Nov. 27, 1934. A. C. FISCHER 1,982,580

CONSTRUCTIONAL MATERIAL AND PAVING STRUCTURE

Filed July 9, 1928

Fig. 1

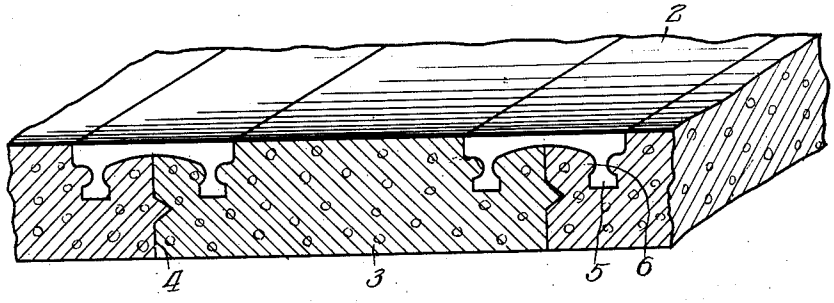



Fig. 2

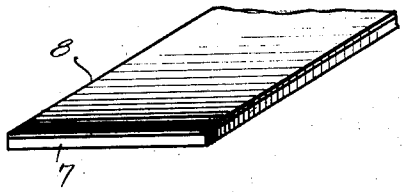



Fig. 3

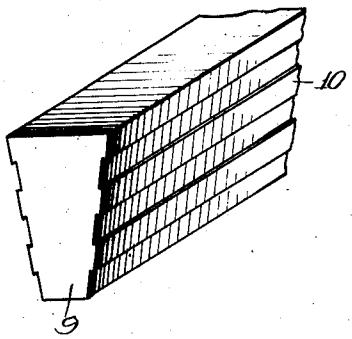
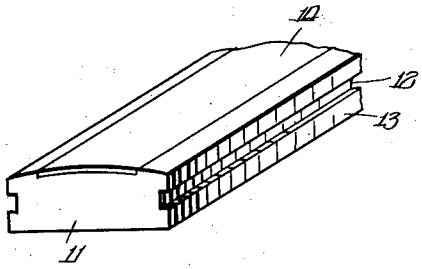



Fig. 4




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Patented Nov. 27, 1934 1,982,580

# UNITED STATES PATENT OFFICE

1,982,580

## CONSTRUCTIONAL MATERIAL AND PAVING STRUCTURE

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Application July 9, 1928, Serial No. 291,325

7 Claims. (Cl. 94—18)

This invention relates to expansion strips to be employed in pavements, streets, roads, highways and the like, and aims to provide a novel and improved flexible strip adapted to be partially embedded in a cement base and yieldable to prevent any fissures developing within the base from appearing on the surface.

The invention consists in the features, combinations, and arrangements hereinafter described or claimed, for carrying out the above stated object and such other objects as will hereinafter appear.

Broadly described, the invention pertains to a flexible strip having one face partially embedded within a concrete base. The concrete base is weakened at the point where the expansion joint is inserted, and hence any fissures caused from contraction and expansion will develop beneath the expansion joint. In order to prevent any resulting fissures from appearing on the surface, the expansion joints are composed of material which is strong and resilient so that they may yield without fracturing or breaking away from the base to allow infiltration of water beneath the pavement.

The expansion strip may be advantageously employed as a marking device to indicate traffic routes, stop signs, dividing lines and the like. This result may be accomplished by providing indices on the exposed face, or coating same with material contrasting with the color of the concrete base.

In the drawing:—

Figure 1 is a perspective view of a paving section embodying my invention; and

Figures 2, 3 and 4 are modified forms of the expansion joint.

Referring specifically to the drawing, numeral 2 designates an expansion joint formed from any material which is tough and resilient. The joint is typified by a body of fiberized bituminous material preformed from a mixture of bituminous material, fibrous material and mineral matter which combine to provide a tough resilient product. The bituminous material preferably includes blown asphalt prepared from petroleum oils, and a hardening asphalt, such as, Gilsonite, Grahamite or the like. The fibrous content is preferably in the nature of linear fibers, as distinguished from short fibers, in order to increase the binding strength, and is represented by such materials as felt fibers, cotton, hemp, flax, straw or the like. There may be included a proportion of tougher fiber, such as, brush, cocoanut, sisal or other strong fibers. The mineral material is represented by such substances as slate dust, limestone dust, silica, barytes, or any suitable filling which gives hardness to the resulting product. The following specific examples are given for suitable mixtures; asphalt sixty per cent (60%), fibrous material fifteen per cent, (15%) and mineral matter twenty-five per cent (25%); and asphalt fifty per cent (50%), fibrous material ten per cent (10%), long fibers five per cent (5%), and thirty-five to forty per cent (35–40%) mineral matter.

The material is prepared by mixing the ingredients in a suitable mixer and then extruding the mixture through a steam heated extruding machine while heated. After being extruded, the formed strips may be coated on at least one side with granular slate, rock, terra cotta or suitable coloring material, and pressed sufficiently to embed said material flush with the surface of the strip. Or the strip may be painted or enameled.

Thus manufactured, the strips are adapted for use as expansion joints or marking devices by being positioned in a foundation layer 3 of poured concrete in which they are secured after the concrete hardens. The concrete layer is of less thickness beneath the expansion joint, and thus weakened so that fissure 4 caused by expansion and contraction will develop in the concrete beneath the joints rather than between them, and without in any way effecting the union of the joint with the concrete.

Expansion joint 2 may advantageously be provided with flanges 5 extending from one face and grooved along the edges at 6 to key the joint within the concrete.

The modification in Figure 2 comprises a flat body 7 of fiberized bituminous or other resilient material, having one face painted or coated with layer of material 8 contrasting with the color of the pavement.

The modification in Figure 3 comprises a resilient strip 9, wedge-shaped with projection 10 on the side faces to interlock with the concrete and prevent the strip from working out.

The modification in Figure 4 comprises a resilient body 11 channelled along the edges at 12 to provide means 13 for keying with the concrete. The top surface may be plane or slightly curved, and inlaid with a coating 14 of white reclaimed rubber, enamel, paint or other coating material.

Obviously the invention is not limited to the details of the illustrated embodiments, all of which may be variously modified. Moreover it is not indispensible that all features of the invention be used conjointly, as certain of them may be em-

ployed to advantage in various combinations and sub-combinations.

Having described my invention, I claim:

1. A paving structure, comprising a monolithic layer of plastic material poured in place, seams formed along predetermined lines for dividing the layer into sections and weakening the juncture between said sections, preformed sealing composition strips providing a waterproof covering over the seams, and a colored layer on the exposed faces to contrast with the plastic layer.

2. A combined street marking and expansion strip, comprising a body of yieldable material having two opposite faces provided with projections for keying with adjacently poured material and another face coated with a colored layer contrasting with that of the poured material.

3. An expansion and street marking strip comprising a body of fiberized bituminous material having a substantially wide plane face adapted to be exposed to traffic, channels on opposite edges of the body for locking same in a paving, and a wear resisting colored layer applied to the substantially wide plane face of the body.

4. A combination expansion joint and street marking device comprising a flexible strip having a substantially wide plane face adapted to be exposed to traffic, channels on opposite edges of the strip for locking said strip in a paving, and a wear resisting colored layer applied to the substantially wide plane face of the strip.

5. A combination expansion joint and street marking device comprising a flexible board-like composition strip having a substantially wide plane face adapted to be exposed to traffic, channels on opposite edges of the strip for locking said strip in a paving, and a wear resisting colored layer applied to cover the substantially wide plane face of the strip.

6. A paving structure comprising a monolithic layer of plastic material poured in place, areas of reduced thickness at spaced intervals to weaken the plastic layer along predetermined lines, and a preformed sealing and street marking strip inserted within the areas of reduced thickness, said strips comprising a body of fiberized bituminous material having a substantially wide plane face adapted to be exposed to traffic, channels on opposite edges of the body for locking same in a paving, and a wear resisting colored layer applied to the substantially wide plane face of the body.

7. A paving structure comprising a monolithic layer of plastic material poured in place, an area of reduced thickness along a predetermined line of the plastic layer to weaken same, and a preformed sealing and street marking device comprising a flexible strip having a substantially wide plane face adapted to be exposed to traffic, channels on opposite edges of the strip for locking said strip in a paving, and a wear resisting colored layer applied to the substantially wide plane face of the strip.

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