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1,661,037

J. R. GAMMETER

PAVING TILE

Filed March 27, 1924

FIG-1-

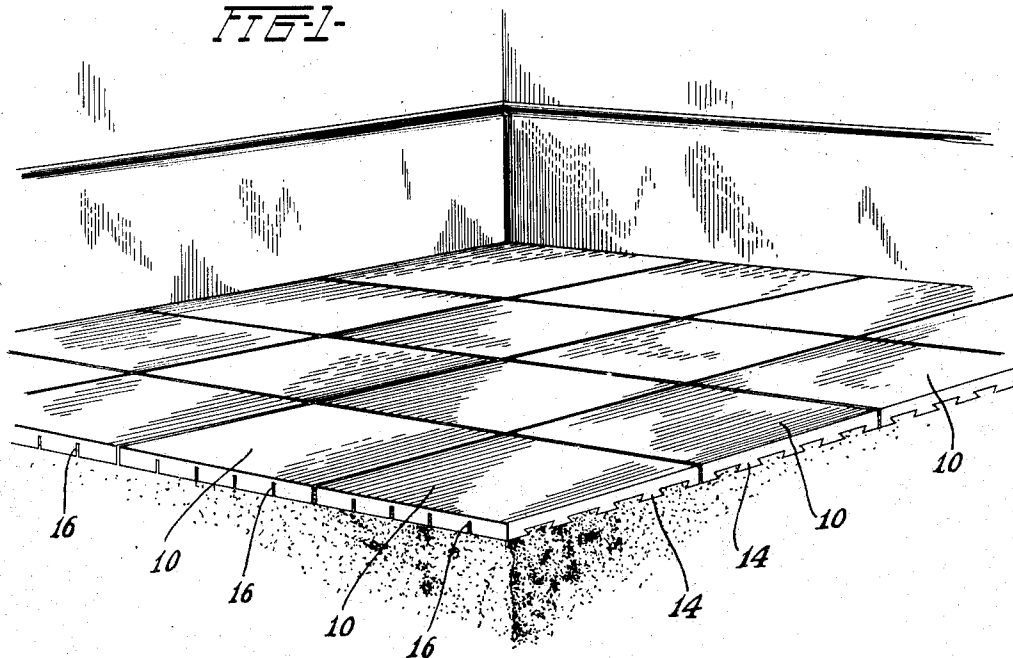


FIG-2-

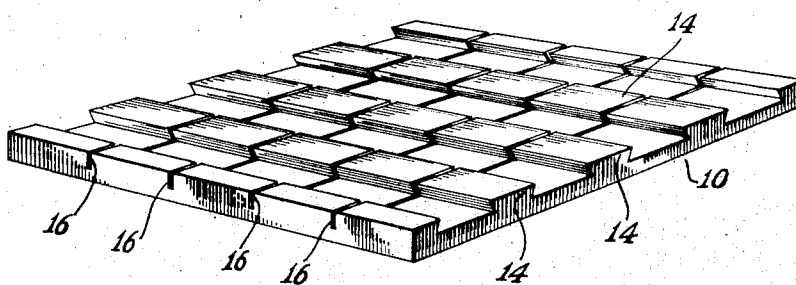
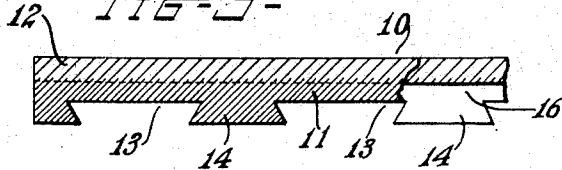


FIG-3-



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UNITED STATES PATENT OFFICE.

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PAVING TILE.

Application filed March 27, 1924. Serial No. 702,320.

This invention relates to paving or flooring material presenting a resilient or cushion surface and more particularly to materials of this character in the form of tiles or paving blocks. Heretofore tiles and paving blocks composed of rubber or provided with a facing of rubber have been made, but the proper anchoring of the rubber to its underlying structure, such as a roadbed, a floor, or a paving block, has presented a difficult problem, for which many solutions have been proposed, and, so far as I am aware, no one of them has been entirely satisfactory.

The chief object of my invention is to provide an improved method of anchoring a sheet of resilient rubber to an underlying structure such as a concrete floor, paving block or roadbed, and to provide an improved floor structure for a room, a roadway or the like. Another object is to provide a floor tile or the like of composite construction which will not be caused to bend or warp by unequal expansion or contraction of its component materials.

Of the accompanying drawings:

Fig. 1 is a perspective view of a plurality of tiles, embodying my invention, in assembled relation upon a concrete sub-flooring structure.

Fig. 2 is a perspective view, on a larger scale, of one of the tiles in inverted position.

Fig. 3 is a transverse section of a portion of the same, with its tread surface uppermost.

My invention, briefly stated, comprises vulcanizing a sheet of soft-rubber compound to a substructure comprising rubber and adapted to provide a relatively stiff base upon vulcanization, and forming the opposite side of said base with a surface adapted to adhere to, and preferably to interlock with, a moldable, hardening composition such as concrete.

Referring to the drawings, and particularly to Fig. 3, the tile 10 comprises a base structure of a relatively hard, fibrous, vulcanized rubber composition 11, and a soft rubber surface layer 12 vulcanized thereon.

The reverse side of the base portion 11, in the embodiment here shown, is formed with parallel undercut slots or grooves 13, 13, defining dove-tail ribs 14, 14, which are adapted to be pressed into and interlock with a hardening material such as cement or con-

crete to provide a firm anchorage. I may mount the tiles upon a sub-flooring of concrete, as shown in Fig. 1, embedding the dove-tail ribs 14 in the concrete, before the latter hardens, or I may similarly provide each tile with an individual backing of the hardening material, as will be understood without special illustration, so that they may be used in the same manner as bricks for roadways or as tiles for flooring.

To prevent unequal expansion or contraction of the component elements of the rubber tile structure from warping it, and to increase its flexibility, its base layer of hard, fibrous rubber 11 preferably is formed with a plurality of parallel slots or cuts 16, 16, disposed transversely with relation to the ribs 14, and extending almost through the hard rubber layer, as clearly shown in Fig. 3. Thus the rubber structure is prevented from curling, so as to facilitate the association of the concrete or similar base structure therewith, and additional surface for adhesion is provided.

The tiles may be molded and vulcanized in large sheets, in accordance with known or suitable practice and subsequently cut into a plurality of smaller tiles of any desired shape. The surface layers 12 of different tiles or blocks may be of different colors, so that artistic combinations may be produced in the laying thereof. The hard body portion of the tile may be of an inexpensive material, such as a fiber-filled rubber compound or rag stock, and the cost of the tile may thus be reduced without impairing its wearing qualities. The grooves 13 and 16 permit the tiles to expand and contract with the material to which they are attached, without rupture of the rubber surface.

Modifications may be resorted to without departing from the scope of my invention.

I claim:

1. A paving tile comprising a surface layer of resilient material and a backing of hard material integrally united therewith, said backing having a multiplicity of kerfs extending substantially therethrough to compensate for unequal expansion and contraction of the surface layer and the backing.

2. A paving tile comprising a surface of relatively soft rubber and a backing of relatively hard rubber composition integrally secured thereto, said backing being traversed by a multiplicity of slots extend-

ing across the backing and substantially therethrough to compensate for unequal expansion and contraction of the facing and backing.

3 3. A paving tile comprising a surface layer of resilient material and a backing of hard material integrally united therewith, said backing having formed therein parallel undercurrent grooves traversed by slits extending substantially through the backing for compensating for unequal expansion and contraction of the surface layer and the backing.

4. A paving tile comprising a surface layer of relatively soft rubber and a backing of hard material integrally united thereto, said backing being formed on its reverse side with parallel ribs for anchoring the tile in a substructure and with channels traversing the ribs and extending substantially through the backing for compensating for unequal expansion and contractions of the surface layer and backing.

5. A paving tile comprising a surface layer of a relatively soft rubber and a back-

ing of a relatively hard rubber both layers being vulcanized in contact, said backing having on its reverse side projecting ribs for anchoring the tile to a substructure and a multiplicity of kerfs traversing said ribs and extending substantially through the backing for compensating for the unequal expansion and contractions of the surface layer and the backing.

6. The method of making a floor structure which comprises vulcanizing a facing layer of soft rubber to a backing layer of hard rubber composition and forming the reverse side of the backing layer with channels extending substantially therethrough to prevent differential expansion between the facing and backing from causing a warping or curling of the rubber, pressing the rubber structure against the surface of a bed of soft material adapted to harden upon standing, and permitting the said material to harden to lock the rubber structure in place.

In witness whereof I have hereunto set my hand this 25th day of March, 1924.

JOHN R. GAMMETER.