(No Model.)

E. T. MAPEL.

PAVING BLOCK.

No. 511,304. Patented Dec. 19, 1893.

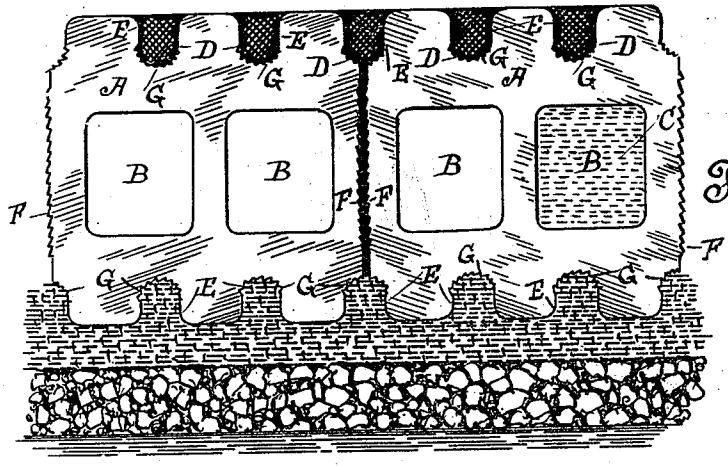


Fig. 1.

Fig. 2.

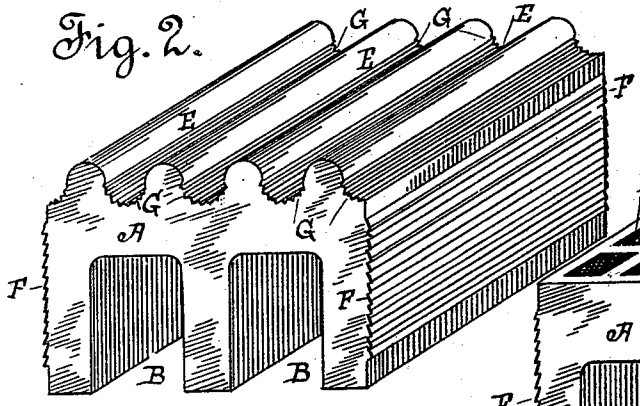
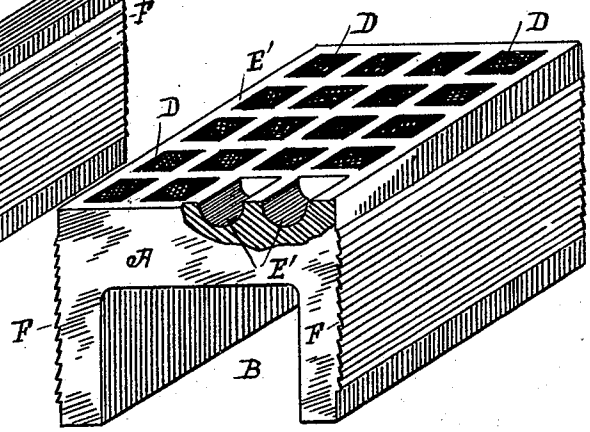


Fig. 3.



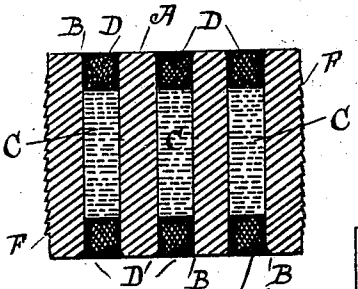


Fig. 4.

Fig. 5.

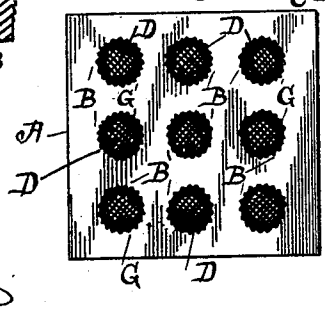
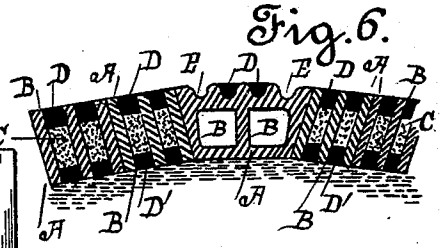


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

ELIJAH THOMAS MAPEL, OF ANTIOCH, CALIFORNIA.

PAVING-BLOCK.

SPECIFICATION forming part of Letters Patent No. 511,304, dated December 19, 1893.

Application filed February 17, 1893. Serial No. 462,738. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH THOMAS MAPEL, a citizen of the United States, residing at Antioch, in the county of Contra Costa and State of California, have invented certain new and useful Improvements in Paving Bricks or Blocks, of which the following is a specification.

My invention relates to the paving of streets, roads, walks, tracks, and such places, which the public convenience, personal comfort, or a certain end to be gained require to be covered with a good and substantial pavement.

The materials mostly used at the present time in the construction of pavements are basalt blocks, bricks, asphalt and the so-called "bituminous rock." These all form a tolerably good pavement when newly laid, but they all have their drawbacks. Basalt blocks cannot be had everywhere at a reasonable price, and they make a noisy and somewhat irregular pavement. Bricks are better in that they may be cut to a uniform size and shaped smooth, but deposits of clay that will burn evenly through and make good brick of the usual thickness are scarce and sometimes so remote as to be of no advantage. Bituminous substances are superior to both basalt blocks and bricks in the matter of elasticity and noiselessness, but they make a pavement that ill stands the effects of heat and will therefore lose its shape, eventually becoming worthless.

The object of my invention is to provide a brick or block so made that it will combine all the qualities of the above-named materials without partaking of their disadvantages, being hard and lasting as the basalt block, even and smooth as the ordinary brick, springy and noiseless as asphalt or bituminous rock, and making a perfect pavement.

Referring to the accompanying drawings, which form part of this specification,—Figure 1 is an end elevation of one form of my improved paving brick or block; Figs. 2 and 3 are perspective views of different forms of the same. Fig. 4 is a sectional elevation showing my invention in still another shape. Fig. 5 is a plan of the brick or block shown at Fig. 4; and Fig. 6 is a broken cross-section of a pavement composed of bricks or blocks slightly different in construction from but containing the essential features of those shown in the preceding figures.

Similar parts are indicated by similar letters of reference throughout all the views.

A represents the body of the brick or block, which may be made of ordinary brick-clay or any other suitable material. In it are formed cells or recesses B, which greatly reduce the quantity of clay to be used and cause it to be burned through more quickly and thoroughly when in the kiln. These may be square, round, oval, or oblong in cross-section, as preferred. They may also be run in any given direction, whether lengthwise or crosswise of the brick or block, so that they may lie either horizontally, or vertically, or obliquely in the pavement into the composition of which the bricks or blocks enter. If lying in a horizontal direction, as shown at Figs. 1, 2, and 3, the cells or recesses are not usually filled in, except with such material as sand or concrete that will work itself into them when the bricks or blocks are set in place. If in a vertical or oblique position, they are filled up as illustrated in Figs. 4, 5, and 6. The filling material for the cells or recesses of the latter class consists, preferably, of a central body of concrete or sand C and end-layers of asphalt or bituminous rock D D'. That is to say, a layer of some bituminous substance is placed at the bottoms of said cells or recesses. Next comes concrete or sand, and lastly a second layer of a bituminous substance at the top. This last layer forms part of the surface of the pavement. The filling material is also used in connection with the bricks or blocks whose cells or recesses lie in a horizontal position, but then it is laid in surface grooves E or cavities E' provided in the sides of said bricks or blocks. In that case also the concrete or sand may be dispensed with and the bituminous substance D employed alone.

F represents corrugations formed in the sides of the bricks or blocks. These serve to bind the bricks or blocks to one another so that no single brick or block can be pushed out of place or subjected to pressure without the strain or part of it being felt and shared by the neighboring ones. Internal corruga-

tions G are likewise provided in the cells or recesses B, when made to run vertically in the pavement, as also in the grooves E (and cavities E′ if desired) for the purpose of better retaining the material packed therein.

The brick or block shown at Fig. 6 and having obliquely-running cells or recesses is provided for pavements that are destined to rough usage, owing to the heavy loads drawn over them. Having the center of gravity pass obliquely through the body of the brick, its cells or recesses, and the filling therein, will lead to better results, it is thought, than by following other modes of construction. This is accomplished by cutting the upper and under ends or sides of the bricks or blocks to a bevel and giving the usual curve to the pavement.

The above-described paving brick or block may be laid on the ground in any suitable manner, but it is preferably placed upon a concrete or sand foundation that has been well packed and leveled, as shown at Fig. 1.

It will be observed that my improved brick or block is reversible and may therefore be used in at least two different positions, thus serving to make a pavement that can be renovated at little cost. As the surface of the pavement becomes worn out, the bricks or blocks composing it may be turned end for end or upside down, and by so doing the pavement made as good as new. It will be noticed also that provision being made to keep the bituminous substance within well-defined boundaries in the bricks or blocks, the pavement will retain its shape in spite of all changes in the weather or temperature and present a surface possessed of the various properties inherent to the materials entering into its composition.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A paving block consisting of a body having vertical openings, a layer of bituminous substance at the bottom of the said openings, a layer of sand resting on said layer of bituminous substance, and a second layer of bituminous substance resting on the layer of sand and extending to the top of the vertical opening.

2. A paving block provided with recesses or grooves adapted to receive a bituminous filling and having corrugations in the bases of said recesses or grooves.

In testimony whereof I affix my signature in presence of two witnesses.

ELIJAH THOMAS MAPEL. [L. S.]

Witnesses:
CHAS. R. WATSON,
FRANK W. LIVINGSTON.