

(No Model.)

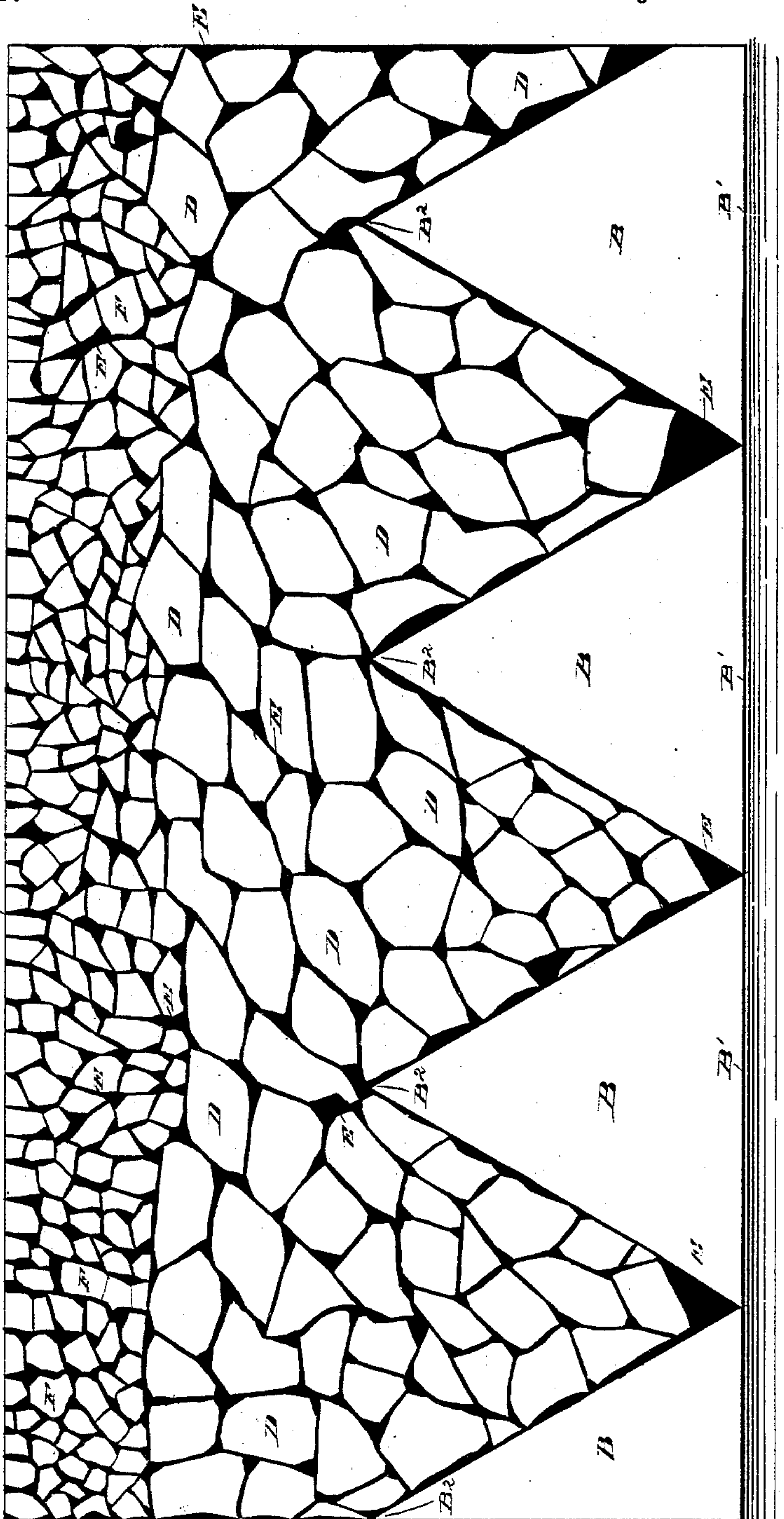
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A. McKINLEY.
STONE PAVEMENT.

No. 278,031.

Patented May 22, 1883.

Fig. 1.



Attest
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(No Model.)

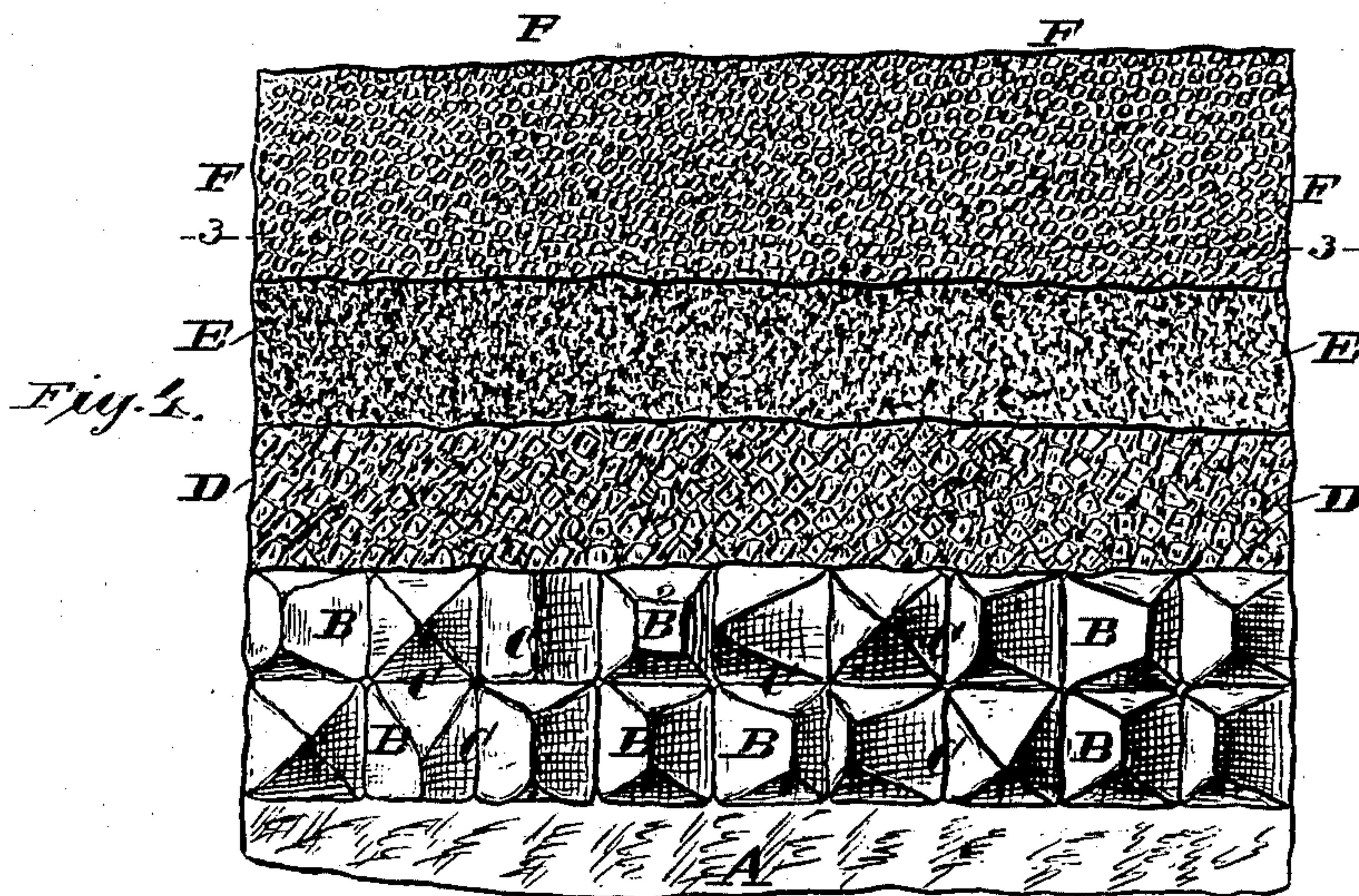
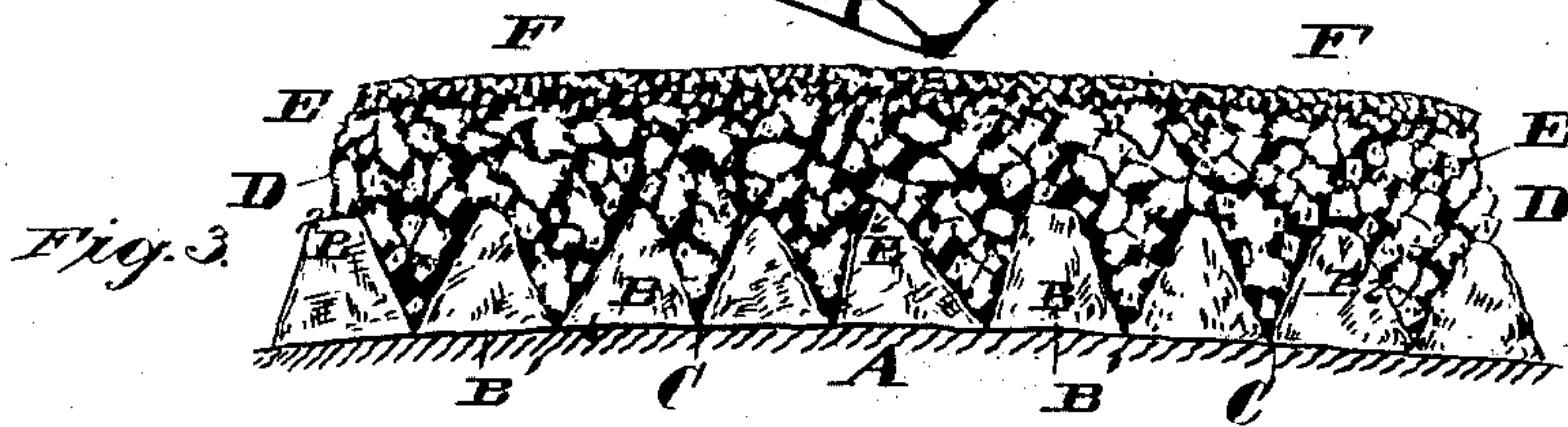
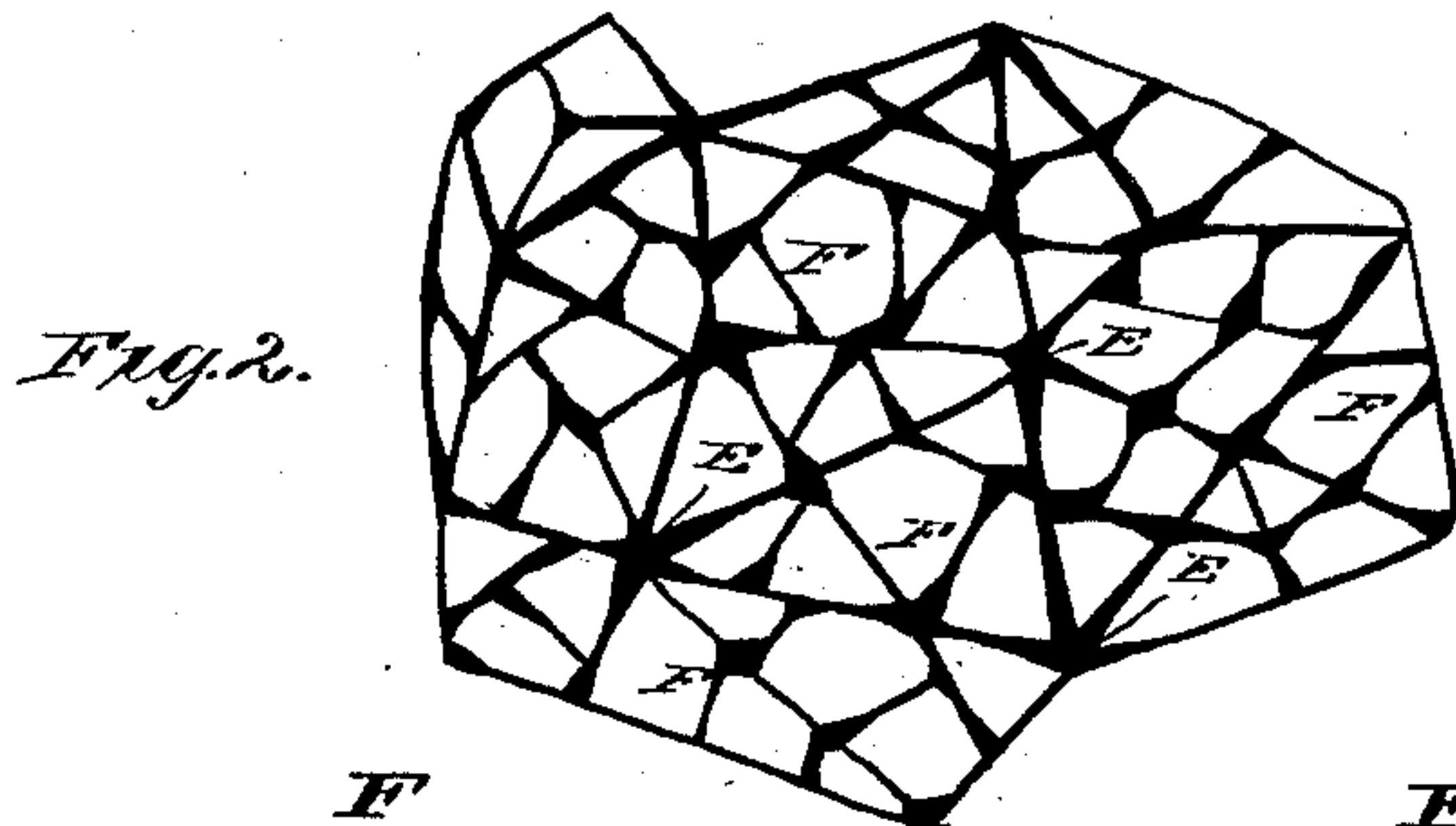
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STONE PAVEMENT.

No. 278,031.

Patented May 22, 1883.



Attest:

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UNITED STATES PATENT OFFICE.

ANDREW MCKINLEY, OF ST. LOUIS, MISSOURI.

STONE PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 278,031, dated May 22, 1883.

Application filed January 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, ANDREW MCKINLEY, of the city of St. Louis, in the State of Missouri, have invented an Improved Stone Pavement, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My improvement consists in a stone pavement built up as follows: A foundation is formed of triangular or inverted-V-shaped rocks that may rest upon the natural earth, one side of each rock forming a foot, and the rocks being placed foot to foot to form a continuous flat base and leave V-shaped channels or depressions between their inclined sides. Next I form a layer of macadam or broken stone filling said channels or depressions and extending above the blocks or rocks. Then a composition of bitumen in any of its forms mixed with dry clay and sulphureted lime or gas-house lime (heated to liquefy it) is poured into the interstices in the macadam, and above the same, say two inches, more or less, and, lastly, a top-dressing of broken flint, broken flint-boulders, broken hornblende, or broken porphyry, or other broken refractory material forced down into the bituminous composition and into the recesses of the upper surface of the macadam, and extending from the macadam to a level with or slightly above the top of the composition, thus forming the upper surface of broken material to receive the wear by the impact of the wheels, &c., the composition being merely for the purpose of holding the broken material in place.

In order that the invention may be fully understood, I will proceed to describe it with reference to the drawings, in which—

Figure 1 is a section of my improved pavement. Fig. 2 is a top view of a portion thereof. Fig. 3 is a transverse section on the line 3 3, Fig. 4, showing a modification in the form of foundation-blocks. Fig. 4 is a top view of the various strata.

In Fig. 1 the foundation-blocks B are of triangular or inverted-V shape, having a flat foot, B', resting on the road-bed A, forming a flat base. Between the tops B² of the blocks or rocks B are thus formed V-shaped channels or depressions C, that are filled with broken stone or macadam D, that should extend some inches

above the tops B² of the blocks or rocks B. A composition, E, of bitumen, (in any form,) dry clay, and sulphureted lime or gas-house lime is then made and rendered liquid by heat. This composition E is then poured upon the macadam, filling all the interstices of the same and extending, say, one or two inches above the macadam. Into this bed of composition is rolled a top-dressing, F, of broken flint, broken flint-boulders, broken hornblende, broken porphyry, or any other broken rock or other broken material well calculated to resist attrition. Thus the surface that receives the direct impact of the wheels and the feet of the horses consists of the hard material F, that is held in place by the composition E. The composition E has a degree of elasticity that is not materially affected by any change of temperature to which it is subjected in use. The ingredients of the composition form a chemical combination that is fixed and not subject to change by moisture or heat when in use. Thus it remains in the same condition from year to year. It is impervious to water, so that no water can reach the foundation from above nor the surface from beneath. The yielding quality of the composition causes vehicles to pass over it with very little noise. The rough surface F gives a good foot-hold for horses. The construction is such that the foundation-blocks are not liable to be tilted, and the heavy weight from wheels is so distributed as to prevent injury. For instance, when the point of bearing of a wheel is directly over the top B² of a foundation-block, it falls at or near the center of the foot of the block B, so that the weight has no tendency to tilt the block, as in block pavements where the blocks are at the surface. When the pressure of the wheel falls between the blocks B it is distributed by the stratum D E among a number of blocks, thus preventing injury to the foundation. The tops of the foundation-blocks are firmly held by the stratum D E, so that any lateral displacement or tilting cannot take place, and their lower portions form a continuous flat base.

I reserve the right to claim in another application the filling or binding composition herein described.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A stone pavement composed of triangular or inverted-V-shaped foundation-blocks placed foot to foot, forming a flat base, broken stone D in V-shaped channels between the blocks
5 and extending above them, a binding composition, substantially as described, filling the interstices between the broken stone and extending above the same, and a surface of broken material, F, pressed into the composition, as set forth.
10

2. A stone pavement which consists of a foundation of triangular rocks resting on one of their sides, forming a continuous flat base or bottom, broken stone between the sides and
15 above said rocks, bituminous dry clay and sulphureted lime composition filling the interstices between the broken stone and extending above the broken stone, and broken

rock pressed into the layer of composition to form a wearing-surface, as set forth. 20

3. The mode of constructing a stone pavement which consists in placing triangular blocks close together foot to foot, broken or macadam rock is next built up in layers between and over said blocks, binding the broken
25 rock together with bituminous dry clay and sulphureted lime composition as laid, leaving a layer of the composition above said broken rock, and finally adding a surface of broken
30 rock, which is pressed into the layer of composition by rolling, as set forth.

ANDREW McKINLEY.

Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.