(No Model.)

F. HAINES.

ARTIFICIAL STONE PAVING BLOCK.

No. 481,352. Patented Aug. 23, 1892.

FIG. 1.

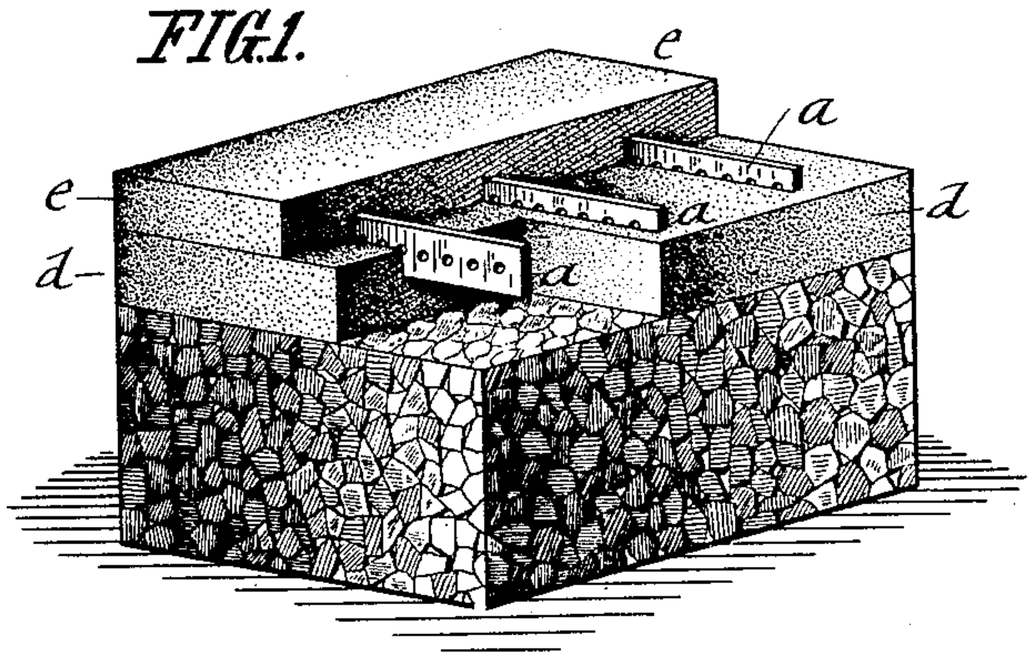


FIG. 2.

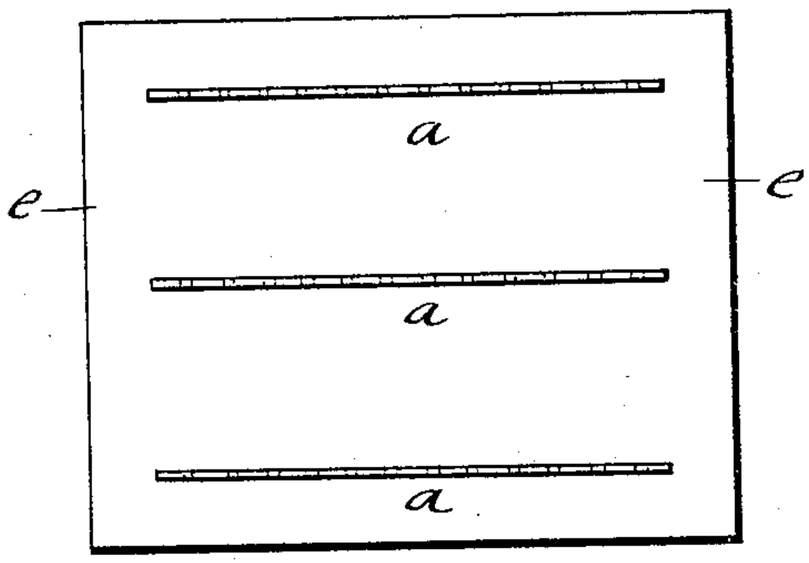


FIG. 3.

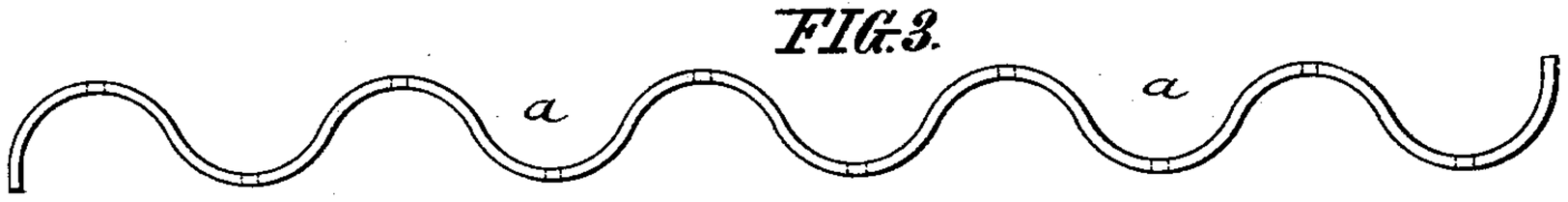


FIG. 4.

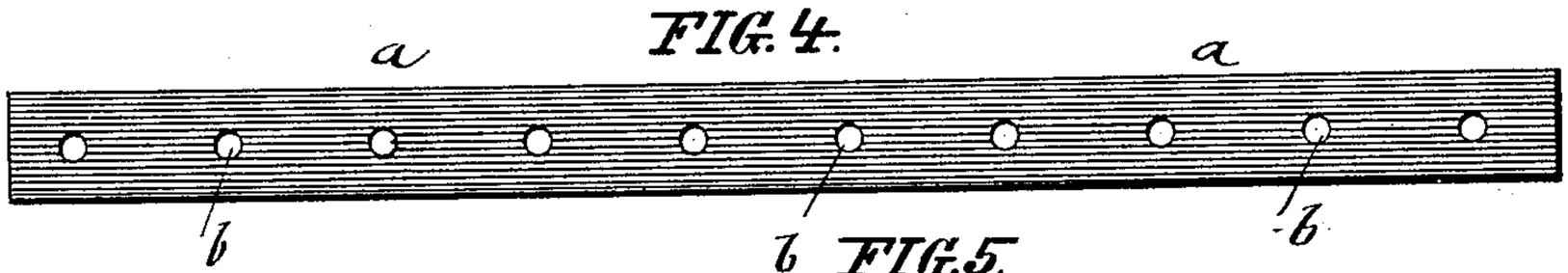


FIG. 5.

FIG. 6.

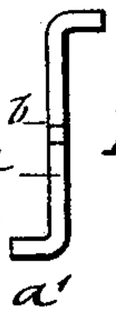
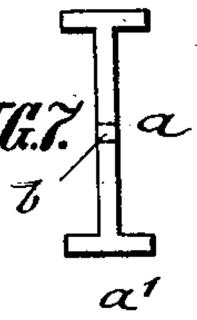


FIG. 7.



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UNITED STATES PATENT OFFICE.

FRANKLIN HAINES, OF YONKERS, NEW YORK.

ARTIFICIAL-STONE PAVING-BLOCK.

SPECIFICATION forming part of Letters Patent No. 481,352, dated August 23, 1892.

Application filed August 3, 1891. Serial No. 401,559. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN HAINES, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Artificial-Stone Paving-Blocks, of which the following is a specification.

This invention relates to certain improvements in artificial-stone blocks for pavements, and more particularly to that class of artificial pavements in which so-called "binder bars or plates" are used, by which the different courses or layers of which the paving-block is composed are firmly united and the resisting-strength of the pavement increased.

The distinctive novelty of my improvement consists in the construction and application of one or more perforated binder bars or plates of straight or other shape which are set on edge in the lower or concrete course of the block and which extend into the top layer or wearing-course of the block, so as to unite by the setting or solidification of the two courses the block and binders into a solid mass, of which the binder bars or plates form an integral part of the block, as will be hereinafter more fully described, and finally defined in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of my improved artificial pavement, showing the binder-bars embedded in the layers or courses of the same. Fig. 2 is a plan view of a block, showing the position of the binder-bars in the same. Figs. 3 and 5 are top views of different modified forms of binder-bars. Fig. 4 is a side elevation of the simplest form of binder-bar employed, and Figs. 6 and 7 are cross-sections of still other modifications of my improved binder-bar for artificial stone-blocks.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, *a* represents a binder-bar which is constructed of iron or other suitable metal, preferably from three-fourths of an inch to two inches in height and about three-sixteenths of an inch in thickness, more or less, according to circumstances. The binder-bar *a* may be made either of straight shape, as shown in Figs. 2 and 4, or of undulating or zigzag shape, as shown, respectively, in Figs. 3 and 5. The binder-bars may be bent over at their upper and lower edges in opposite direction to each other or made of double-T-shaped cross-section, as shown in Figs. 6 and 7, so as to form flanges *a'*, or still other forms of bars may be employed, as many different shapes of binder-bars may be devised. The binder-bars *a* are provided with holes or perforations *b* in the body of the same and are embedded into the block while the same is in course of construction by being placed on edge in such a manner that the base and top courses or layers run into the holes of the binders and interlock with the same in the setting or solidification of the mass. For smaller blocks one or two binder-bars may be employed, while for larger blocks the number of binder-bars is increased, they being preferably arranged parallel with each other and so as to extend through the entire length of the block.

The material used for making my improved artificial stone-blocks for pavements is preferably cement, in combination with broken stone, coarse grit, sand, &c., the block being formed on a suitable foundation on which the lower course of concrete is laid or spread. The binder-bars, however, can be used in combination with other paving material. The binder bar or bars are set on edge into the base-course *d*, the remaining portion of the binder-bars extending above the lower course. The top layer or course *e* is then added, the same being of a soft liquid character that runs freely into the openings of the binder-bars, so as to interlock therewith on the setting of the mass. By the setting or solidifying of the two courses the binder-bars become an integral part of the block and form a bond of great strength between the same. The binders act mainly us a means for increasing the connection between the upper and lower courses and increase greatly the resisting-power of the block, so as to withstand crushing or tensile strains and increase the strength and wearing capacity of the block. When binders with bent-over or T-shaped flanges are used, the strength of the block is still more increased, as thereby, besides the connection of the two layers or courses of the stone block in longitudinal direction, also the rigid anchoring of the binder into the block, in addition

to the anchoring produced by the running of the mass through the holes of the binder, is obtained.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An artificial-stone paving-block formed of two layers or courses and having embedded therein metallic binder bars or plates which are set on edge and provided with bent-over flanges at the upper and lower edges, said plates being completely embedded and inclosed in said block, one flange in one layer thereof and the other flange in the other layer thereof, substantially as described.

2. An artificial-stone paving-block formed of two layers or courses having embedded therein metallic binder bars or plates set on edge and provided with openings in the body along the middle thereof, the material of the adjacent layers uniting at the openings and flowing therethrough, and with flanges at the upper and lower edges, said binder-bars extending from the base-layer into the top layer or course of the block, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRANKLIN HAINES.

Witnesses:
PAUL GOEPEL,
A. M. BAKER.