

(No Model.)

C. C. GILMAN.

PAVEMENT.

No. 338,511.

Patented Mar. 23, 1886.

Fig. 1.

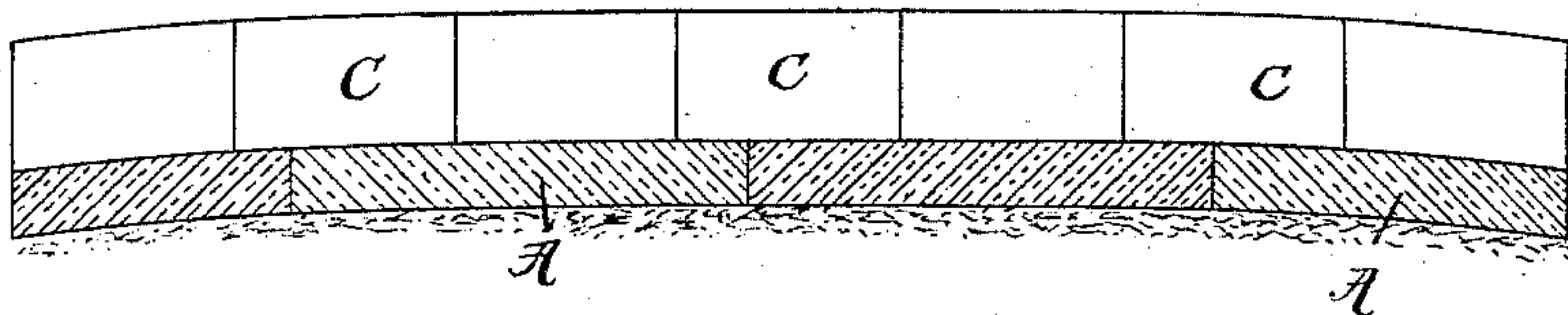


Fig. 2.

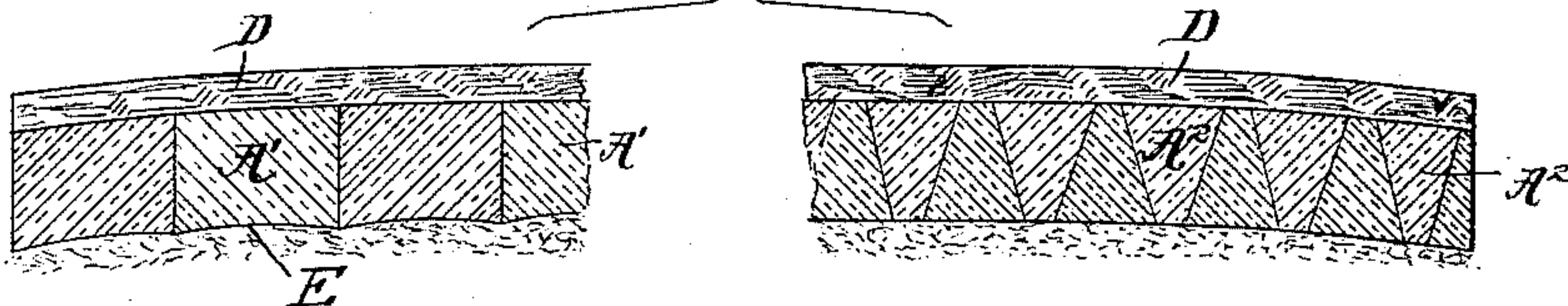


Fig. 3.

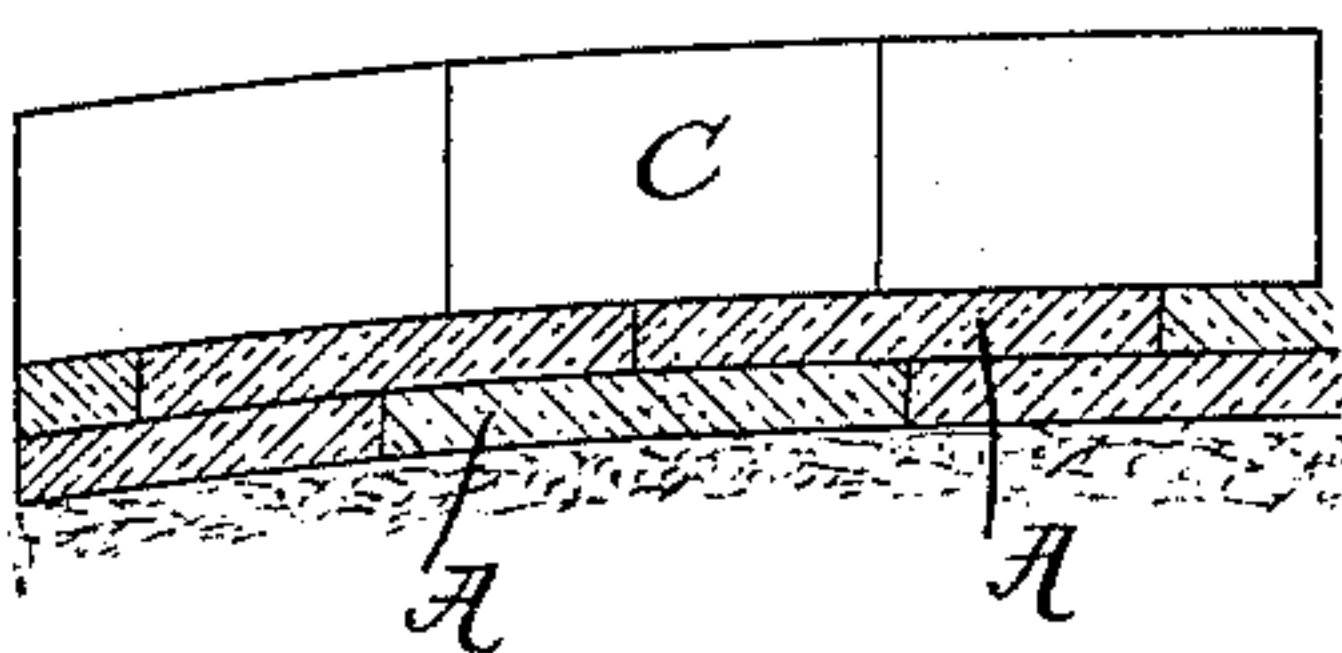
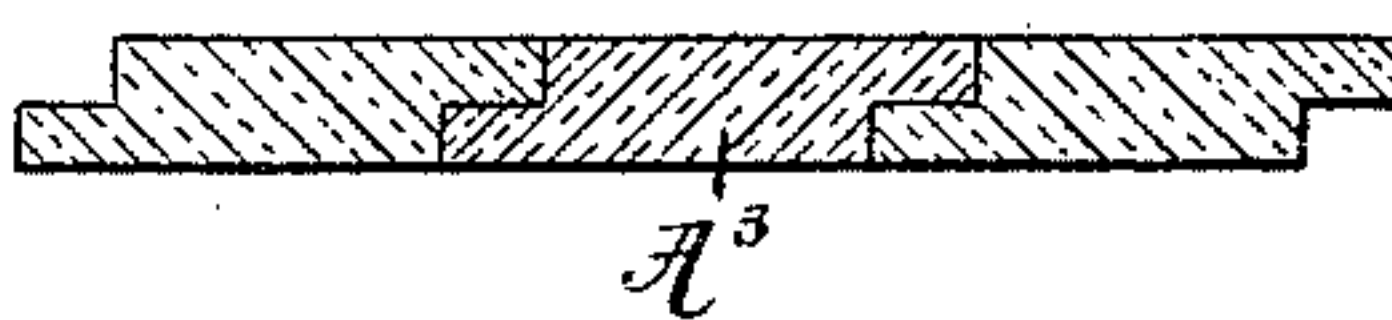


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES CARROLL GILMAN, OF ELDORA, IOWA.

PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 338,511, dated March 23, 1886.

Application filed April 14, 1885. Serial No. 162,217. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CARROLL GILMAN, a citizen of the United States, and a resident of Eldora, Hardin county, Iowa, have invented a new and useful Improvement in Pavements, of which the following is a specification.

The object of my invention is the construction of a pavement the foundation of which is indestructible and water-proof, and which cannot be displaced or washed away by the action of water; and to this end my invention consists of a foundation for the surface-layer of a roadway or sidewalk formed of slabs or blocks of terra-cotta lumber or porous burned-brick material saturated or impregnated with asphaltum.

In the accompanying drawings, which form a part of this specification, Figure 1 represents a cross-section of a pavement embodying my invention, in which the surface-layer consists of wood blocks. Fig. 2 represents a surface-layer of mastic, combined with a foundation of blocks of terra-cotta lumber treated as described. Fig. 3 represents a modification in which the foundation is composed of two layers of slabs arranged to break joint with each other, and Fig. 4 illustrates another modification in which the slabs or blocks are offset and overlap each other.

The foundation illustrated in Fig. 1 consists of slabs or blocks A, of terra-cotta lumber or porous burned-brick material, of a size varying from two to six, but preferably three, inches in thickness, about twelve inches wide, and from sixteen to thirty inches long. Said slabs or blocks are saturated or impregnated with asphaltum.

In order to thoroughly impregnate the slabs of said material with the asphaltum, I place the former in a closed tube, vessel, or receiver, from which I exhaust the air, and then admit thereto the hot melted asphaltum, the same being forced by the atmospheric pressure into the pores or cells (exhausted of air) of the terra-cotta lumber, the latter being heated to about the same temperature as the said asphaltum, to avoid chilling the latter.

The method just described is similar to the well-known process employed in impregnating wood with creosote, and since no claim is laid to said method a fuller description thereof is

not essential to an understanding of this invention. The saturated terra-cotta lumber, after it has cooled and the asphaltum hardened or become solid, is, in fact, a new material, which is much stronger and of greater weight than the unimpregnated material, is absolutely impervious to moisture, cannot decay, and is practically indestructible. The said slabs or blocks, treated as described, are laid on a sub-foundation of sand or gravel, B, and on said slabs as a foundation the blocks of wood C are placed, in the usual manner. Instead of a wooden pavement being laid on said foundation, blocks of stone may be substituted as a surface-layer.

In Fig. 2 the blocks of impregnated terra-cotta lumber, A', are of greater depth or thickness than the slabs shown in Fig. 1. They are preferably from six to eight inches in depth, and from eight to twelve inches wide and long, and the surface thereof is covered with a mastic, D, composed of asphalt, gravel, and pounded limestone. This mastic is rolled over the same to a thickness of, say, three inches, (more or less,) varying according to circumstances.

For sidewalks, the dimensions of the blocks used and the thickness of the coating of mastic applied thereto would be less than for roadways.

In Fig. 2 I have also shown foundation-blocks A², having inclined sides—that is to say, of tapering form—so as to secure a bearing of the blocks on each other, and these are laid as illustrated in said figure.

To retain the sand of the sub-foundation in place, the under side of the blocks or slabs may be made concave, as shown at E, Fig. 2.

Instead of constructing the foundation of one layer of said slabs, it may consist of two layers arranged to break joint with each other, as illustrated in Fig. 3; or the blocks or slabs A³ may be offset on opposite sides, so that when laid together they will overlap each other, as illustrated in Fig. 4.

In lieu of the mastic, hereinbefore referred to, a bedding or layer of cement may be applied to the surface of the saturated terra-cotta-lumber blocks. Such a construction is particularly adapted for sidewalks and for cold climates, being less liable to crack than the said mastic.

I am aware that ordinary building-bricks have been immersed in a liquid solution of alum, borax, copperas, and water, and after drying boiled in a mixture of caoutchouc and coal-tar, and that it has been proposed to use such bricks as the surface-layer of a pavement or sidewalk. I am also aware that it has been proposed to lay a surface-layer of terra-cotta blocks upon a foundation of bricks, and also that it is not new to cure a brick by immersion in a mixture of coal-tar, bitumen, pine-gum, and alum, and these several things I do not claim.

Having thus described my invention, what I desire to claim and secure by Letters Patent is—

1. A pavement consisting of a surface-layer of material, substantially as described, and a foundation composed of slabs or blocks of terra-cotta lumber saturated or completely impregnated with asphaltum, substantially as set forth.

2. A pavement consisting of a surface-layer

of paving-blocks and a foundation composed of slabs or blocks of terra-cotta lumber saturated or completely impregnated with asphaltum, substantially as described.

3. A pavement consisting of a surface-layer of wood paving-blocks and a foundation composed of slabs or blocks of terra-cotta lumber saturated or completely impregnated with asphaltum, substantially as described.

4. A pavement consisting of a surface-layer of paving-blocks and a foundation composed of two layers of slabs or blocks of terra-cotta lumber saturated or completely impregnated with asphaltum, the slabs of one layer being arranged to break joint with those of the other, substantially as described.

In testimony whereof I have signed my name in the presence of two witnesses.

CHARLES CARROLL GILMAN.

Witnesses:

REUBEN B. GALUSHA,
EDMUND RICE.