

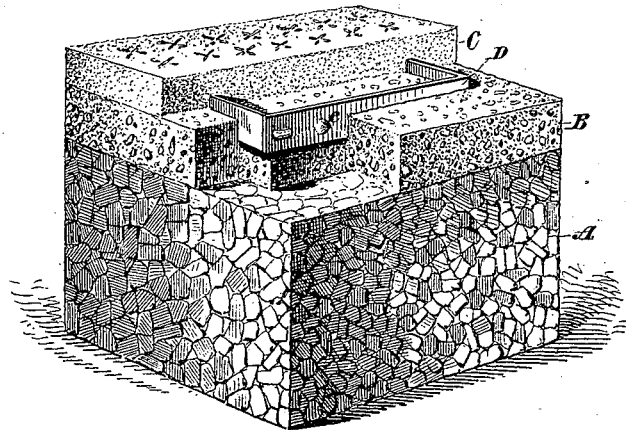
(No Model.)

E. DART.  
ARTIFICIAL STONE BLOCK PAVEMENT.

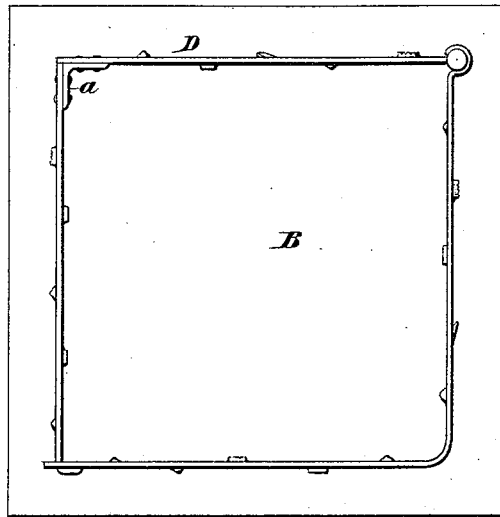
No. 421,560.

Patented Feb. 18, 1890.

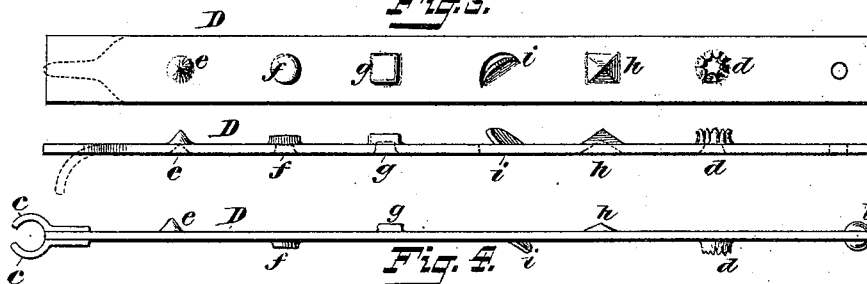
*Fig. 1.*



*Fig. 2.*

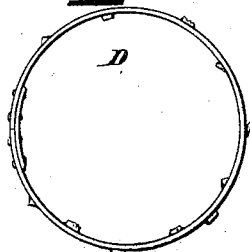


*Fig. 3.*



*Fig. 4.*

WITNESSES:  
*Gustave Dietrich*  
*William Soebel*



INVENTOR  
*Edward Dart*  
BY *George Cook*  
ATTORNEY

# UNITED STATES PATENT OFFICE.

EDWARD DART, OF NEW YORK, N. Y., ASSIGNOR TO FRANKLIN HAINES,  
OF SAME PLACE.

## ARTIFICIAL-STONE BLOCK PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 421,560, dated February 18, 1890.

Application filed May 29, 1889. Serial No. 312,537. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD DART, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Artificial-Stone Block Pavements, of which the following is a specification.

My invention relates to an improvement in artificial-stone blocks for pavements, the object of the same being to provide a pavement having embedded therein a binder of certain and peculiar construction which shall adapt the pavement to withstand a much greater amount of pressure or strain than has heretofore been possible.

The distinctive novelty of my invention consists of a binder constructed of thin metallic plates or sections, either plain or corrugated or coated with tar or other suitable material, and adapted to be locked or joined at their ends in any convenient manner to form a frame or support, and having corrugations or indentures punched or otherwise formed in one or both surfaces of the plate or plates and extending partially or entirely through the latter.

In the accompanying drawings, Figure 1 is a view in perspective of a block or portion of a pavement, a portion of the upper surface and one corner of the block being cut away to show the position of my improved binder embedded therein. Fig. 2 is a plan view of my improved binder, showing several means of connecting the ends of the plates or sections thereof. Fig. 3 are detached views of the sections of the binder. Fig. 4 shows a plan view of my binder adapted for use in a cylindrical block of pavement.

As shown in Fig. 1, I prefer to construct the pavement in three layers, the lower layer A being formed of broken stone, bricks, cinders, or other substance or substances, the second or middle layer B of gravel, crushed rock, sand, cement, or other substance or substances, and the upper or top layer of cement and crushed rock or stone. Within the upper and middle layers is located the binder D, constructed of one or more plates of flattened metal, preferably from an inch to three inches in width and about three-eighths of an

inch in thickness, more or less, according to circumstances, the upper edge of the binder or metal frame being buried in the lower portion of the upper layer and extending down into the middle layer. The ends of the binder may be locked, joined, or secured together in any suitable manner.

In Fig. 2 I have shown in the upper left-hand corner the plates or sections secured together by means of the angle-iron *a*, and in the upper right-hand corner of the same figure I have shown the plates secured together by means similar to a ball-and-socket joint, and in the lower left-hand corner I have shown one end of the plate cut away and extending through a hole or opening formed in the end of the adjacent plate.

If the ball-and-socket joint should occur between the two parallel plates of the binder or frame, I prefer to construct the plates, as shown in the lower view of Fig. 3, one end of the plate having the ball *b* formed thereon, and the opposite end with the two curved arms or plates *c*.

It will of course be understood that the frame may be constructed of any desired number of parts, it being essential, however, that the ends thereof be joined or locked together. If desired, the binder may, especially when to be used in a cylindrical block or blocks of material, be formed of one piece circular in form, as shown in Fig. 4. The metal plate or plates of which the binder is constructed are provided with indentures of any desired shape, a number of such being shown in Fig. 2, and which corrugations or indentures extend, preferably, a part way through the plate and from either one or both sides thereof. Instead, however, of punching or forming these indentures but part way through, they may extend entirely through the plate, as shown at *d*, Fig. 2, *e* representing an indenture formed with a round-pointed punch; *f*, formed with a round flat punch; *g*, formed with a square flat punch; *h*, with a square pointed punch, and *i* with a partially-rounded punch. In the latter case I prefer that the opening be formed entirely through the plate in order that the cement or other substance or composition of which the pavement is formed may pass through

the opening in such plate and by means of the burr or barb formed on one side of the plate prevent the latter from any displacement when placed in position in the block of pavement in which the binder is to be embedded. These indentures formed in the plate or sections of the binder become filled with cement or other substance of which the pavement is composed and prevent any movement whatever or displacement of the binder therein, the barb on the opposite face of the plate, resulting from the indenture, also assisting in holding the plate in its proper position and against any movement. These indentures are made but partially through the plate or section of the binder, for the reason that in case an opening is formed entirely through the plate the cement or other substance in which the plate is embedded is liable to crack on each side or surface of the plate, leaving a small loose portion of the cement in and filling the opening formed in the plate, and thus affording no assistance in retaining the plate in its proper position, especially when any pressure or strain is brought to bear upon the surface of the pavement. This, however, is not the case when the plate is provided with the indentures above described, the cement or other substance in such case filling the indentures formed in the plate on one side and surrounding the barb on the opposite surface and virtually making the binder an integral part of the pavement itself.

I would have it understood that although I have described several means of locking the ends of the plates together, I do not limit my claim to such means or forms of construction, but recommend them as being simple and desirable. Other means will suggest themselves to persons who have a knowledge of the art; and, further, I do not limit myself to any particular shape, size, or number of in-

dentures or corrugations, as an infinite number and variety of such may be formed.

After the plates have been joined together and the frame completed, it will be placed on edge in the position in which it is to be embedded, and the blocks or parts of the pavement formed and completed in any convenient manner. Any of the compositions availed of in the construction of artificial pavements may be used; but I contemplate, especially, the employment of cement, whereby the full value of the binder and its functions may be secured.

If desired, the binder may be of such dimensions as to project out beyond one or more sides of the block or slab for the purpose of allowing it to be embedded in an adjacent block or blocks of the same or other material, to securely lock them together.

I do not intend by this application to cover, broadly, a binder constructed of metal plates locked at their ends and set on edge, such invention being claimed by me in a former application filed May 1, 1889, Serial No. 309,253; but

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

An artificial block or slab to be used as pavement or for other purpose, having embedded therein a binder or binders, each constructed of a thin metallic plate or plates joined together, and having indentures formed through or partially through the same, the binder when in position being placed on edge.

Signed at New York, in the county of New York and State of New York, this 22d day of May, A. D. 1889.

EDWARD DART.

Witnesses:

GEORGE COOK,  
HERMAN GUSTOW.