J. C. ANDERSON & J. GREENAWALT.

Paving-Block.

No. 220,693. Patented Oct. 21, 1879.

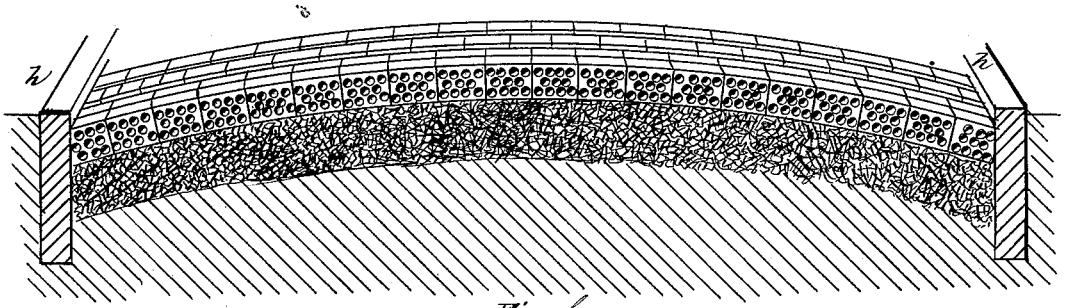

Fig. 1.

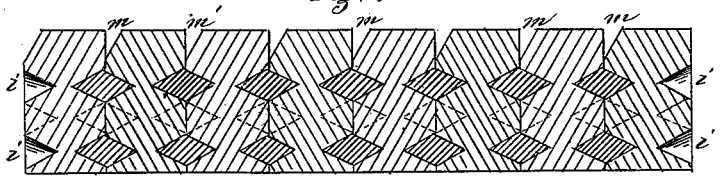

Fig. 2.

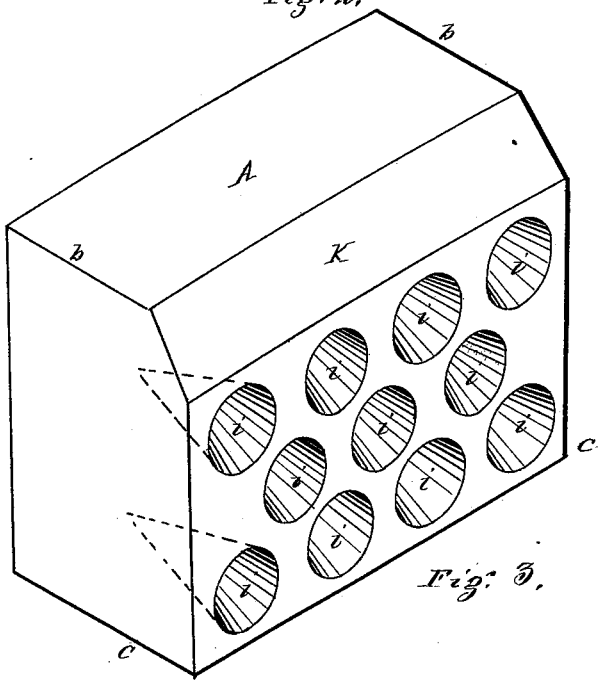

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

JAMES C. ANDERSON AND JACOB GREENAWALT, OF PITTSBURG, PA.

IMPROVEMENT IN PAVING-BLOCKS.

Specification forming part of Letters Patent No. **220,693**, dated October 21, 1879; application filed September 27, 1879.

To all whom it may concern:

Be it known that we, JAMES C. ANDERSON and JACOB GREENAWALT, of the city of Pittsburg, county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Paving-Blocks and Roadways, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

Similar letters of reference indicate corresponding parts.

The object of our invention is to make and form paving-blocks from common clay, of such solid and firm texture, and of such form that roadways and foot-walks may be readily and cheaply constructed, and made of great solidity and durability, thus utilizing a material abounding in unlimited quantities throughout the whole country, obviating the necessity heretofore existing in many parts thereof of laying roadways of wooden blocks, and other like frail and destructible material, by reason of the great cost of transportation to these places, incident to their geographical position from suitable granitic-rock formation.

The invention consists in the manufacture of paving-blocks from homogeneous dry-clay powder, possessing peculiar distinctive qualities for resisting disintegration of the blocks from the wear upon the roadway and the action of time, and of such construction and arrangement that when laid into a roadway they will readily member at all the contiguous joints, and form a firm archway from curb to curb across the roadway.

In the accompanying drawings, Figure 1 is a perspective of a roadway cut across, showing the blocks in place. Fig. 2 is a vertical longitudinal section of the same; and Fig. 3 shows one of the blocks detached from the roadway.

The blocks A should be made of the following proportionate dimensions of seven inches in depth, four inches in the direction of the length of the roadway, and nine inches in the direction of the width thereof.

The top surface *b b* of the blocks is made slightly convex longitudinally, and is tapered in an inward direction from the top *b b* to the bottom *c c*. A beveled edge is formed on the top of the block at K, which forms grooves *m m*.

The use of the grooves *m m* are to provide a firm foot-hold for horses in frosty weather upon the roadway. In the case of the footway, however, this feature is not necessary, and the blocks are made to present an even unbroken surface.

A series of conical openings, *i i*, are made in the two sides of the blocks, which openings are to be filled with hydraulic or other suitable cement, for holding and maintaining the blocks in place.

In carrying out our invention steel dies or molds are formed, corresponding with the shape of the blocks, as above described. The clay to be molded is disintegrated into a fine dry homogeneous powder, and subjected to very heavy pressure within these molds, which pressure will give to it the form of the blocks; after which they are placed in a suitable kiln, and burned until fixed, but not until vitrified, as clay crystallized in the burning is rendered liable to fracture and to chip off by concussion incident to heavy traffic upon the roadway. A suitable road-bed should be prepared with a curvature corresponding with that of the blocks, and the blocks laid in rows from curb to curb. In the laying of each course the conical openings should be well filled with cement, but not the joints to the displacement of the blocks, which should fit up closely together.

It will be seen that when the blocks are so formed of keystone-like shape, and joined together snug at their ends in forming the roadway, that a like curve will be given to the roadway in the direction of its width for shedding the water, and that a firm archway will be formed by the contiguous blocks between the curbings *h h*.

It will also be seen that the hardened interlocking net-work of cement formed by the series of cones uniting as one body at the side joints of the blocks, and branching laterally well into the contiguous sides of the blocks, by which means the blocks in the roadway will always be maintained at their proper level, thus obviating one of the greatest difficulties

heretofore experienced in the maintenance of roadways by the yielding and sinking of the blocks in places by reason of swampy or quicksand formations underlying them, or from other causes.

All of the features above described of the roadway are maintained in the footway, excepting the grooves *m m* above stated, and the reduction of the size of the blocks to about one-half of that of the roadway, and also by a suitable coloring-matter, which is added and incorporated in the preparation of the clay powder, and indelibly fixed in the burning, giving to the foot-walk any form of decoration desired, and of exceedingly rich and pleasing appearance, by reason of the incorporation of the coloring-matter as a part of the body, which body alone possesses the peculiar distinguishable silicious properties and appearance.

We are aware that it is not new to make roadways of ordinary brick.

We are also aware that it is not new to construct roadways and foot-walks with artificial-stone blocks having elevations and depressions in their sides and ends for retaining a binding-cement; and such we do not broadly claim.

Having thus described our invention, what we claim is—

1. The within-described paving-block, tapered keystone-like at the ends, and having a series of holes in the sides thereof, substantially as described, as a new article of manufacture.

2. The within-described paving-block, made from homogeneous dry-clay powder, having the distinguishable silicious properties, as a new article of manufacture.

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Witnesses:
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