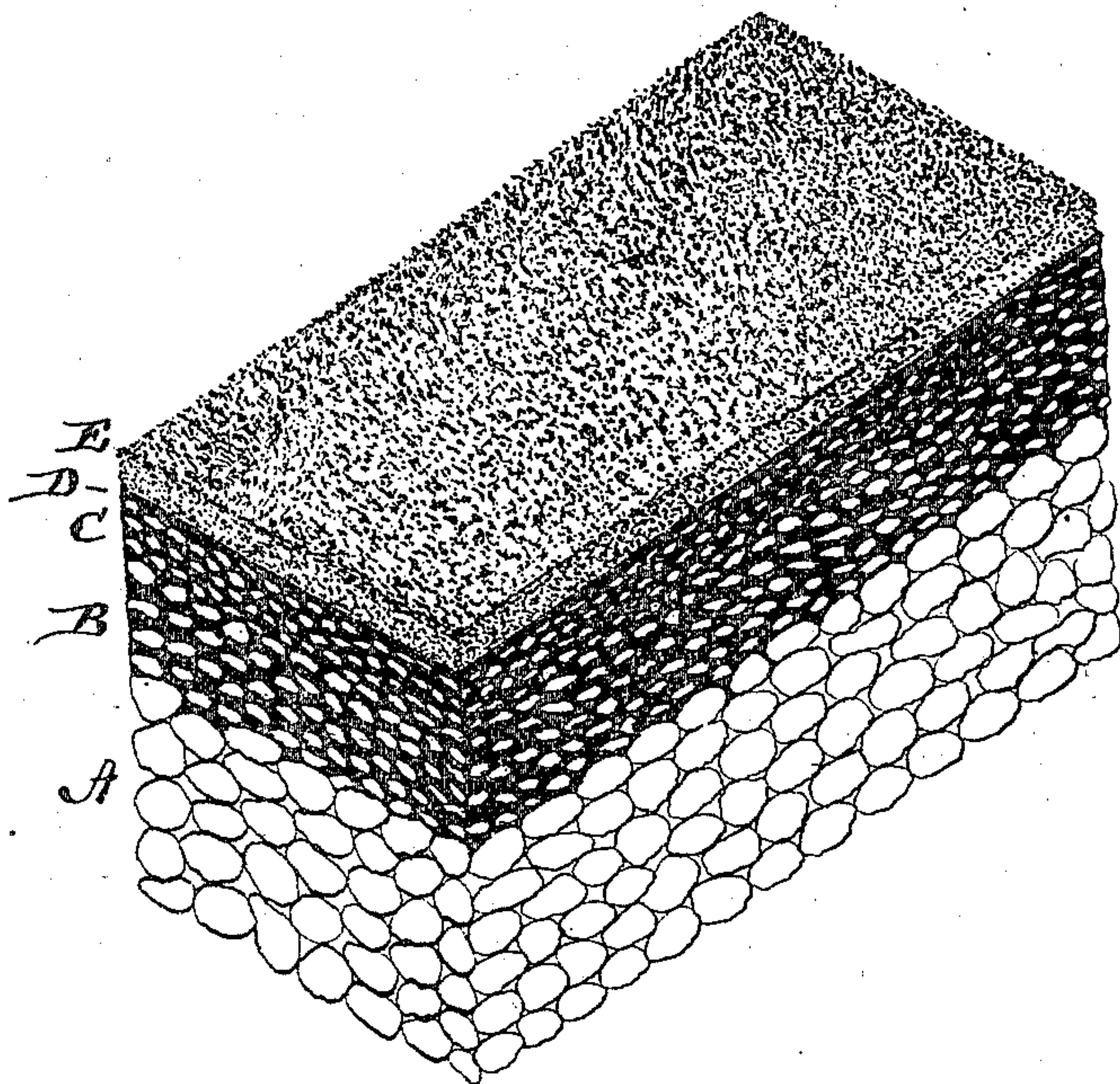


Z. WATERS & H. R. BELLAMY.

Composition-Pavements.

No. 134,500.

Patented Dec. 31, 1872.



Witness:

W. D. Newman
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Attorneys.

UNITED STATES PATENT OFFICE.

ZERA WATERS AND HENRY R. BELLAMY, OF BLOOMINGTON, ILLINOIS.

IMPROVEMENT IN COMPOSITION PAVEMENTS.

Specification forming part of Letters Patent No. 134,500, dated December 31, 1872.

To all whom it may concern:

Be it known that we, ZERA WATERS and HENRY R. BELLAMY, of Bloomington, in the county of McLean and in the State of Illinois, have invented certain new and useful Improvements in Compound for Pavement; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of our invention consists, first, in a compound to be used for cementing gravel or other suitable materials for forming sidewalks, pavements, &c.; and, second, in the construction of such walks, pavements, &c., as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe the manner of making both the compound and pavement, referring to the annexed drawing, which represents a section of our pavement.

Our compound is composed of lime, sulphur, water, and coal-tar, combined together by heat in the following manner, and in about the following proportions: Unslaked quicklime, three-fourths pound; sulphur, one-fourth pound; and water, twenty pounds, are placed in a suitable vessel over a fire and boiled until a chemical union is formed, which will be indicated by its assuming a pale greenish-brown color. This compound is then poured into thirty pounds of boiling coal-tar, and the whole continued to be boiled until the desired consistency is obtained, which will take from five to ten minutes.

We do not confine ourselves to these particular proportions of the ingredients, as they may be varied somewhat without materially changing the effect of the compound.

The proportions above given we have found suitable for yards and sidewalks; but for drives and streets a greater proportion of the lime and sulphur compound may be added to the tar, giving greater firmness.

The process of laying yards, sidewalks, drives, and pavements, is as follows: After

having established the proper grade a foundation, A, of cinders, very coarse gravel, broken brick, or any other suitable material is laid for forming a free under drainage. The thickness of this foundation should be about four inches for walks, and from that to eight inches for drives and streets. Gravel should be sifted or screened into three grades, say with number three, seven, and ten sieves. A common dirt-wheelbarrow load of the coarsest gravel is placed in a shallow board box, and to this quantity is added about two-thirds of a common wooden bucket of the boiling compound; and the whole is mixed with a spade, rake, or other suitable instrument till the gravel is thoroughly saturated. This mixture, marked B, is spread over the foundation A to a depth of two inches for walks, and from this to four inches for drives and streets. Over the surface a thin layer of sand is then sifted, to prevent the mixture from sticking to the roller, with which it is packed firmly. It is then swept thoroughly to remove loose particles of sand. Then proceed in like manner with the next grade of gravel, using same proportion of gravel and compound, spreading it on, forming the layer C, to the depth of one inch for walks and two inches for drives and streets; sift on sand, roll and sweep as before.

For the water-proof or finishing coat, pour on the boiling compound D, and spread with brooms to a thickness of one-eighth of an inch; sift over this, while hot, the finest grade of gravel E to the depth of half an inch, the sifter being closely followed by a roller. After very thoroughly rolling sweep off lightly the loose gravel and reroll; then sweep thoroughly.

This process of top coating secures the water-proof and gravel finish.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The compound consisting of lime, sulphur, water, and coal-tar, when combined by heat, substantially in the manner and for the purposes herein set forth.

2. The within-described process—viz., the water-proof and gravel finish D E—substantially as herein set forth.

3. The combination of lime, sulphur, water, and coal-tar mixed with gravel, substantially as and for the purposes herein set forth.

4. The within-described pavement, consisting of the foundation A, coarsest grade of gravel with compound B, second grade of gravel with compound C, water-proof compound D, and finest grade of gravel E, when combined substantially as herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 13th day of September, 1872.

ZERA WATERS.
HENRY R. BELLAMY.

Witnesses:

J. W. STRAIGHT,
D. E. STRAIGHT.