Feb. 4, 1930. W. E. SWANSON 1,746,169

RESILIENT PAVEMENT

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Fig. 1.

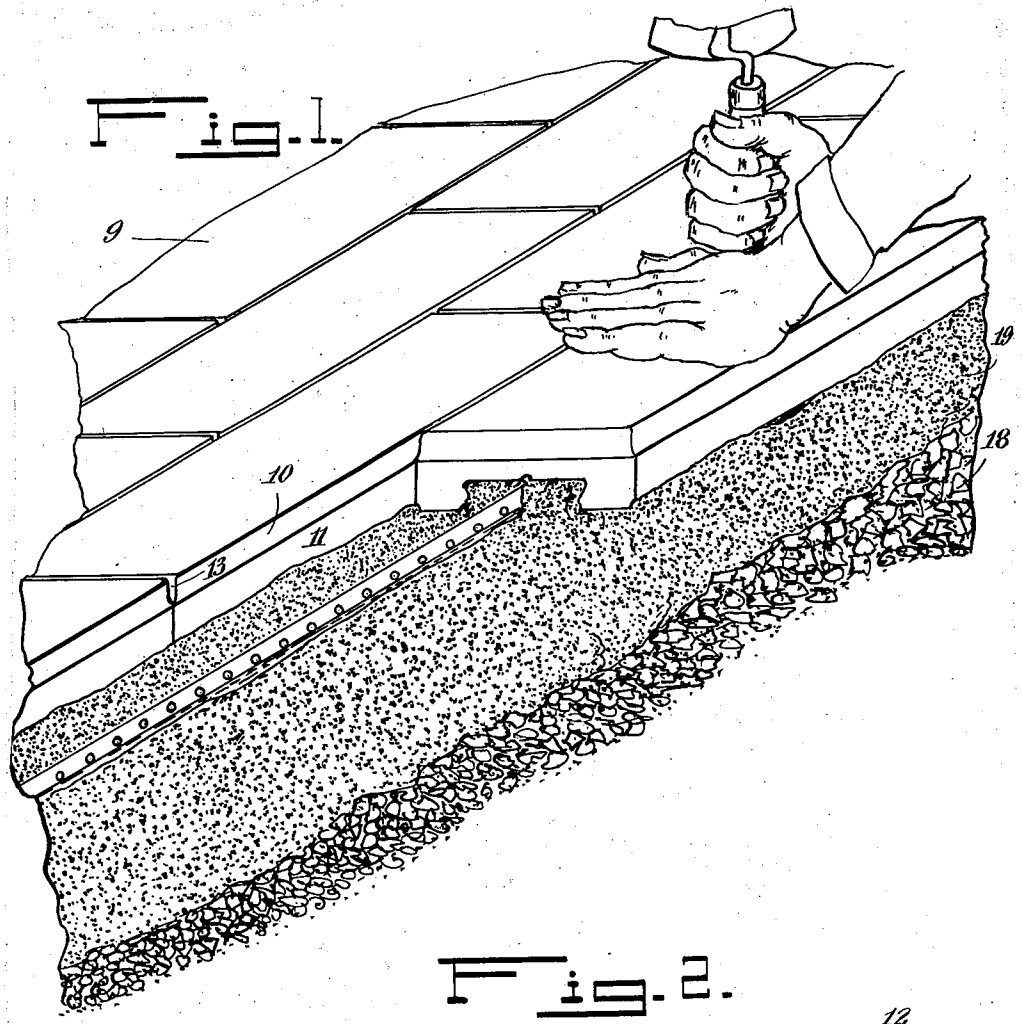
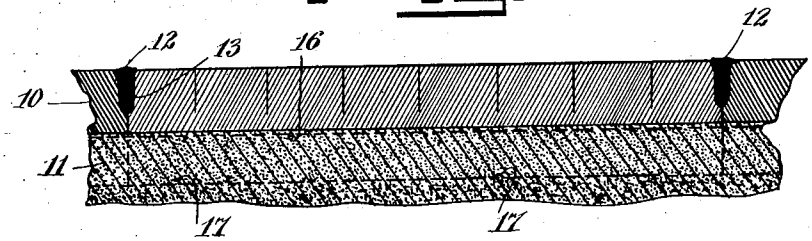


Fig. 2.



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Fig. 3.

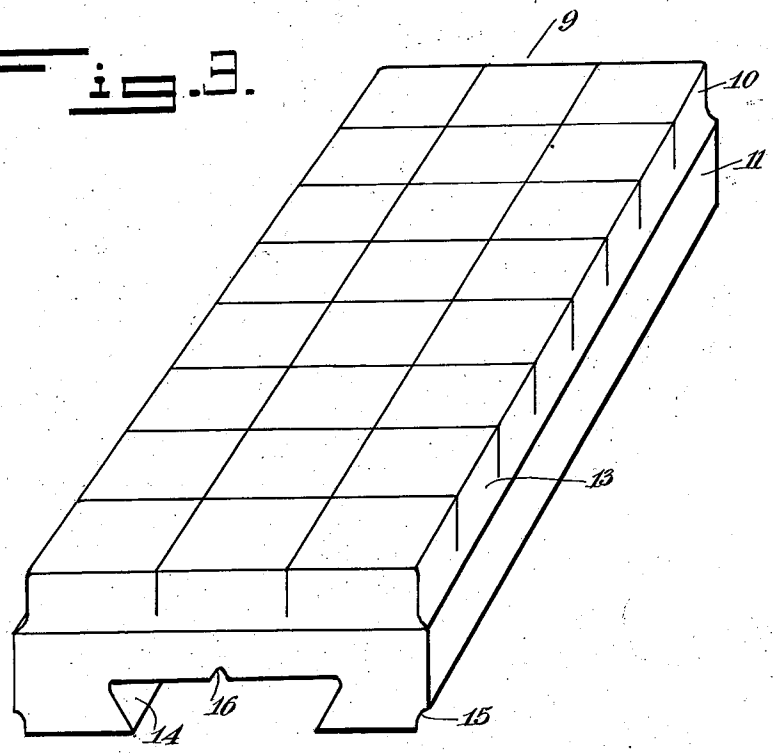
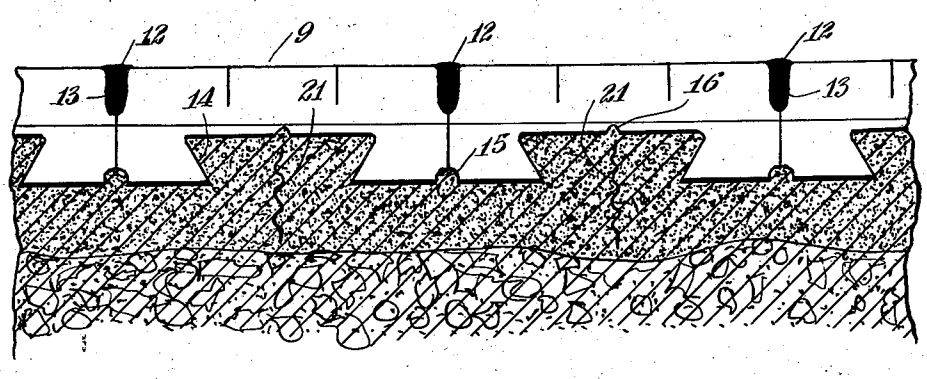


Fig. 4.



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RESILIENT PAVEMENT

Application filed March 8, 1926. Serial No. 93,022.

The present invention relates to pavements and road beds, and more particularly to rubber pavements and method of laying same.

Rubber pavements have many advantages over brick, stone or concrete pavements, in that noise and vibrations are practically eliminated. Such pavements are particularly applicable in the vicinities of hospitals, schools and the like. For general use where noise and vibration are not vital elements, the pavements excel others since they are light in weight, unaffected by the heat to which they may be subjected, and have wearing qualities much superior to cement and macadamized roads and pavements. The difficulty encountered in their adoption has been the tendency for them to creep under the influence of traction forces and inability rigidly to fix them in place. To overcome these objections wooden beds have been used for nailing the rubber blocks in position but these have not been satisfactory for the reason that the wood decays, the nails become loose, and frequent repairs are necessary.

The present invention eliminates the above difficulties by utilizing a road bed of soft concrete and embedding blocks having cavities in the base portions thereof, in the concrete bed so that the two portions of concrete congeal and form a solid mass of concrete protruding into the block and locking it securely in position. Transverse and longitudinal channels may be provided and the concrete common to the bed and base portion of the blocks may be reenforced as a further assurance of the blocks remaining in position.

An object of the present invention is to provide a practical rubber pavement laid on a concrete bed with each block locked firmly in position and forming substantially a part of the concrete bed, whereby creeping of the blocks is completely eliminated.

Other and further objects of the invention will be obvious upon an understanding of the illustrated embodiment about to be described, or will be indicated in the appended claim and many avantages other than those herein specifically referred to will occur to one skilled in the art upon employment of the invention in practice.

A preferred embodiment of the invention has been chosen for the purpose of illustration and description, and is shown in the accompanying drawings, wherein

Fig. 1 is a perspective view of one of the paving blocks;

Fig. 2 is an end view of a series of blocks embedded in concrete;

Fig. 3 is a perspective view of a pavement partly laid; and

Fig. 4 is a longitudinal cross section of a paving block as laid with certain portions of the concrete broken away.

The preferred form of rubber block 9 used in laying pavements in accordance with the present invention comprises an upper portion 10 of rubber having a relatively soft composition, and a lower portion 11 having a greater sulphur and asphalt mixture to form a harder composition for the base portion to prevent deterioration. The upper portion of the block is cut away at 13 adjacent the outer edges to form, when placed beside other blocks, a substantially U-shaped channel to receive a suitable cement or pitch 12, its composition being such that it will prevent the entry of water between the blocks and at the same time will not flow or stick to the pedestrians' shoes when exposed to the heat of the sun. The base portion of the block preferably comprises a longitudinal dovetail channel 14 extending along the central portion thereof, the width of the upper part of the channel being substantially greater than the width of the lower part thereof, so that it may be firmly locked to a concrete road bed. The longitudinal edges at the base of the block are cut away at 15 to form with an adjoining block a channel into which the concrete may be forced to form a traction stop. A channel 16 extending longitudinally of the block is likewise formed at the upptr portion of the dovetail channel to form an additional traction stop at the center of the block. Similar channels 17 are formed transvesely at suitable intervals, shown herein as four to the block, to resist the traction forces in a longitudinal direction.

In laying the pavement it is desirable to form a suitable bed of concrete which may,

for convenience, comprise a lower layer 18 of crushed rock, cement and sand poured wet into the bed, and an upper layer 19 of concrete fomed with cement and sand, which should be run through a screen having a relatively small mesh. Suitable reenforcing strips 21 may be laid longitudinally of the bed and spaced from each other a distance equal substantially to the width of a block.

While the concrete of the road bed is soft, rubber blocks having suitable cavities in the base portion thereof, preferably longitudinal channels 14, are carefully filled with concrete similar to that in the upper strata of the road bed, so that there are no air pockets therein, and are then placed over the corrugated reenforcing members 21 so that the upper edges thereof extend into the concrete placed in the rubber blocks. The blocks are then thoroughly tamped to cause the concrete to fill all the cavities in the dovetail channel and the various channels on the base portion of the block so that when it solidifies, there will be a solid block of reenforced concrete common to the road bed and to the paving blocks.

The waterproof cement or pitch 12 may then be used to fill the channels between the respective blocks to prevent water from leaking therebetween. If desired, the upper surface of the blocks may be cut to form a series of smaller blocks on the upper surface of each of the larger blocks, as shown in Fig. 3 thereby to reduce the traction roll longitudinally and transversely of the pavement.

It will be seen that a pavement in accordance with the present invention possesses the advantages enumerated hereinbefore with reference to rubber pavements, and at the same time, the blocks forming the upper surface thereof are rigidly held in position and are substantially a part of the concrete. Slipping in a longitudinal and transverse direction is impossible, and accidental displacement of the blocks is prevented. The form of blocks utilized is simple in construction and may be made from molds having a minimum number of parts, and the pavement itself is such that the supporting bed may be formed by road machinery now in use and the blocks may be speedily laid thereon. Furthermore the pavement is fully capable of withstanding the heavy loads and rough usage to which it will be subjected.

As various changes may be made in the above embodiment without departing from the spirit of the invention, all matter herein set forth is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

As an article of manufacture, a rubber paving block having an upper surface of different characteristics from the lower portion thereof, said lower portion having a channel extending longitudinally thereof and having its longitudinal edges cut away to form additional channels between individual blocks to prevent creeping, the upper edges of the block being cut away to receive suitable material for sealing the joints between adjacent blocks.

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