

(No Model.)

E. C. BOYCE.

# PAVING MATERIAL FOR STREET PAVEMENTS.

No. 274,096.

Patented Mar. 13, 1883.

Fig-1-

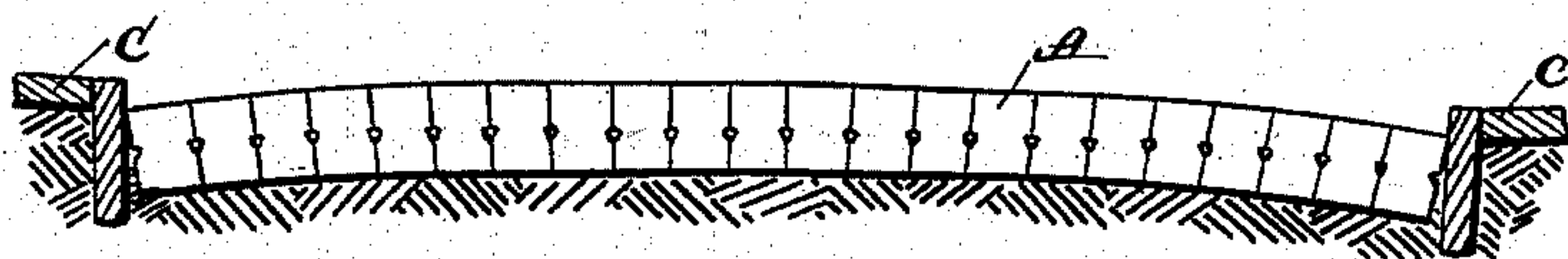


Fig. 2.

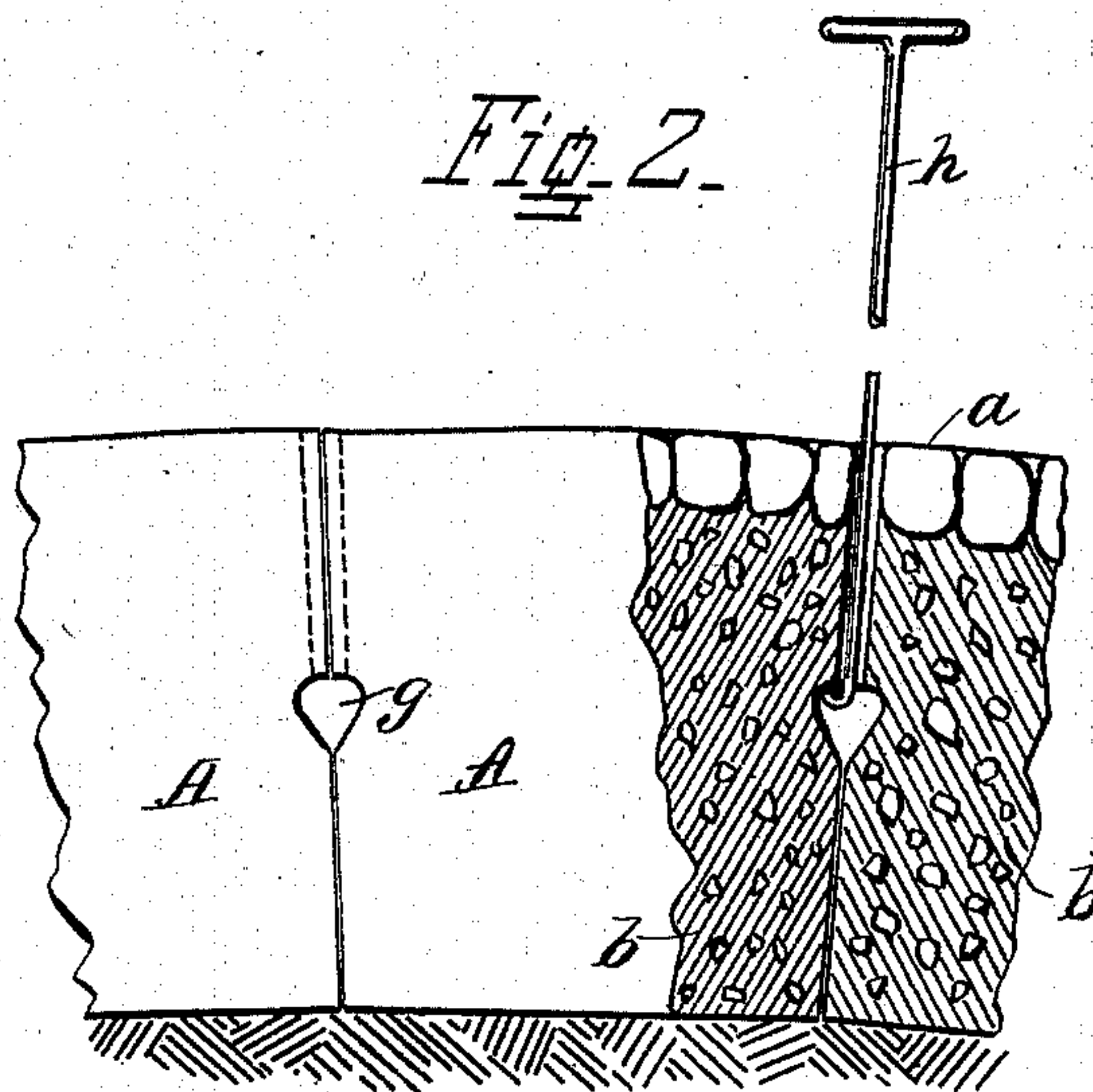


Fig. 3

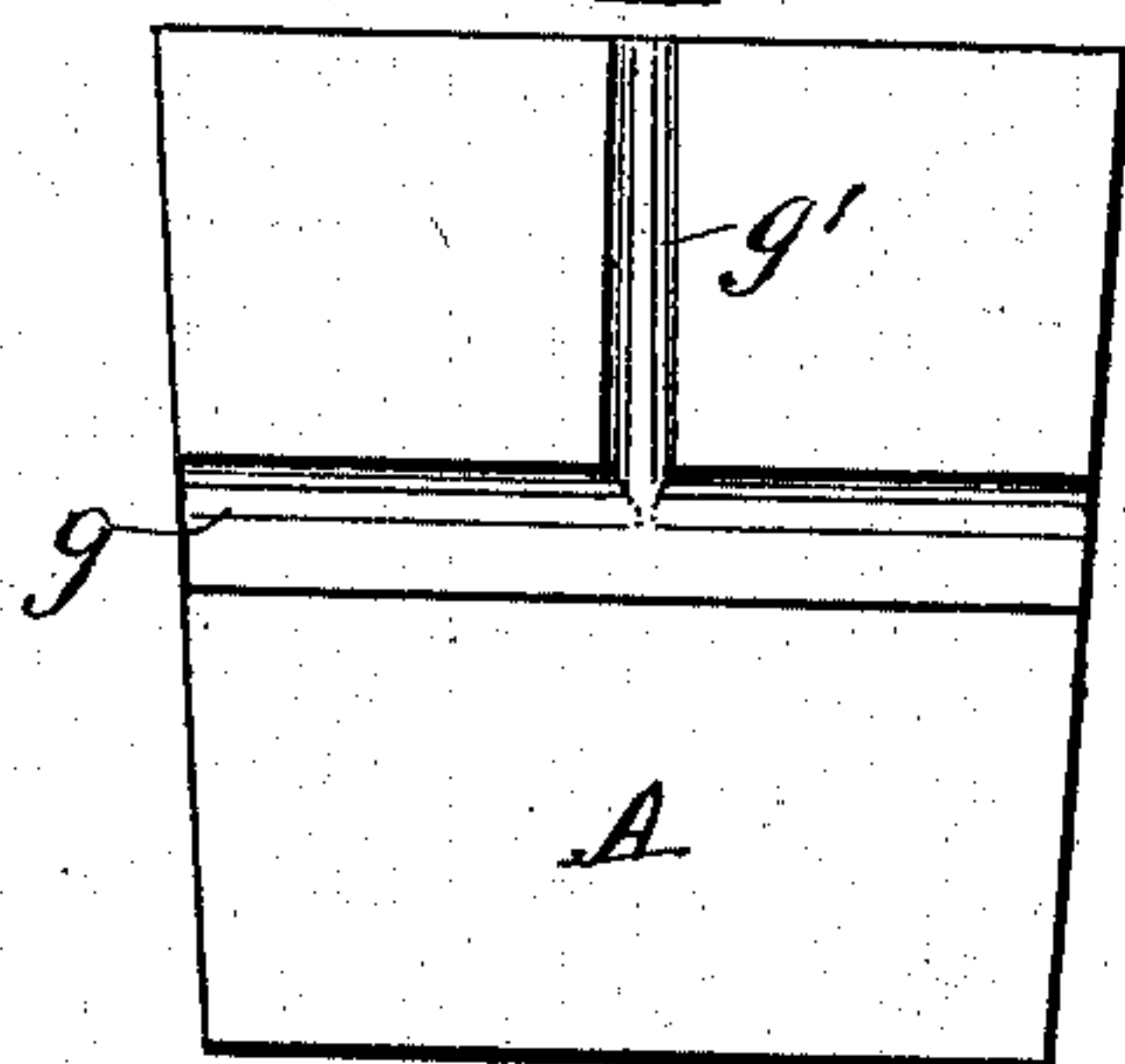
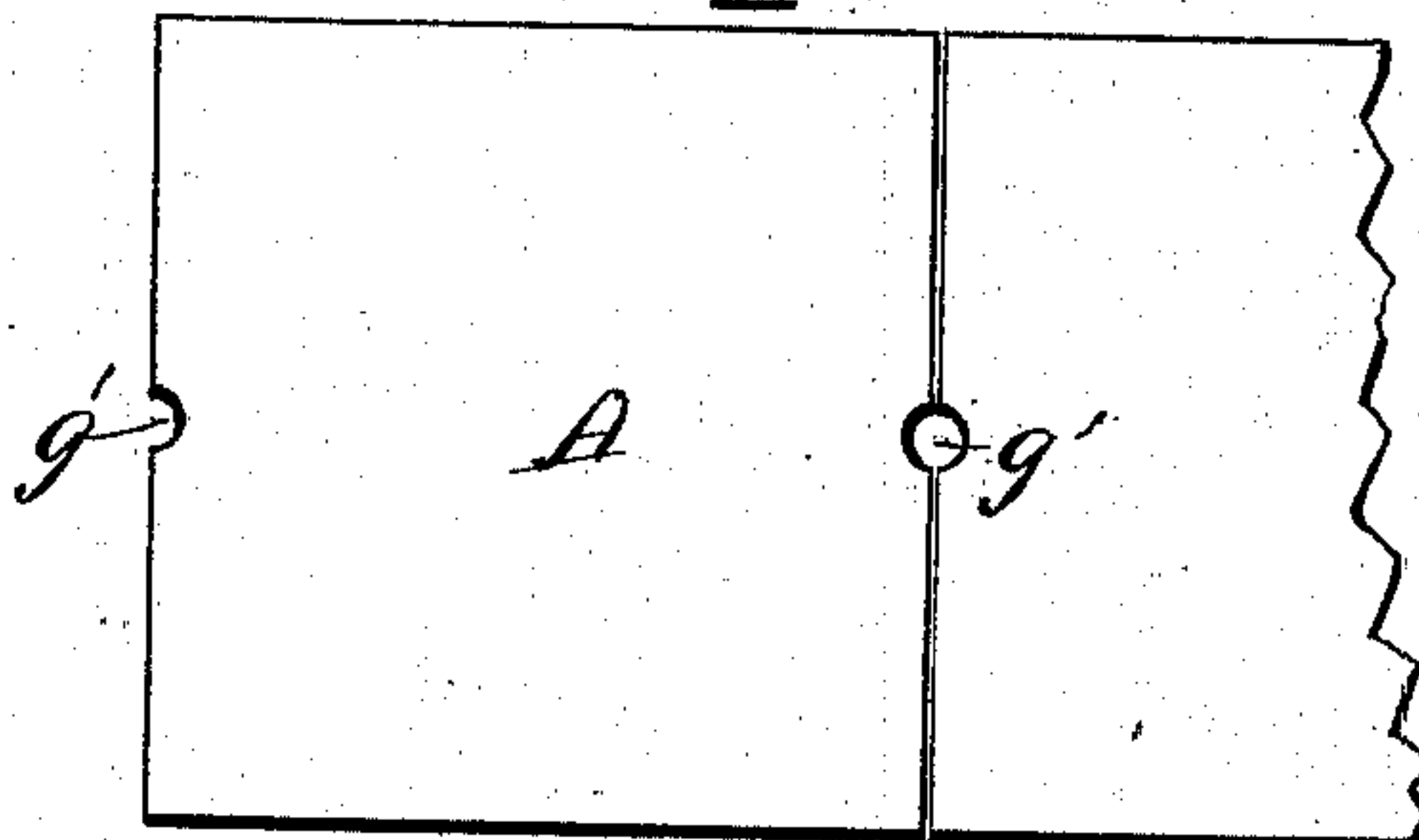


Fig. 4



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# UNITED STATES PATENT OFFICE.

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## PAVING MATERIAL FOR STREET-PAVEMENTS.

SPECIFICATION forming part of Letters Patent No. 274,096, dated March 13, 1883.

Application filed August 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDMOND C. BOYCE, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Paving Material for Pavements, of which the following is a specification.

My invention relates to street-pavements and materials for constructing the same, its object being to produce an artificial paving-block possessing certain advantages over natural materials, whereby a more durable, economical, and practicable street-pavement can be built than those now in use.

To this end my invention consists in the construction of a paving-block in the manner and of the materials hereinafter pointed out, and in the paving-block so constructed, as an article of manufacture.

In the drawings hereto attached and illustrating my invention, Figure 1 is a supposed cross-section of a street in which my improved pavement is laid. Fig. 2 is an enlarged cross-section of adjacent blocks, showing the removing-tools in position. Fig. 3 is a side elevation of one of my improved paving-blocks, showing the vertical and horizontal grooves; and Fig. 4, a plan view of two adjacent blocks in position together.

Various attempts have been made to introduce into American cities the artificial pavements in common use elsewhere, but without satisfactory results, owing to the rough usage to which they are subjected; and in the inland cities of the country, where granite and other hard rock is not obtainable, the silicious bowlders found in the larger stream-beds constitute the best paving material, and are practically the only material capable of resisting the wear and tear; but notwithstanding the durability of the material the rounded and irregular form of the bowlders renders it very troublesome and expensive to keep a bowldered pavement in order for any length of time, as when one boulder is misplaced it destroys the integrity of the adjacent pavement.

In carrying out my invention I employ for the exposed surface of my paving-block these bowlders, preferably using the smaller sizes, which are commonly rejected when the street is to be "bowldered" in the ordinary manner; and for the backing or body of the block I use

concrete or broken stone, gravel, or gravel-screenings, and cement the whole together with pothored cement, or other similar cement, and sand.

The method of making these blocks is as follows: I take a mold or box, of wood or other material, of the proper shape and dimensions, open at one or both ends, and preferably of such form as to give a segmental or "key-stone" contour to the block, in order to give the pavement, when laid, a properly-arched surface. The large end of the mold being placed downward upon a level or slightly-concaved surface, I arrange within the mold, upon its bottom, a layer of bowlders covering the entire space. These are then grouted—that is, the interstices and open spaces are filled with cement in a plastic state. The concrete is then put in upon the bowlders, together with the plastic cement, until the entire space within the mold is filled, sufficient pressure being used to compact the entire mass, bringing the larger constituents into bearing contact throughout the block and distributing the cement thoroughly into and throughout the interstices. When all is complete the mold is removed and the mass allowed to harden in the manner best adapted to that end.

In the drawings, A designates my improved paving-block laid, as shown in Fig. 1, between the curbs *c c*. The construction is clearly exhibited in the central block, (shown in section in Fig. 2,) in which *a* designates the layer of bowlders constituting the wearing-surface, and *b* the backing of concrete. I further construct the paving-blocks with a horizontal groove, *g*, at opposite sides, (or it may be extended entirely around the block,) and with a vertical groove, *g'*, also at opposite sides. The grooves *g* are intended to facilitate the handling of the blocks in transportation and paving, the groove being of such form as to afford a convenient holding-recess for the fingers, as shown. The vertical grooves are semicircular, and register when the blocks are placed together in a pavement, forming a substantially circular perforation, in which a tool may be inserted, one at each side, to lift a block from its position when necessary. The arrangement is shown in Fig. 2, the tools *h h* being short rods, with suitable handles, and slightly



hooked at their lower ends to catch in the grooves *g g*.

I am aware that a paving-block has been previously known, composed of cobble-stones having a brick or tile foundation, all held by a bond of concrete, and such is not my invention; but

I claim and desire to secure by Letters Patent—

1. A paving-block for street-pavements, consisting of a body or backing of broken stone, gravel, or screenings, faced with bowlders for a wearing-surface, the whole compacted in

rectangular or polygonal form and held by "Portland" or other cement, as set forth.

2. A street-paving block provided with grooves *g g'*, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

E. C. BOYCE.

Witnesses:

THOS. J. BELL,  
L. M. HOSEA.