 7, 7, completely cover the remaining foundation stringers bridging spaces between and providing a traffic bearing surface. These slabs 7, 7 are likewise spiked, lag screwed, or otherwise permanently secured to the foundation stringers 10, 10. Between the ends of the slabs 7, 7 and the slab 6, I provide suitable means 11 to seal or close against moisture. As shown 11 is a body of preformed plastic bituminous material that is sufficiently plastic to be readily compressed into any inequalities and seal the joint between the slabs and also serve as an expansion joint. As will be seen from the drawing and the above I have provided a track pavement or crossing which is substantially a unit structure, all parts of which are preformed, readily laid, and affords easy access to any part for purpose of repair or replacement without disturbing the entire crossing or adjacent roadway. In carrying out my invention, I prefer to use in the manufacture of my track pavement, rail filler, and surface or traffic bearing slabs, a material that

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will not creep, flow, fracture, or dust, is capable of prolonged use without loss of volume and will not check or warp but is waterproof, is sufficiently plastic to absorb within itself the shocks, and vibrations to which it must be submitted without transmitting same to adjacent structures, and without becoming deformed under same or under the strains and pressures of all ordinary passing traffic. I have found such a material in a combination of asphalt, which affords bonding, waterproofing with life prolonging qualities, and a filler composed of a mixture of fibers and mineral particles either powdered or granular. This combination of asphalt and a filler, the major portion of the combination being the filler, is preformed to form the rail fillers 3, the slabs 6 and 7 under high pressure. Such a material has all the required qualities set forth about to absorb and dissipate within itself the shock, strains and vibrations to which it is submitted by rail traffic, or the vehicular traffic, without loss of volume, or damage to the pavement or to adjacent road structure while withstanding without deterioration the effects of natural elements to which it is subjected in all ordinary use.

In the construction of the slabs 6 and 7 a larger quantity of mineral filler is preferably used and they are moulded under greater pressure than the rail filler to form a greater degree of hardness.

In Figure 3, I have shown a modification in which I omit the longitudinal surface slab 6 and apply the lateral slabs 7 so as to extend over the rail filler shoulder.

After the track pavement has been constructed as described, I may apply to the surface and in the crevices a suitable surfacing of hot asphalt or asphalt and sand.

The construction on the outside of the rails may be the same as between the rails or if desired the lateral surface slabs 7 may be omitted and only longitudinal slabs 6 used.

I preferably form the surface slabs 7 so that the abutting edges are complementary to each other and a portion of one overlaps a portion of the adjacent slab as shown at 7^a in Fig. 2.

The expansion joint 11 may be of any desired form either of the preformed type or of the poured type.

Claims—

1. A track pavement composed of a rail, ties for said rail, a rail filler in said rail, a traffic surface composed of preformed slabs of bituminous material and a filler, supported on said ties adjacent to said filler.

2. A track pavement composed of a rail, ties for said rail, a traffic surface composed of preformed slabs of bituminous material and a filler, supported on said ties, and a plurality of means independent of each other arranged to support said slabs on said ties.

3. A track pavement composed of a rail, ties for said rail, a rail filler in said rail, a traffic surface composed of preformed slabs of bituminous material and a filler, supported on said ties adjacent to said filler, some of said slabs being laid longitudinally to said rail.

4. A track pavement composed of a rail, ties for said rail, a traffic surface composed of preformed slabs of bituminous material and a filler, supported on said ties, and means supporting said slabs on said ties, some of said slabs being laid transversely to said rail.

5. A track pavement composed of a track and a traffic surface, including rails, ties for said rails, rail fillers within said rails, preformed slabs of bituminous material and a filler supported on said ties and arranged to form with a portion of said fillers a traffic surface.

6. A track pavement composed of a track and a traffic surface, including rails, ties for said rails, preformed slabs of bituminous material and a filler, rail fillers in said rails, and means for supporting said slabs on said ties.

7. A track pavement composed of a track and a traffic surface, including rails, ties for said rails, preformed slabs of bituminous material and a filler, rail fillers in said rails, means for supporting said slabs on said ties, some of said slabs being supported in part by the rail filler and in part by said supporting means.

8. A track pavement composed of a track and a traffic surface, including rails, ties for said rails, rail fillers within said rails, slabs of bituminous material and a filler arranged to form a traffic surface, and means for supporting said slabs on said ties.

9. A track pavement composed of a track and a traffic surface, including rails, ties for said rails, rail fillers within said rails, preformed slabs of bituminous material and a filler supported on said ties and arranged to form with a portion of said fillers the traffic surface, and a surfacing of bituminous material.

10. A track pavement composed of a track and a traffic surface, including rails, ties for said rails, rail fillers within said rails, preformed slabs of bituminous material and a filler supported on said ties and arranged to form with a portion of said fillers the traffic surface, and a surfacing of bituminous material and sand.

11. A track pavement composed of rails and a traffic surface, including rails, ties for said rails, rail fillers in said rails, preformed slabs supported on said ties, said rail fillers and said slabs being plastic like and adapted to absorb shocks and stresses and being sufficiently hard to withstand traffic conditions and being a waterproof material, said slabs being a harder and denser material than said fillers.

12. In a track pavement, a rail, a support for said rail, a traffic bearing surface com-

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posed of slabs of waterproof grainless material and means sealing the joints between said slabs.

13. In a track pavement, a rail, a support for said rail, a traffic bearing surface composed of slabs of waterproof grainless material and a body of waterproof material forming means sealing the joints between said slabs.

14. In a track pavement, a rail, a support for said rail, a traffic bearing surface composed of slabs of waterproof grainless material and a plastic body forming means sealing the joints between said slabs.

15. In a track pavement, a rail, a support for said rail, a traffic bearing surface composed of slabs of waterproof grainless material and means sealing the joints between said slabs, the adjacent edges of said slabs being so formed that a portion of one overlaps a portion of the next adjacent slab.

16. A track pavement composed of a rail, ties for said rail, a traffic surface composed of preformed slabs of bituminous material and a filler, supported on said ties, some of said slabs being laid longitudinally to said rail, and means between some of said slabs to compensate for expansion and contraction.

17. A track pavement composed of a rail, ties for said rail, a traffic surface composed of preformed slabs of bituminous material and a filler, a rail filler in said rails, said slabs being supported in part by said rail filler.

18. A track pavement composed of a rail, ties for said rail, a traffic surface composed of preformed slabs of bituminous material and a filler, a rail filler in said rails supported in part by said rail and by said ties, said slabs in part supported by said rail filler.

19. A track pavement composed of a rail, ties for said rail, a rail filler, a portion of which extends beyond the base of the rail, means for supporting said portion, a traffic surface composed of preformed slabs of bituminous material and a filler supported in part by said rail filler and in part by said ties.

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

HOMER L. ROGERS.

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