May 22, 1928. 1,670,678

J. S. COWPER

BLOCK, SLAB, OR THE LIKE FOR PAVING AND OTHER PURPOSES

Filed April 21, 1924

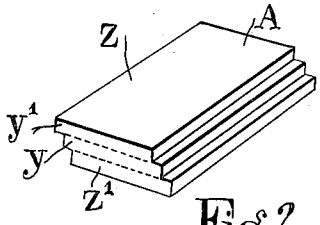


Fig. 2.

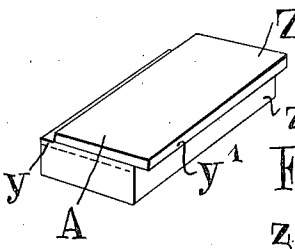


Fig. 3.

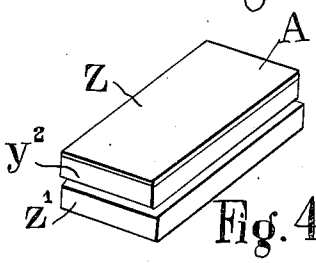


Fig. 4.

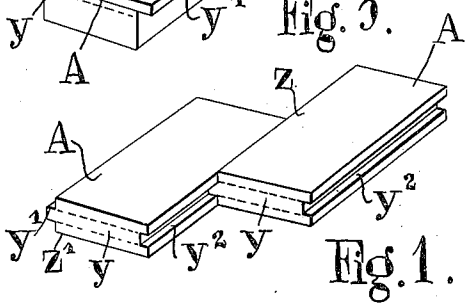
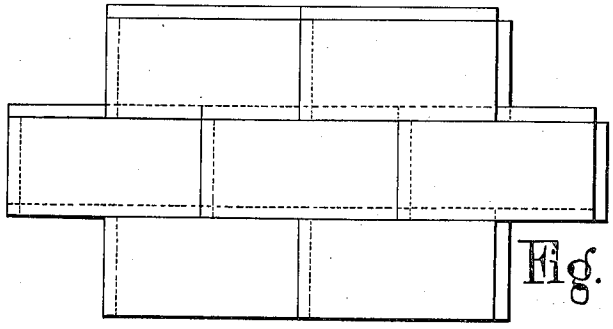


Fig. 1.


Fig. 8.

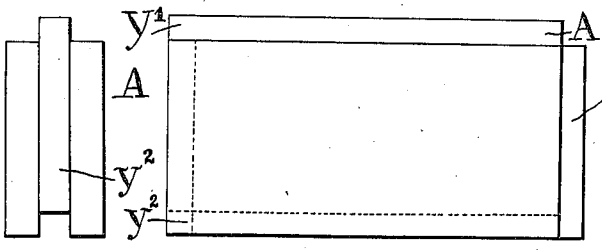


Fig. 5.

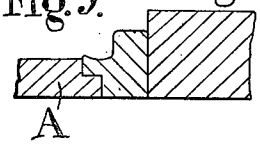


Fig. 9.

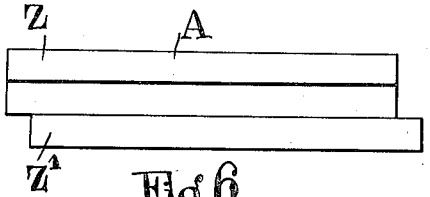


Fig. 7.

Fig. 6.

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# UNITED STATES PATENT OFFICE.

JACK SHERIDAN COWPER, OF LONDON, ENGLAND.

## BLOCK, SLAB, OR THE LIKE FOR PAVING AND OTHER PURPOSES.

Application filed April 21, 1924, Serial No. 708,021, and in Great Britain July 10, 1923.

This invention relates to paving blocks, slabs or other structures of the kind in which rubber and rubber substitutes are employed in block, brick, slab, tile or the like formation, and consists of an improvement in or modification of the invention claimed in my United States patent application No. 609,703, dated 29th December 1922.

The object of the invention is to provide a block, brick, slab, tile or the like having a relatively reduced depth to width or length provided with interengaging parts so that one block, slab or the like may overlap or interfit with its companion member and the whole area formed by a series of blocks, slabs or the like may form a compact mass so that each block or slab helps to hold its neighbour down and prevent uplifting of the blocks or the like from the road base.

The improved blocks, bricks, slabs, tiles or the like are designed to absorb and distribute the weight of the traffic carried so as to avoid the concrete foundations being broken up by the constant pounding of modern traffic.

According to this invention the block, slab or the like is formed or constituted in either two- or three-part formation, or in shell formation, or as one, the formations being in solid form in which the portion intermediate to the upper pressure or traffic surface and the lower or reactive pressure surface acts as a core or inner part and may project on one or more of its sides or ends beyond the edge of the upper and lower surfaces to form projecting ribs adapted to fit into grooves or cavities provided in companion blocks or the like for assembling and holding same together in an interfitting or overlapping manner to prevent uplifting from the road base.

The invention admits of numerous modifications and the accompanying drawings may be taken as illustrating a number of structures which are typical of the main feature of the invention.

In the drawings:—

Figure 1 is a perspective view of the improved block, slab or tile showing two such units arranged in assembling midway of each other so as to break joint and with overlapping parts formed by a tongue and groove interfit at the intermediate portion;

Figure 2 is a perspective view of the improved block having steps of any convenient number at one side and at the other side steps in reversed relation to engage with the steps of a companion unit when assembled;

Figure 3 is a perspective view of a single unit block or the like provided with overhanging lip at one side and ledge at the other side;

Figure 4 is a perspective view of a single unit block, slab or the like having a groove or channel at the intermediate portion adapted to receive a tongue provided on companion blocks, slabs or the like, or a straight bar adapted to engage in the channels of a number of units;

Figure 5 is a plan of a single unit block, slab or the like having a groove at one side and end and a tongue at the other side and end;

Figure 6 is a side view of Figure 5, and Figure 7 is an end view thereof;

Figure 8 is a plan showing units constructed according to Figure 5 arranged in assembled relation so as to break joint with each other;

Figure 9 is a cross-section showing a kerb unit formed in convenient lengths and provided with an overhanging lip adapted to overlap a ledge provided on the block, slab or the like;

In carrying out the invention when making a two-or-three-part block, slab or the like, intermediate portion or core is of greater density than the top layer and the base and the materials for the mixture are combined in any known manner and passed to apparatus designed to take the mixture forward to a die press or mould to give the required shape of base, which die or mould also receives the mixture of rubber to form the upper or tread surface. The arrangement of the mould comprising loose bars or cores adapted to provide a ledge, recess or groove at one or more sides or ends, and a projection or rib at the opposite side or end of the block, slab or the like. The parts are pressed together to form them into a solid unit.

After moulding the blocks or slabs are passed forward to a vulcanizer. The effect of the vulcanization is to bind the parts of the block or slab or the like together as one.

The said blocks, slabs or the like may be formed by a modification of what is known as the "spewing" process in rubber manufacture.

According to the modification a "former" is employed to receive and mould the mate-

rial or mixture for the base and above this is positioned a similar "former" to receive and mould the material for the top or tread, the so-formed base and top pass out of the former together, the arrangement being such that the parts are brought together so as to produce a ledge, recess or groove at one side or end and a projection or rib at the other side or end, the parts or layers being vulcanized together to form a solid block. An additional former is used for a three part block.

The former or mould may be constructed so that the block or slab or the like may be formed as one by combining one layer of material upon the other and vulcanizing them together in the mould to form a solid block, slab or the like. Any suitable rubber, composition, rubber substitutes, fillers and vulcanizing material may be employed.

The dies or moulds can be of any suitable shape so that the form of block, slab or the like to be produced can be varied or changed from a square or oblong or any other shape to meet any particular requirement.

The intermediate or core portion of the units A is designed by the letter $y$, the projection or lip by $y^1$, the ledge, recess or groove by $y^2$, the top or tread surface by $z$ and the bottom surface by $z^1$ and in which the intermediate layer is of harder material than the top and bottom layers.

The tongues and grooves or ledges and lips may be provided on the ends as well as the sides of the blocks or units or the grooves or ledges may be on one block and the tongues or lips on another block.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In paving blocks or slabs composed of rubber material in layers, the combination of a top layer, a bottom layer and an intermediate layer, the intermediate layer being of harder material than the top and bottom layers.

2. In paving blocks or slabs composed of rubber material in layers, the combination of top, bottom and intermediate layers, the intermediate layer being of relatively harder composition, and off-set relative to the other layers to form tongue and groove formation on the opposite sides of the blocks.

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

JACK SHERIDAN COWPER.