

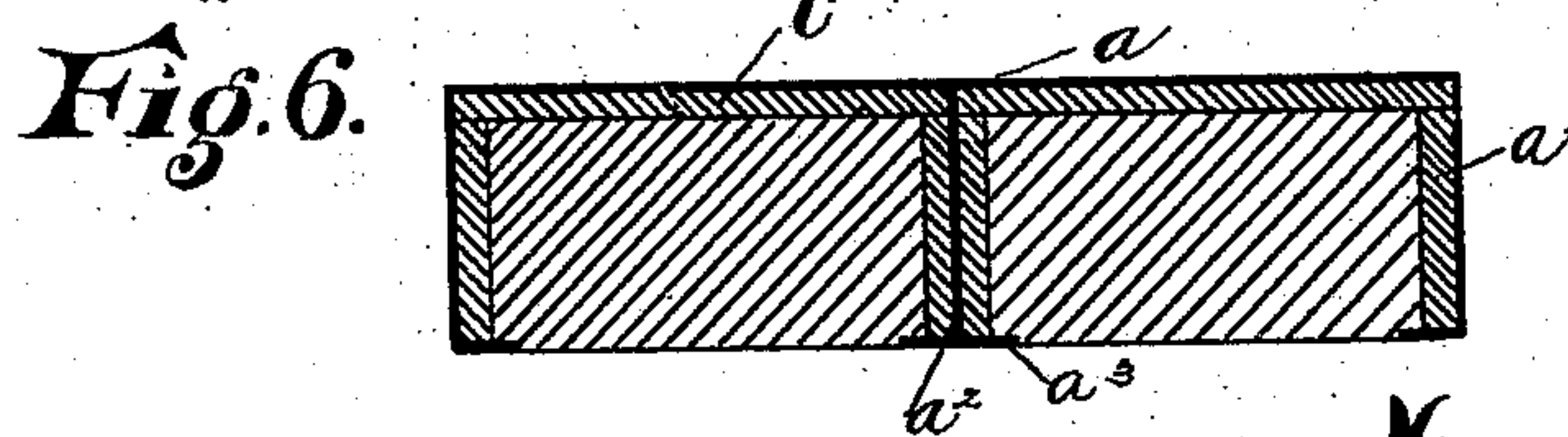
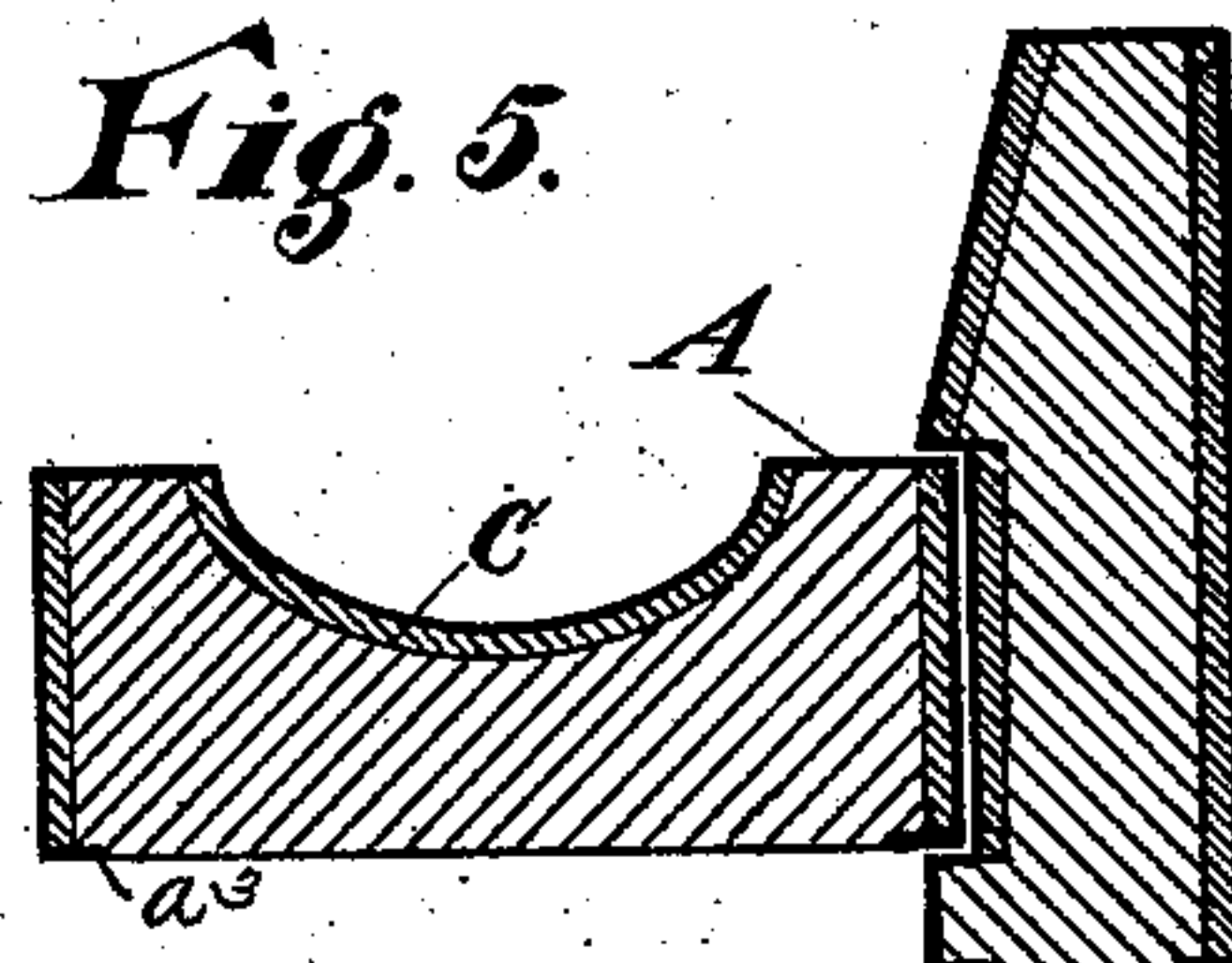
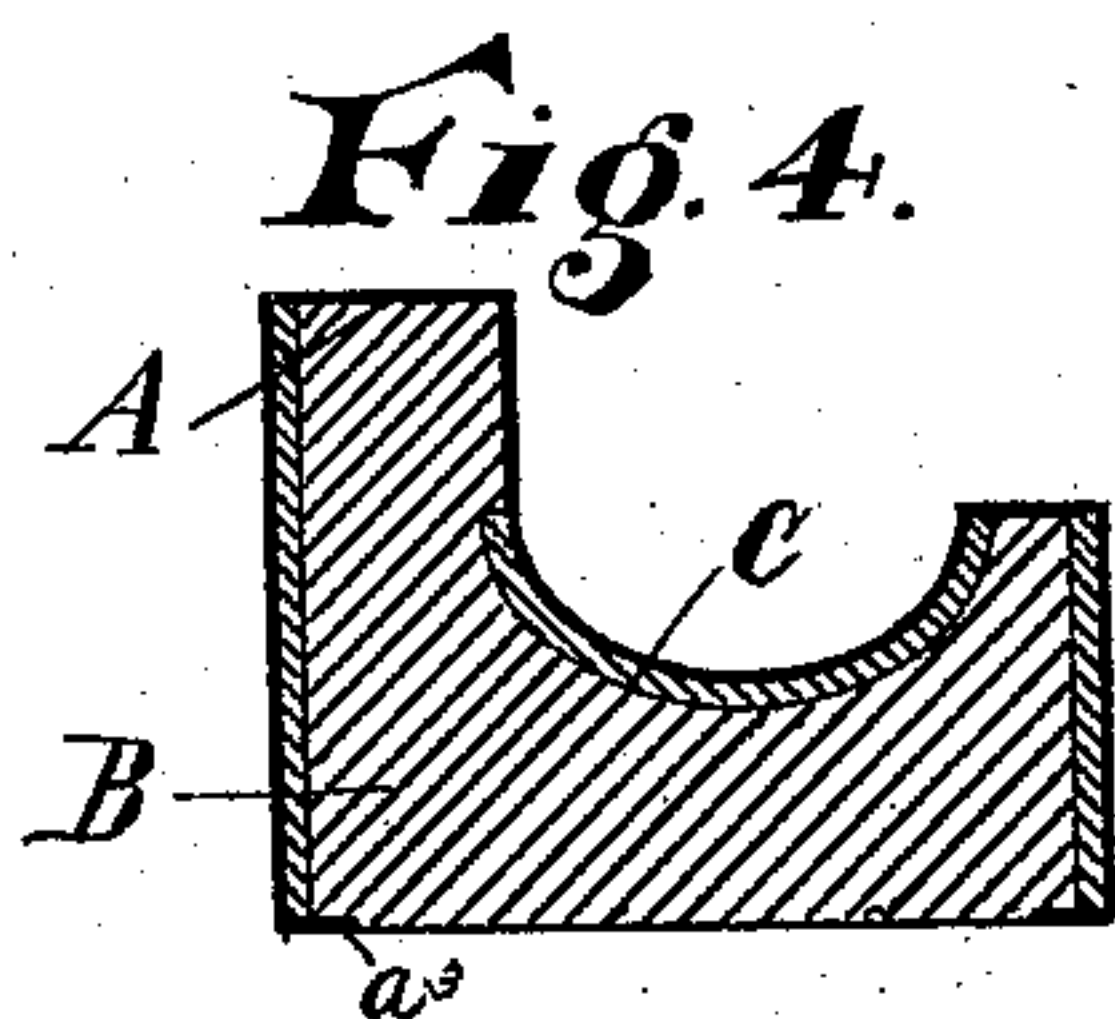
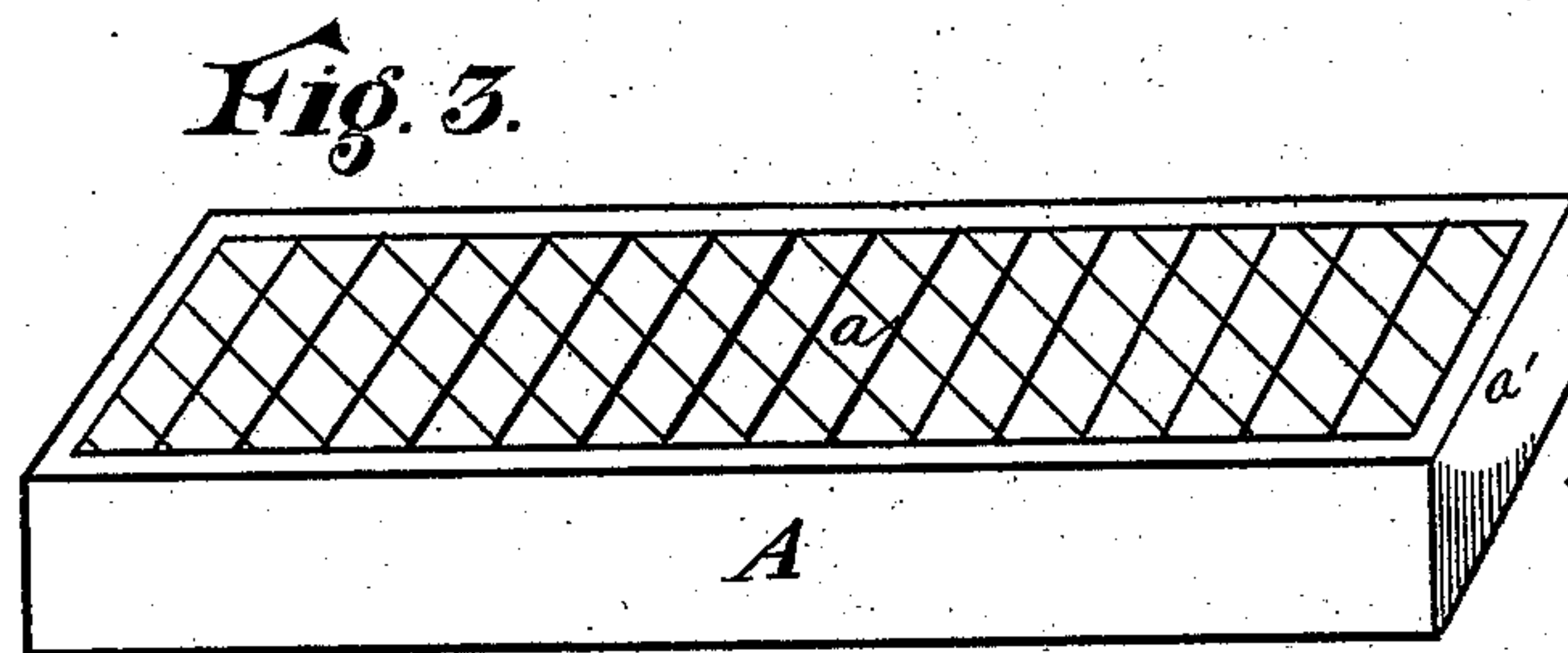
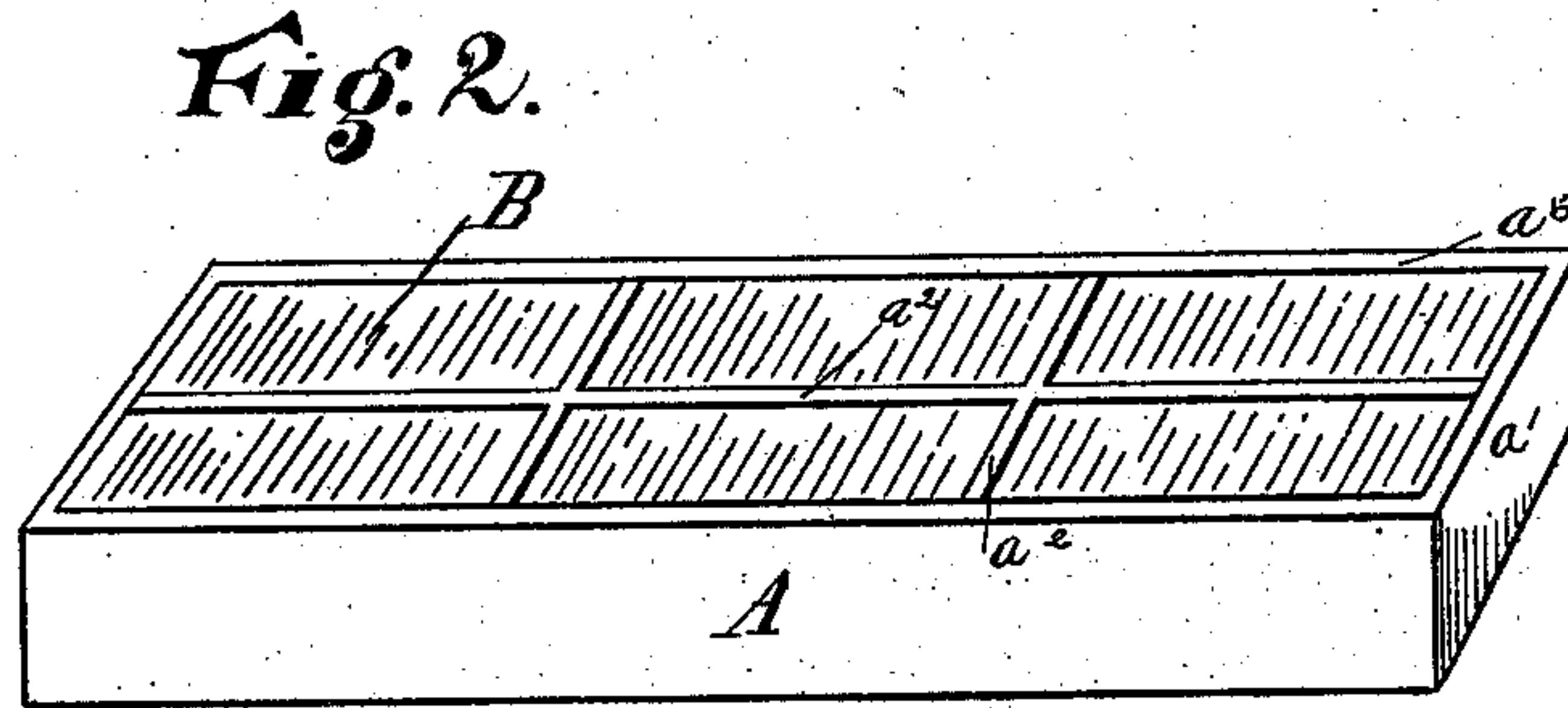
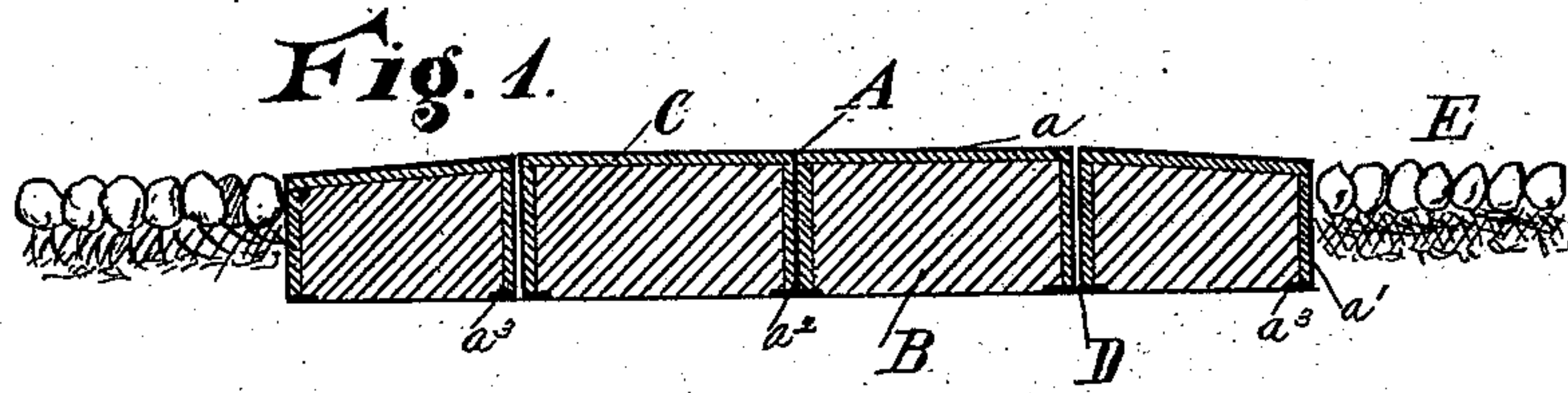
(No Model.)

2 Sheets—Sheet 1.

J. M. GLENN.  
IRON PAVING BRICK.

No. 294,611.

Patented Mar. 4, 1884.



Attest  
Joseph W. Sims  
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(No Model.)

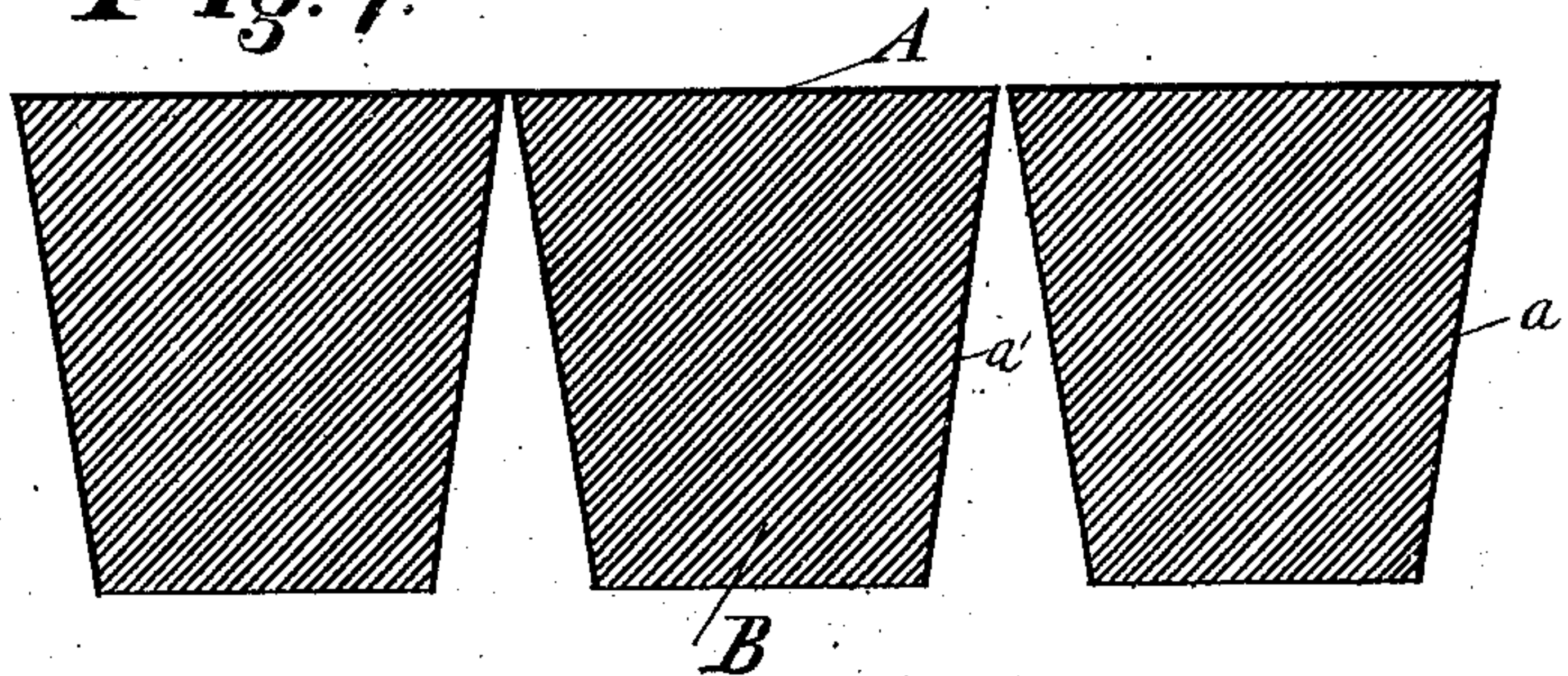
2 Sheets—Sheet 2.

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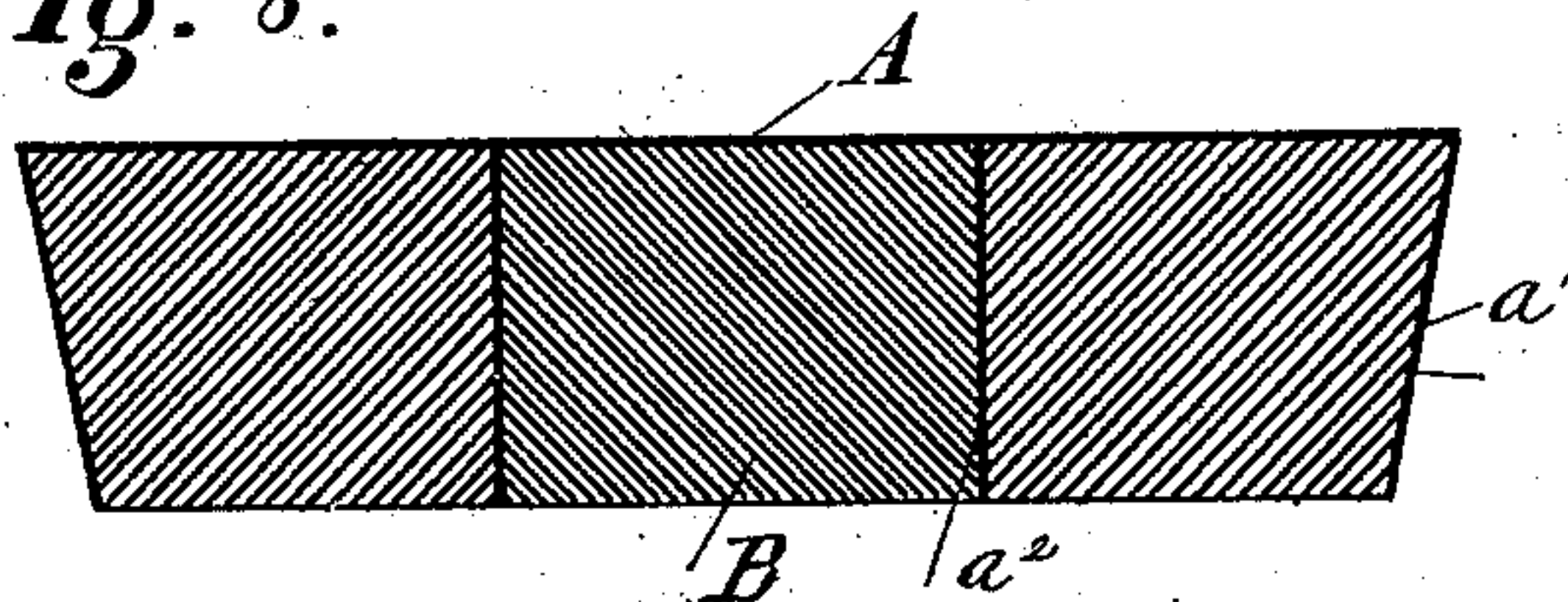
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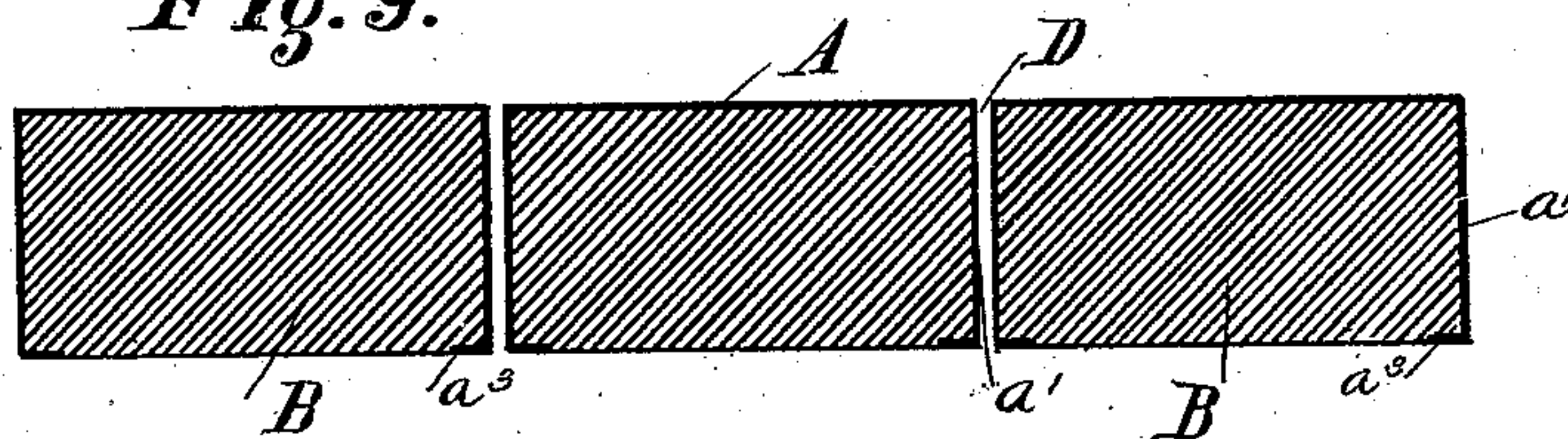
*Fig. 7.*



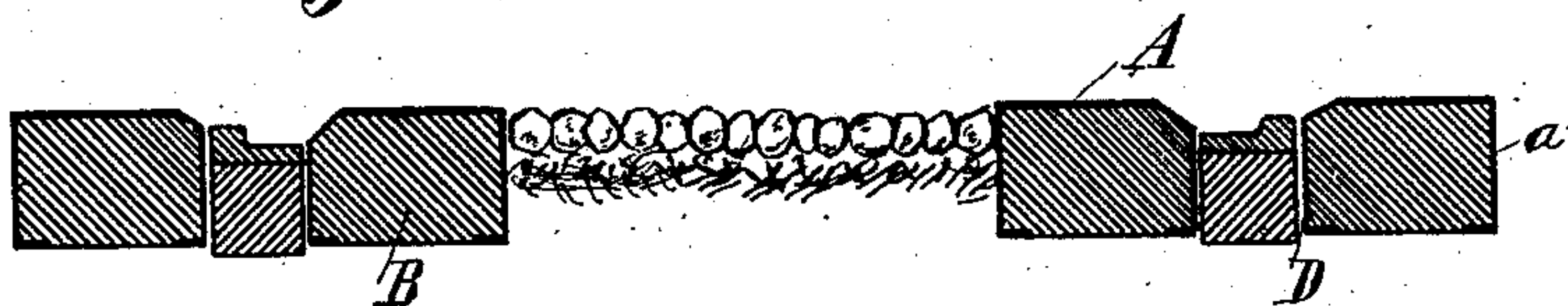
*Fig. 8.*



*Fig. 9.*



*Fig. 10.*



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# UNITED STATES PATENT OFFICE.

JAMES M. GLENN, OF CINCINNATI, OHIO.

## IRON PAVING-BRICK.

SPECIFICATION forming part of Letters Patent No. 294,611, dated March 4, 1884.

Application filed June 18, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. GLENN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful  
5 Improvements in Iron Paving-Bricks, of which the following is a specification.

My invention relates to that class of paving bricks or blocks which consist wholly or partly of artificial stone or concrete, and has for its  
10 object the diminished cost of such paving bricks or blocks, and an increased strength thereof as against breakage by heavy traffic or the effect of frost.

My invention consists, first, of a shell of cast-  
15 iron, the dimensions of which are adapted to the uses to which the paving-block is to be applied, and which may be cast with a rim at right angles to the table of the shell, the lower edge of which is provided with an inwardly-  
20 projecting lip or flange; or the rim may taper inward from the table to the lower edge, in which case the inwardly-projecting flange is omitted. This shell is closed upon the top or  
25 table side and open at the bottom, and the exterior surface of the table may be roughened in any desired design to furnish footholds. Into this shell I fit strips of an elastic or yielding material—as pine, cypress, or cedar, or of felt or  
30 paper saturated with tar—and then, the shell being inverted, or with open side up, I fill the space level to the edges of the rim with a concrete of cement and sand, cement sand and screened gravel, artificial stone, or asphalt and  
35 screened gravel, which, after its introduction into the shell, is allowed to harden naturally or under pressure; or in those localities where the extremes of temperature are not great, and the contraction of the shell upon the concrete  
40 filling is within the elastic limit of the cast-iron, I omit the strips of wood, felt, or paper, and construct the brick or block of the cast-iron shell and concrete filling alone.

In the accompanying drawings, in which similar letters of reference indicate similar parts,  
45 Figure 1 is a section of "flagging" constructed of my improved blocks containing the yielding strips. Fig. 2 is a perspective of one of the blocks inverted. Fig. 3 is a perspective of one of the blocks top up. Figs. 4 and 5 are sec-  
50 tions of "gutter" and "curb" stones con-

structed in the manner of my improved paving-block with the yielding strips. Fig. 6 is an enlarged section of a flagging-block containing the yielding strips. Fig. 7 is a section of small  
55 paving-blocks of the Belgian order. Fig. 8 is a section of a block of relative large superficial dimensions. Fig. 9 is a section of ordinary paving-blocks, and Fig. 10 is a section of such blocks as I propose to use for horse-railway  
60 tracks.

A is a shell, of cast-iron, consisting of the table  $a$ , rim  $a'$ , dividing-ribs  $a''$ , (when the block is of large dimensions,) and lip or flange  $a'''$ .

B is the filling, which may be of concrete, of cement and sand, cement sand and screened  
65 gravel, or of asphalt and screened gravel, or of what is known as "artificial stone," which filling is first proportioned and mixed in the usual manner, and then poured into the shell  
A, (the latter having first been inverted to re-  
70 ceive the filling,) and then allowed to harden naturally or under pressure.

C are the strips of wood or felt which are interposed between the cast-iron of shell A and the bounding-surfaces of filling B, which strips,  
75 being of a yielding and slightly elastic material, permit the cast-iron shell A to contract (in cold weather) upon the filling B without risk to the safety of either shell or filling. The  
80 flanges  $a'''$  hold the filling B firmly in the shell A and prevent it from loosening therefrom should the substrata upon which the block is  
laid be undermined.

In small blocks for the Belgian style of paving the flanges  $a'''$  are preferably omitted and  
85 the rim of shell A tapered inwardly toward the bottom, as shown in Figs. 7 and 8, the spaces D between abutting blocks being filled with coarse sand, which prevents the edge of one  
90 block from chafing upon the next should the bed upon which the blocks are laid be yielding or unstable.

E in Figs. 1 and 10 are the customary cobble-stones for paving streets.

In constructing flag-blocks I propose, as  
95 shown in Fig. 1, to make a center block, the table  $a$  of which shall be flat and of any desired design to roughen it for footholds, and two side blocks,  $A' A'$ , which are inclined from the level of street up to the level of the center  
100



block, A. When the blocks are to be of large dimensions—say twenty-four by forty-two inches, or of any superface greater than fourteen inches square—I prefer to make the shell  
5 A cellular, as shown in Figs. 2 and 8, in which event the ribs  $a''$  are used.

By reference to Figs. 4 and 5 it is obvious that any desired form or size of blocks for guttering or curbing, or for any paving purposes  
10 whatsoever, may be constructed after my method with great facility.

In adapting the blocks to the use of horse-railways the edges of shells A next to the track are slightly beveled, as shown in Fig. 10, to permit of the easy lift of the wheels of vehicles  
15 from the train-rail to the normal level of the roadway.

The adaptation of my improved paving-blocks for horse-railways is peculiarly advantageous, as it prevents the present chafing and cutting of the pavement next to the rail-stringer by furnishing a hard unyielding surface, upon which the fretting of the wheels of vehicles  
20 will have no detrimental effect.

In practice the casting of the shell A and introduction of filling B and of strip C, when required, may all be accomplished at a factory for the purpose; or the shells A may be cast at one place and the filling and strips introduced  
25 upon the spot where the block is to be used. The form of the cast-iron shell A is such as to give it great strength when loaded as a beam,

while the filling B, of concrete, furnishes the requisite weight and solidity required in paving-blocks. 35

Blocks constructed after my method will wear better than granite, and in the West and South can be had much cheaper than granite.

Referring to such a block as is shown in Fig. 6, the width would be, measured upon the table  
40  $a$ , about twenty-four inches, the depth about six inches, and the thickness of rim  $a'$  and flange  $a''$  or rib  $a''$  about one-quarter inch, although the dimensions will always be proportioned to the traffic or loads which may come upon the block  
45 in use.

I am aware that paving-blocks of artificial stone, of concrete, and of asphalt and sand or gravel are not novel, and these I do not claim.

Having described my invention, what I claim  
50 is—

A paving brick or block consisting of a cast-iron shell, as A, and a concrete filling, as B, with yielding strips, as C, interposed between the cast-iron shell and concrete filling, constructed substantially in the manner and for  
55 the purpose described.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

JAMES M. GLENN.

Witnesses:

JOHN W. HILL,

JOSEPH W. SIMS.