

J. A. SEAMAN.  
Street Pavement.

No. 199,110.

Patented Jan. 8, 1878

Fig. 1.

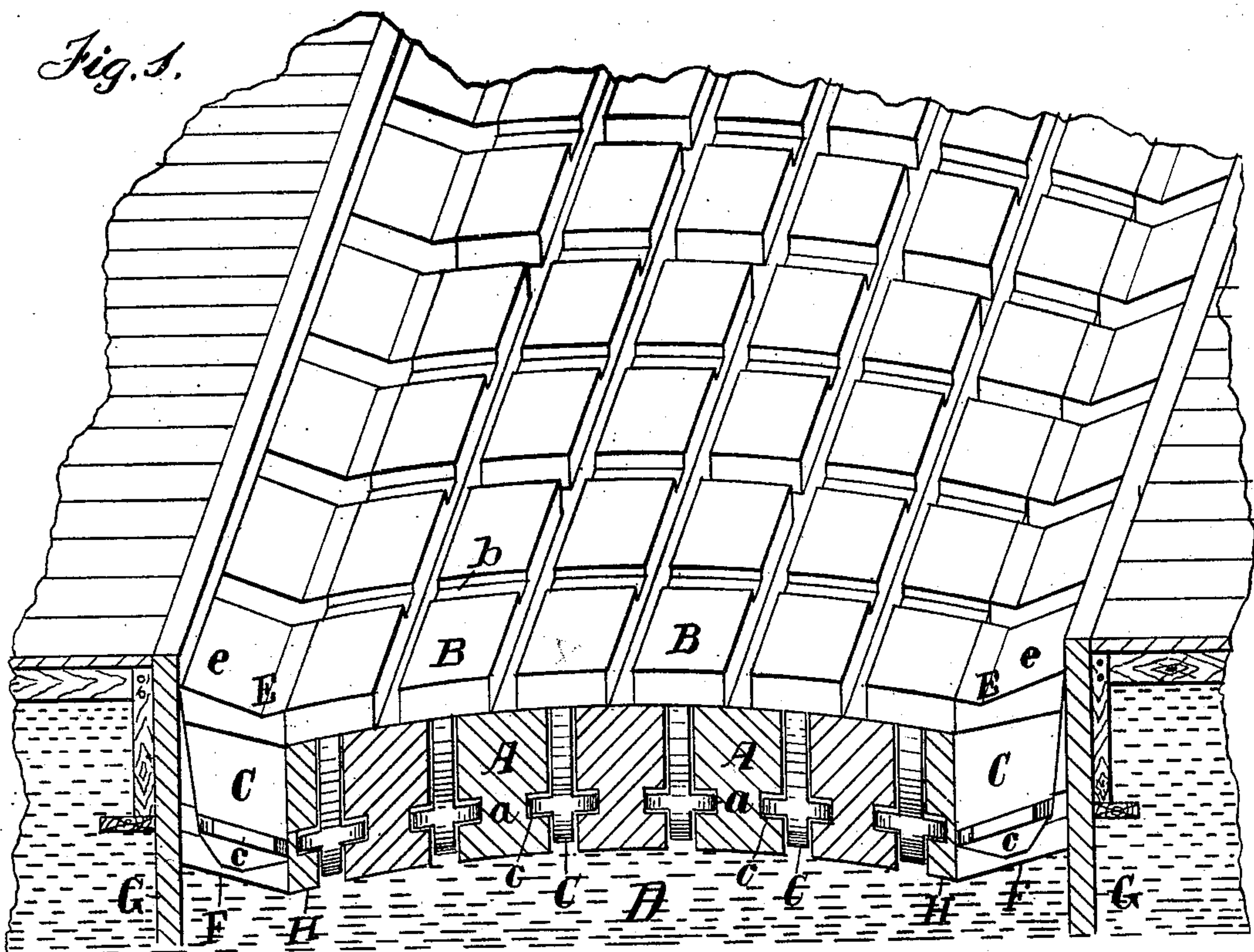


Fig 5

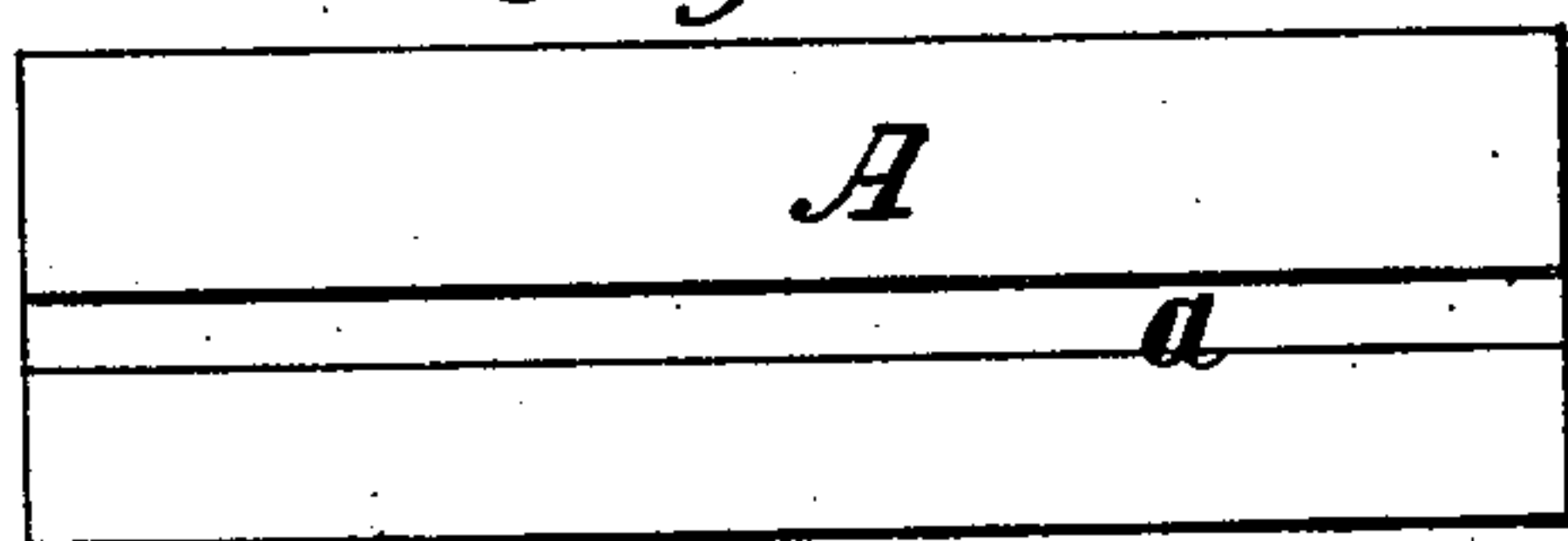


Fig. 2.

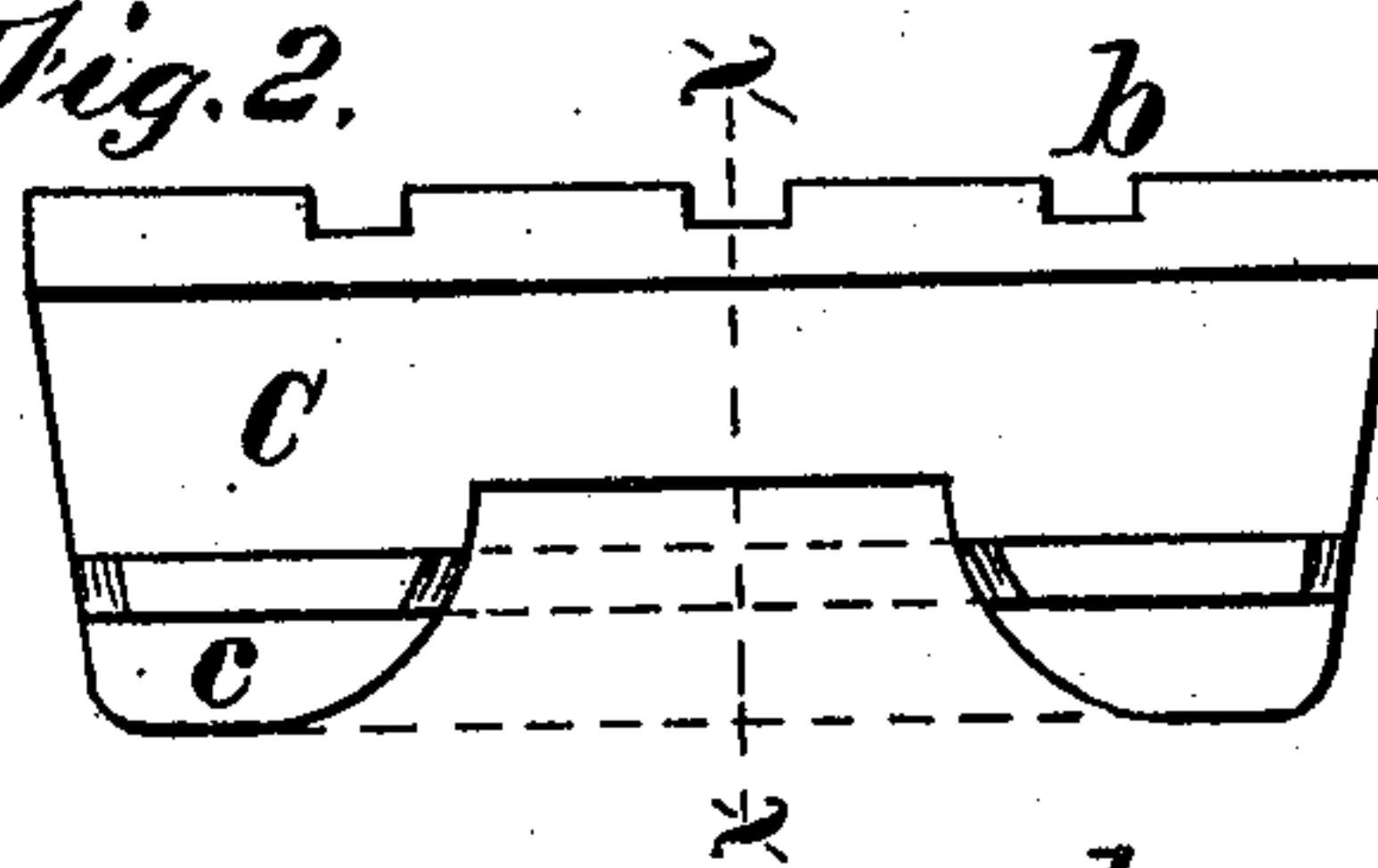


Fig. 4.

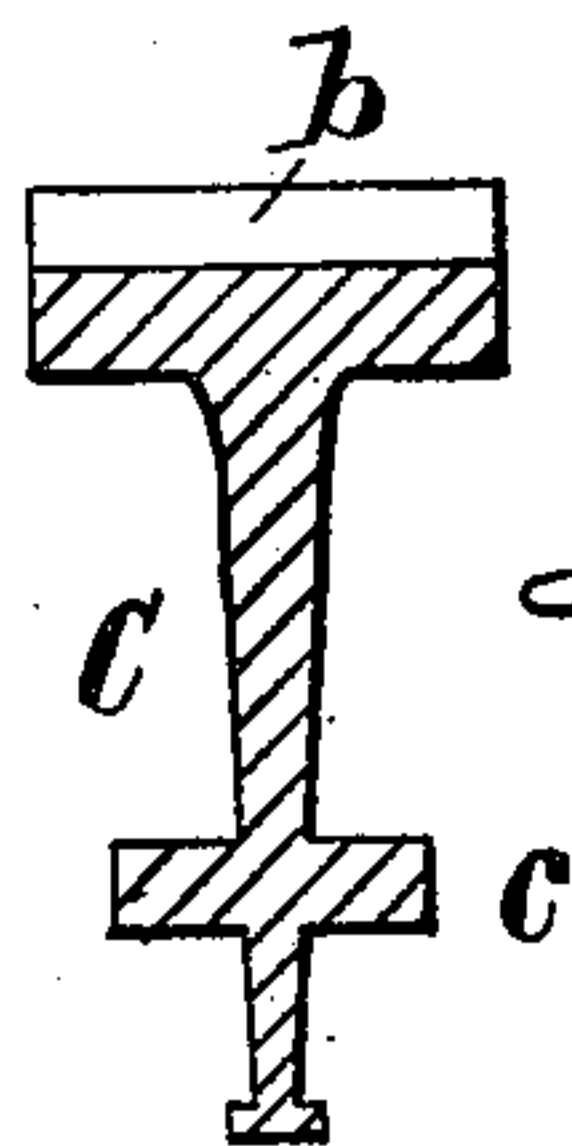
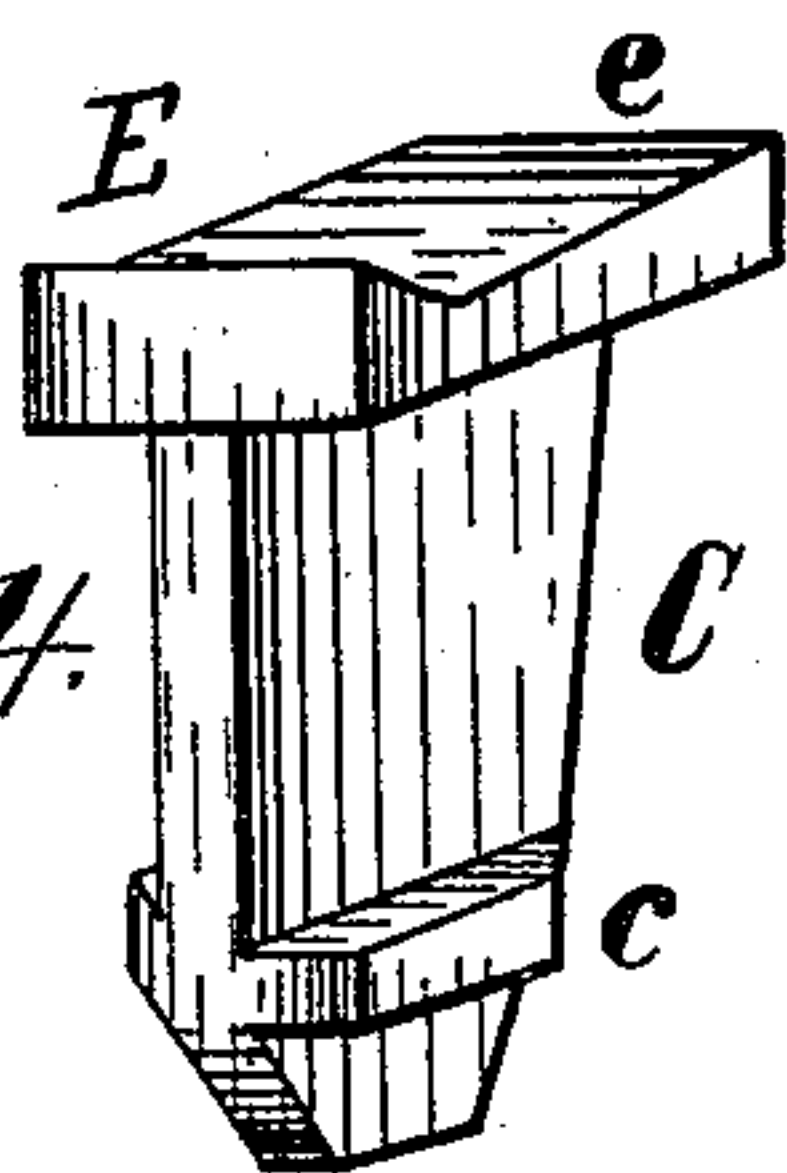
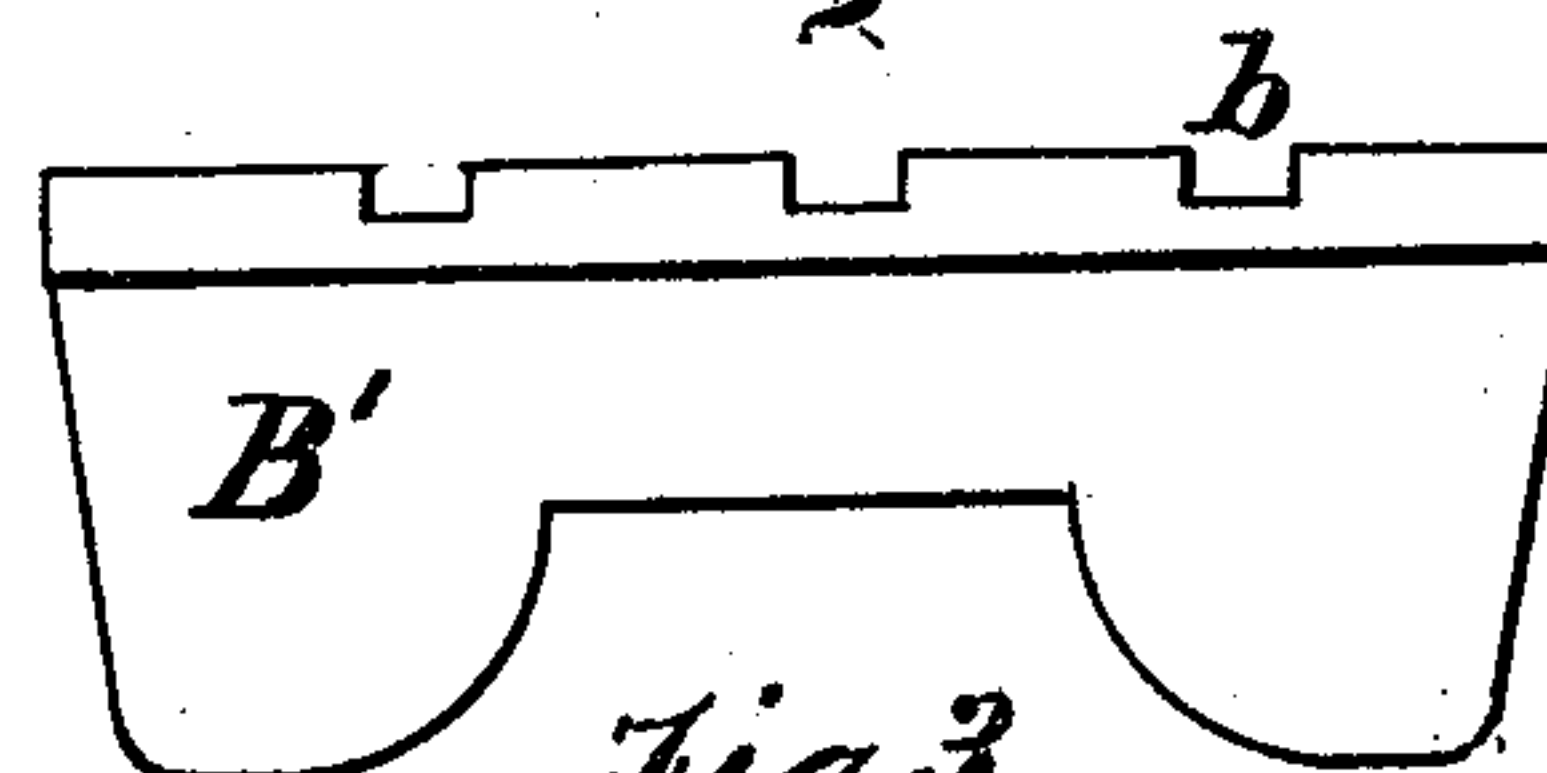


Fig 6

Fig. 3.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN STREET-PAVEMENTS.

Specification forming part of Letters Patent No. **199,110**, dated January 8, 1878; application filed August 1, 1877.

*To all whom it may concern:*

Be it known that I, JOHN A. SEAMAN, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Street-Pavements, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of a section of my improved pavement; Fig. 2, a side view of one of the iron plates; Fig. 3, a similar view of a similar plate without flanges, so as to be readily removed from the pavement; Fig. 4, a perspective view of one of the gutter-plates; Fig. 5, a side view of one of the wooden blocks; and Fig. 6, a vertical section of one of the iron plates, taken on the line *xx*, Fig. 2.

The object of my invention is to provide a pavement which shall combine the excellencies of both wood and iron, each of which, when used alone, is in some respects objectionable.

A pavement composed entirely of stone or metal is hard and unyielding, while one composed entirely of wood, although somewhat elastic, is not very durable. My object is to combine the durability of metal with the elasticity of wood, thereby obtaining the advantages peculiar to each material.

The invention consists in a pavement composed of blocks of wood and plates of iron laid upon the surface of said blocks, and provided with webs or flanges, which project down between the rows of blocks, and are fastened thereto by means of longitudinal ribs entering grooves in the sides of the blocks.

It also consists in several special features of construction all of which will be hereinafter more fully set forth.

In the drawings, A represents blocks of wood, which are made preferably of rectangular shape, though they may be wedge-shaped, or of any other form suitable for combination with the iron plates, as hereinafter described. In the sides of these blocks, and near the lower edges thereof, longitudinal grooves *a* are made.

Plates of iron, B, are constructed with transverse grooves *b* in their upper faces, and wide longitudinal flanges or webs C upon their under sides, and toward the lower edge of these

flanges are ribs *c*, arranged at right angles to the flanges. The webs or flanges C may be entire, as shown in dotted lines in Fig. 2 of the drawings, or the central portion may be cut out somewhat, as shown in full lines in the same figure. In the former case the ribs *c* should extend along the whole length of the flange; but in the latter case only upon the end projections, as shown in the figure of the drawings above referred to.

The plates B are made of about the same width as the base of the wooden blocks, and of such length as may be convenient for handling.

The wooden blocks are preferably laid on a gravel bed, D, though they may also be laid upon a board foundation, if desired.

The bed may be constructed with a stone foundation, or in any other well-known way, but should be hard rolled or tamped, and the proper arch given to it.

The blocks are laid with a space between them about equal to the thickness of the flange C on the plates B, which flange is intended to fit between the rows of blocks when laid, the ribs *c* being also arranged to enter the grooves *a* in the blocks on each side, as shown in Fig. 1 of the drawings. When thus laid it is evident that the plates B will rest upon the blocks upon each side thereof, extending partially over them, but not covering their entire surface, so that there will be longitudinal and transverse grooves or spaces between and in the plates B above the surface of the wooden blocks. These interstices are to be filled with gravel tamped down very hard.

The method of laying the pavement should be to first lay several of the blocks in a row, and then put on the plates, and follow up with the next row of wooden blocks upon the other side of the plates.

In Fig. 1 of the drawings the rows of blocks and plates are represented as laid longitudinally along the street. In this case short gutter-plates E may or may not be provided, with an upward turn, *e*, at one end, as shown in Fig. 4 of the drawings. The plates E are made so as to stand in an inclined position with reference to the web below, and the wooden blocks F to support these gutter-pieces should be made of a corresponding form, so



as to fit into the space between the curb G and a series of thin blocks, H, with which the outer row of the main body of the pavement is finished off, so as to leave the body of the blocks on this side flush with the edge of the iron plates, as shown in Fig. 1 of the drawings.

In order to remove a section of the pavement readily whenever desired, I make one of the plates, B', without ribs upon the flanges, as shown in Fig. 3 of the drawings. This plate can, of course, be put in place after all the rest of the pavement has been laid, as it will be necessary only to force the flange down between the blocks. These plates should be located along the street at convenient intervals—say one opposite each lot—and should have some special mark by which they can be readily recognized; and, if desired, two or more may be arranged together to facilitate the removal of the pavement whenever desired.

It is evident that this can be done without the least injury to the pavement, which can be taken up section by section, after removing the smooth flanged plates described above, and relaid without the loss of a single piece of either wood or metal.

It is evident that the blocks and plates may be laid transversely of the street, if desired, in which case the special gutter-pieces are necessary; but when laid longitudinally, as shown in the drawings, these gutter-pieces may be dispensed with, as it will be only necessary to lay the outer course in an inclined position to form a suitable gutter, and this position may be obtained by properly wedging the blocks.

I prefer to construct the iron plates with the flange C wedge-shaped, as shown in Fig. 6 of the drawings, as it will save metal, and at the same time be sufficiently strong. In this case, at the extreme lower edge of the flange, there should be an enlargement, *c'*, of the same width as the greatest width of the flange, so as to give steadiness to the plate if rectangular blocks are used; but the blocks may be cut wedge-shaped, so that the flange will exactly fit between them, if desired.

At the junction of the flange with the plate B the former should be filled out slightly, so as to have a curved contour, as shown in Fig. 6 of the drawings, and the wooden blocks may be cut to conform thereto.

It is evident that this plan of joining the plates and blocks may be modified. For instance, the ribs *c* may be located at the extreme lower edge of the flange, and the latter extended sufficiently to permit the ribs to pass under the blocks; but the amount of metal used would thereby be increased to such an extent as to make this construction objectionable.

I do not, however, limit myself to the particular construction of the blocks or plates

above described, the principal object of my invention being to fasten the iron plates and wooden blocks together in a secure but simple manner, whereby a firm and durable pavement is obtained.

It is evident that a pavement constructed as described will be extremely durable, for the wear will be taken by the metal plates upon the surface; but at the same time the foundation of wood upon which the metal plates rest will give sufficient elasticity to make the pavement tolerably easy for travel, and it is especially adapted to streets upon which there is much heavy cartage, and to portions of streets occupied by horse-railways.

It will also be seen that the plates and wooden blocks sustain each other on account of the peculiar manner of locking them together, so that there will be no giving way under ordinary strain, even if the foundation should be slightly impaired.

Whenever the injury to the foundation becomes so great as to compel repairs, the weak spot can be easily reached by removing the plain key-plate, as above described, and the pavement again relaid without new material; but, except at the key-blocks provided for this purpose, it will be impossible to remove the plates and blocks by any ordinary means.

Having thus described my invention, I claim and wish to secure by Letters Patent—

1. A pavement composed of a foundation of wooden blocks and a broken surface of metal plates laid thereon, and provided with flanges extending down between the blocks and locked thereto, substantially as and for the purpose set forth.

2. The wooden blocks A, having grooves *a* in their sides, in combination with the iron plates B, constructed to rest upon adjacent rows of the former, partly on each, and provided with flanges C, on which are locking-ribs *c*, adapted to enter the grooves *a*, substantially as and for the purpose set forth.

3. The plates B, having grooves *b* in their upper surfaces, wide flanges C projecting from their under sides, and lateral ribs *c* on the flanges, in combination with the grooved wooden blocks, substantially as described.

4. The gutter-plate E, having its upper surface bent, as described, and inclined to the plane of the web or flange C, substantially as and for the purpose set forth.

5. A plate, B, provided with a tapering or wedge-shaped flange, C, having locking-ribs *c* thereon, in combination with the wooden blocks A, substantially as and for the purpose set forth.

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Witnesses:

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