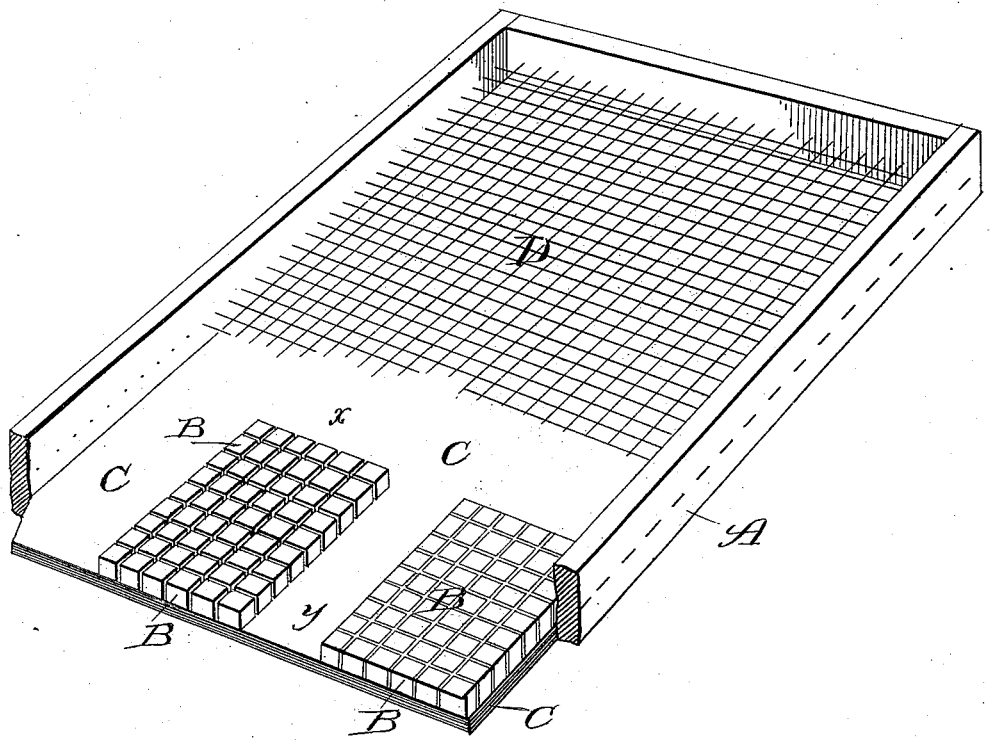
(No Model.)

A. H. HETTICH.

PRODUCING MOSAIC WORK.

No. 418,840. Patented Jan. 7, 1890.



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PRODUCING MOSAIC WORK.

SPECIFICATION forming part of Letters Patent No. 418,840, dated January 7, 1890.

Application filed July 1, 1889. Serial No. 316,190. (No specimens.)

To all whom it may concern:

Be it known that I, ALBERT H. HETTICH, a subject of the King of Würtemberg, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Producing Mosaic Work, of which the following is a specification.

My invention relates to improvements in the art of inlaying the hard substance (usually in the form of pieces of particular shape or shapes of different-colored stone) employed in producing the tessellated work known as "mosaic," and more particularly when applied to floors, walls, and ceilings. The more common form of the pieces of stone employed is that of a cube, though my improvement may be practiced whatever be their form, the cube form being selected for illustration and description herein more especially for the sake of convenience.

Two methods hitherto practiced and known to me of laying mosaic, and with regard to which my method, hereinafter described, is designed to afford a material improvement, may be briefly described as follows:

As to the first, it consists in setting the pieces or cubes to produce a desired design directly upon the foundation to be ornamented (as a floor) and previously plastered with cement, and when the work is finished evening it by running a heavy roller over it. This method is not only arduous, but it prevents that degree of solidity of the work which will obviate its becoming uneven with time and use.

The second of the two methods referred to involves the sticking of the cubes at their faces (finished surfaces) on paper coated with a suitable adhesive substance, and subsequently introducing the cement, to hold them together, in the interstices left between them in the setting, thereby forming blocks of desired dimensions and in the desired designs, from the faces of which the adhering paper is subsequently removed. These blocks are then properly laid and cemented together and upon the foundation to be decorated by the mosaic.

My improvement involves features more closely resembling the method last described than the other, but is designed to facilitate the work and render it more even and durable; and it consists, in its broadest sense, in forming the mosaic work in blocks, to be subsequently laid on the foundation to be ornamented by setting the pieces of material into net-work having a mesh of desired configuration against a base, and then cementing the pieces together by introducing into the interstices between them a suitable cement.

My invention further consists in more detailed steps, which the nature of the work may require me to observe.

In the accompanying drawing I illustrate, as definitely as I am enabled to, my method by showing in a perspective view a broken rectangular frame A, (which should be formed of metal,) supporting net-work D, (shown partly broken away,) the mesh of which is of proper shape and size to correspond more or less accurately with the shape or shapes and size or sizes of the pieces of material B, (shown to be cubiform,) and a base C, of suitable material—such as stone or metal—to afford a smooth and flat surface, and which fits inside the frame, or over which the frame fits, to leave a space between the base and net-work commensurate with the length to which it is desired that the cubes shall extend beyond the net-work. The net-work D may be readily produced by stringing twine in the manner shown through the sides of the frame, or it may be made of wire or formed of metal by casting, or from a metal plate, the two latter of which may be used independently of any frame by resting directly on a base C.

To practice my improvement the operator first sets the frame A (or net-work) over the base C, and then, following a design to be reproduced in mosaic, sets the cubes B by inserting them in the proper places through or into the mesh of the net-work with their face ends against the surface of the base. When the work is finished or the net-work filled, the proper cement is poured or otherwise applied to the broken surface presented inside the frame by the base ends of the cubes and spaces between them produced by the twine or the like, the cement being introduced to the desired depth (which, according to the particular cement used, may be to the surface of the base C) between the cubes.

At *x* in the drawing is shown, by way of

illustration, a rectangular block produced by the setting of the cubes in the operation, the interstices being clearly represented as they appear before the application of the cement, while at *y* a similar block is shown after the cement has been applied and entered between the interstices, the reason for representing the net-work as broken away being to avoid confusion and permit more clear illustration. When the work is finished and the cement applied, as aforesaid, and sufficiently hardened, if the net-work be formed with twine or wire, it may be cut where it passes through the frame to release the latter and permit it to be separated from the mosaic block, the twine or wire then remaining embedded between the cubes; but if the net-work be formed with cast or perforated metal it is preferred, after the cement has become sufficiently hard to permit, to withdraw it, which may be done by inverting the frame and raising the net-work out of the interstices, for which last-named purpose, however, care should be taken in applying the cement to prevent it from entering the interstices to a depth sufficient to reach the net-work. If the cement has not been caused to fill the entire depth of the interstices, the block, when ready to be handled, is inverted and more cement applied to the face side to enter between the cubes. The operation thus permits the ready and rapid production, in any desired design, of blocks of mosaic work presenting perfectly and lastingly even surfaces, and which, when produced, are ready to be laid to cover the foundation (floor, wall, or the like) to be ornamented, thereby rendering the work of laying more rapid, perfect, and durable than when performed by either of the methods referred to as being improved upon by my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. The improvement in producing mosaic work, which consists in forming blocks thereof by setting pieces of the material employed into net-work against a base and cementing the pieces together, substantially as described.

2. The improvement in producing mosaic work, which consists in forming blocks thereof by setting pieces of the material employed into net-work against a base, then introducing at one side of the work cement into the interstices between the pieces, then removing the work from the base and introducing at the opposite side cement between the interstices, substantially as described.

3. The improvement in producing mosaic work, which consists in forming blocks thereof by setting the material employed into net-work inside a frame with the faces of the said pieces against an even base, then introducing at the exposed side of the work cement into the interstices between the pieces, then removing the work from the frame and base and introducing at the face side of the block cement between the interstices, substantially as described.

ALBERT H. HETTICH.

In presence of—
J. W. DYRENFORTH,
M. J. BOWERS.