June 14, 1927. 1,632,395

J. W. FELLOWS

RESILIENT WEARING SURFACE

Filed Jan. 11, 1926

Fig. 1

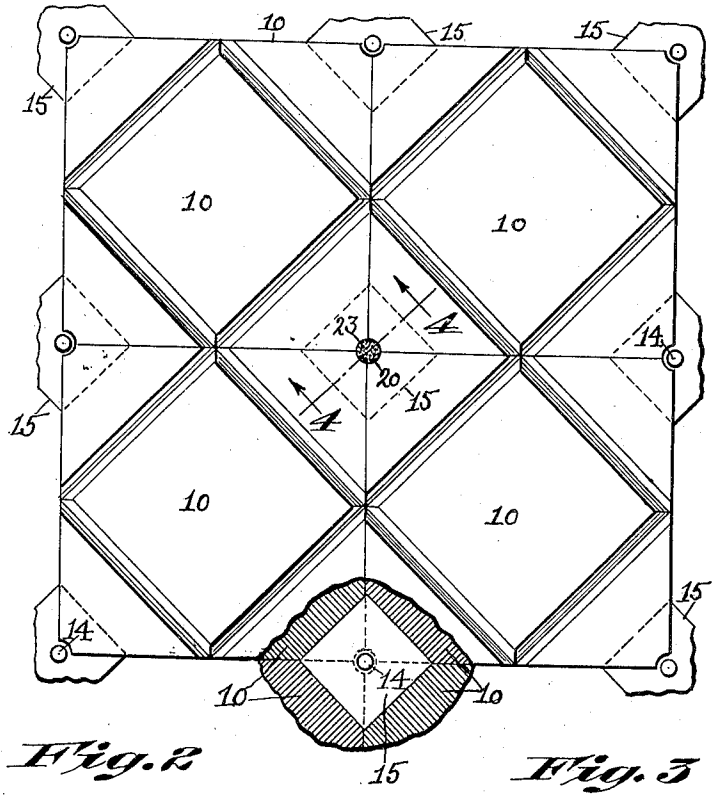
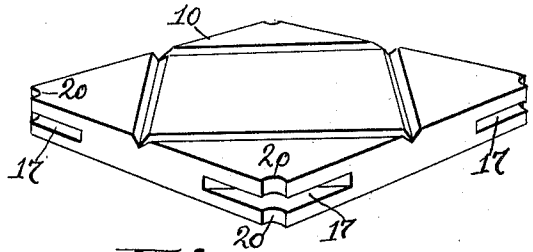


Fig. 2

Fig. 3



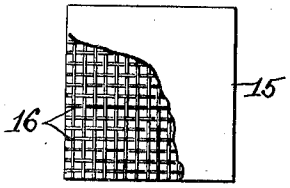
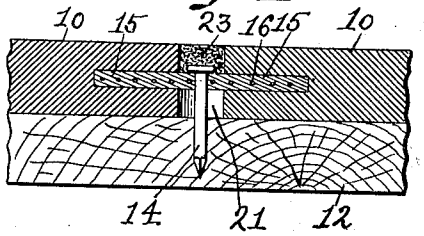
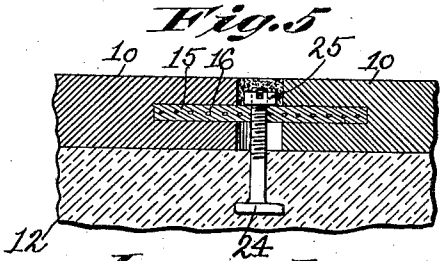


Fig. 4

Fig. 5





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UNITED STATES PATENT OFFICE.

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RESILIENT WEARING SURFACE.

Application filed January 11, 1926. Serial No. 80,468.

This invention relates to a wearing surface for a foundation member capable of use in the construction of pavement, flooring and the like, and has for its object to provide a superior wearing surface layer for a foundation member, such as a concrete road, a wooden bridge, a floor or like structure designed to be traveled upon and subjected to shocks and blows.

To this end, the wearing surface layer is composed of blocks or members of wear-resisting, resilient composition, and connecting members of greater resiliency.

The blocks may and preferably will be made of rubber composition which is capable of resisting wear, is of limited resiliency, is more or less capable of absorbing blows and shocks and is therefore noiseless.

The connecting members for the blocks are preferably made of pieces of sheet rubber composition strengthened by a reinforcing member, preferably metallic.

The connecting members may be designated the elastic members of the wearing surface and co-operate with the blocks or wearing members to connect the latter together to form the wearing surface layer for the underlying foundation member.

The elastic or resilient connecting members are secured to the foundation member by fastening devices preferably passing therethrough externally of the individual wearing blocks or members, and said fastening devices are protected from being loosened by shocks or blows upon the wearing members or blocks by the resiliency of the blocks and by the greater resiliency of the connecting members.

These and other features of the invention will be hereinafter described and particularly pointed out in the claims at the end of this specification.

In the drawing illustrating the preferred embodiment of the invention, Figure 1 is a plan with a portion broken away illustrating a foundation member provided with a wearing surface embodying this invention; Fig. 2 is a perspective of one of the wearing blocks shown in Fig. 1; Fig. 3 is a plan view of one of the resilient connecting pieces or members with a portion broken away to show the metallic reinforcement; Fig. 4 is a sectional detail on the line 4—4 illustrating the manner in which adjacent paving blocks are secured to a wooden foundation member, and Fig. 5 is a view similar to that shown in Fig. 4, the foundation member being concrete.

Referring to the drawing, a wearing surface embodying the present invention comprises a plurality of individual blocks or members 10 of rubber or other resilient composition of the character referred to.

In accordance with the present invention the blocks 10 are connected together and also to a foundation member 12 upon which the wearing surface layer is to be laid, in such manner that the blows and shocks incident to the normal use of the roadway, floor, bridge or other structure will not operate to loosen the fastening devices by which the individual blocks or members are secured to the foundation member.

For this purpose the individual blocks 10 are secured to the foundation member 12 by fastening devices 14 located between adjacent blocks 10 and arranged to co-operate with individual connecting members 15.

As herein shown, the connecting members comprise pieces 15 of rubber or other yieldable composition of greater resiliency than the blocks 10 and are provided with wire mesh 16 embedded therein to reinforce the same and to form an anchorage which the fastening devices 14 may engage to more securely fasten the structure of the wearing layer to the foundation member.

The individual blocks or wear members 10 are preferably mortised at 17 at each corner of the block as illustrated in Fig. 2, and the connecting members 15 are arranged between adjacent blocks 10 to extend into the mortises 17 so as to permit fastening devices 14 when the latter are extended downward through the connecting members 15 and into the foundation member 12, to fasten the blocks 10 with relation to the foundation member 12 in such manner that the loosening of the fastening devices will be prevented during the normal use of the roadway because of the yieldable connecting members 15.

In practice I prefer to form curved notches 20 at each corner of the blocks or members 10 to the end that when the blocks are laid in forming the wearing surfaces

for the roadway, floor or other structure, the notches 20 of four adjacent blocks will form a substantially circular opening 21 in which the fastening device 14, such as a nail, may be inserted and driven through the connecting member 15 by which the adjacent blocks 10 are connected together at such corner.

After the nail 14 has been driven into the foundation member 12, the upper end of the opening 21 may be closed by cementitious material 23, such as asphalt, which protects the nail from moisture, and provides the wearing layer with a flush upper surface.

In practice, nails are preferably employed where the foundation member 12 is of wood or similar material into which the nails may be driven. In some instances, it may be desirable to lay the blocks 10 over a concrete foundation member, in which case I prefer to embed bolts 24 in the concrete with the threaded ends of the bolts projecting upwardly. In laying the wearing layer, the threaded end of the bolt 24 may be projected through the connecting member 15, and a nut 25 screwed upon the upper end of the bolt to fasten to the foundation member the connecting member 15 and the adjacent blocks 10 with which the connecting member 15 co-operates.

From the above description, it will be observed that a wearing layer is provided for foundation members, which is capable of resisting blows and shocks, is durable and noiseless, and is composed of individual blocks 10 connected together and yieldably secured to the foundation member by members of greater resiliency, whereby the usual tendency of the fastening devices to become loose in the blocks incident to normal travel over the wearing layer is eliminated.

The individual blocks or members 10 and the connecting member 15 may be easily and quickly laid, and both fastened to the foundation member in minimum time and with minimum effort.

By providing the resilient block 10 with mortises at the corners thereof as described, the connecting members of greater resiliency are located below the upper surface of the wearing member and are not subject to wear by the traffic.

While the preferred embodiment of the invention has been illustrated and described, it is to be understood that the invention may be embodied in other forms within the scope of the following claims.

Having thus described the invention, what is claimed is:

1. The combination with a foundation member, of a plurality of resilient members co-operating to form a wearing layer for the foundation member, resilient members connecting together a plurality of the members of said wearing layer and provided with a reinforcing member, and fastening devices extended through said resilient connecting members and said reinforcing member for securing the wearing layer to said foundation member.

2. The combination with a foundation member, of a wearing layer therefor comprising a plurality of resilient members capable of resisting wear, blows and shocks, and members of greater resiliency connecting said wearing members, and fastening devices extended through said connecting members to connect the wearing layer to said foundation member.

3. The combination with a foundation member, of a plurality of resilient wearing members co-operating to form a wearing surface layer for the foundation member and each provided with mortises in the corners thereof, reinforced connecting pieces extended into said mortises and of greater resiliency than said wearing members, and fastening devices extended through said connecting pieces between adjacent blocks and into said foundation member.

4. The combination with a foundation member, of a plurality of resilient wearing members co-operating to form a wearing surface layer for the foundation member and each provided with mortises in the corners thereof, and with notched-out portions which co-operate when the wearing surface layer is laid to form an opening, resilient connecting pieces extended into said mortises, fastening devices extended through said connecting pieces and through the opening formed by the co-operating notched-out portions, and a plug member filling the opening above said fastening devices.

5. A wearing surface of the character described, comprising blocks of rubber capable of resisting wear, shocks and blows, and connecting members for said blocks, said connecting members being of rubber of greater resiliency than said blocks and provided with a metal reinforcement.

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

JOHN WILLIAM FELLOWS.