

Brocklebank & Tubbs,

Wood Pavement.

No. 103,713.

Patented May 31. 1870.

Fig: 1

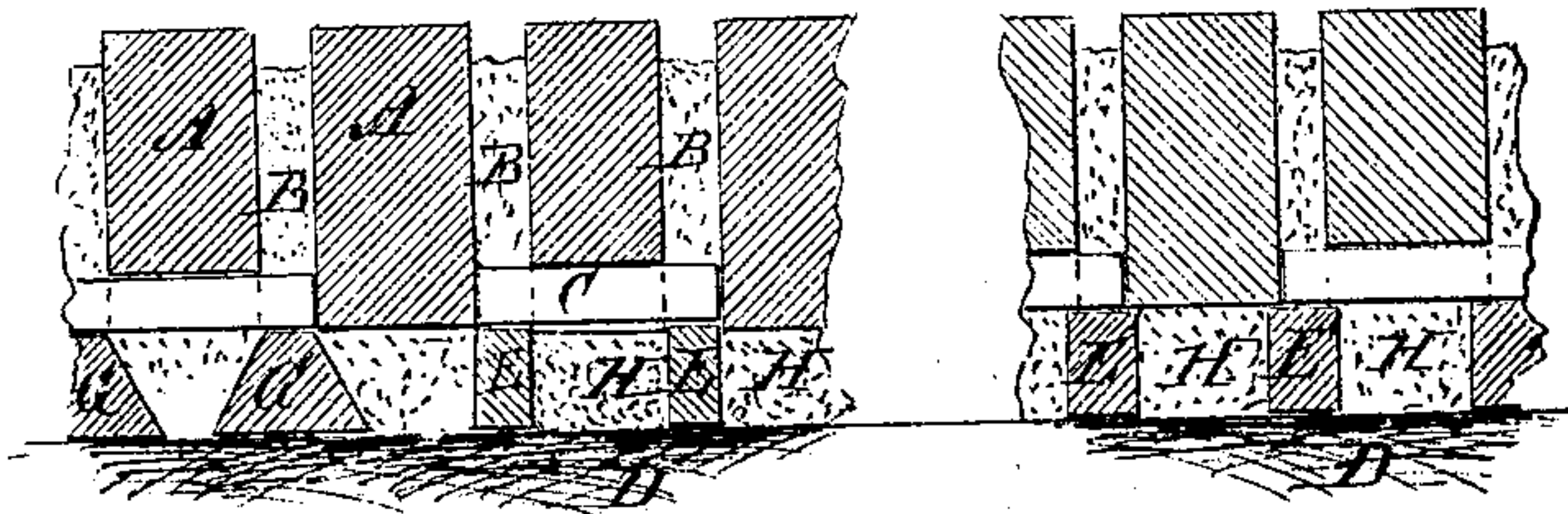


Fig: 2

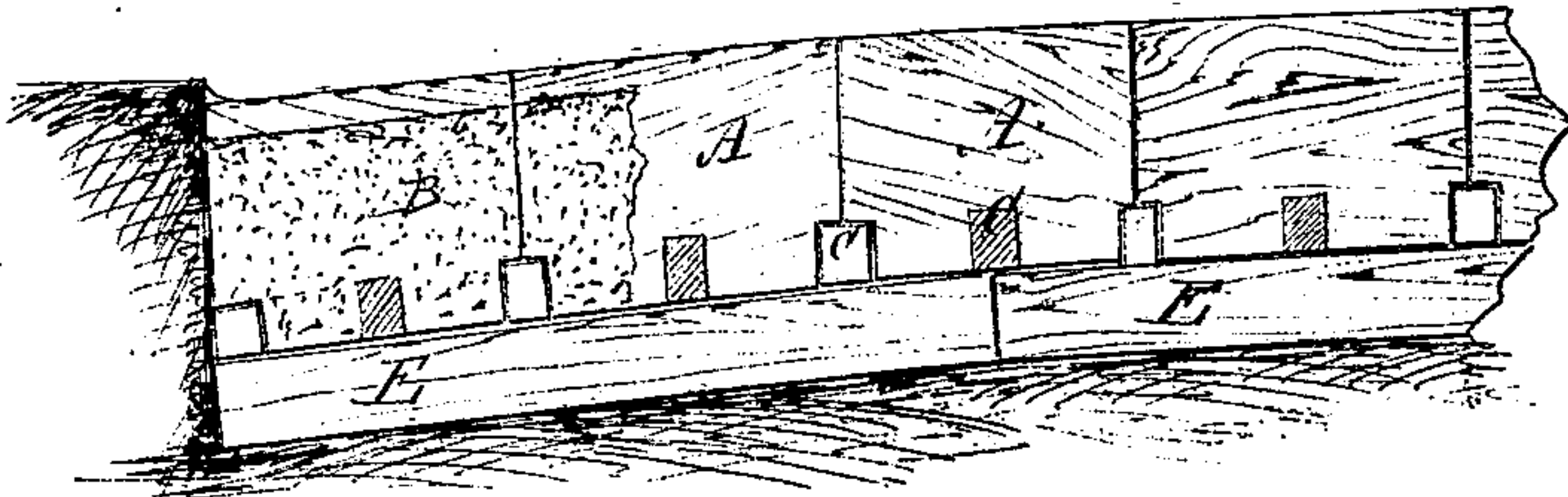
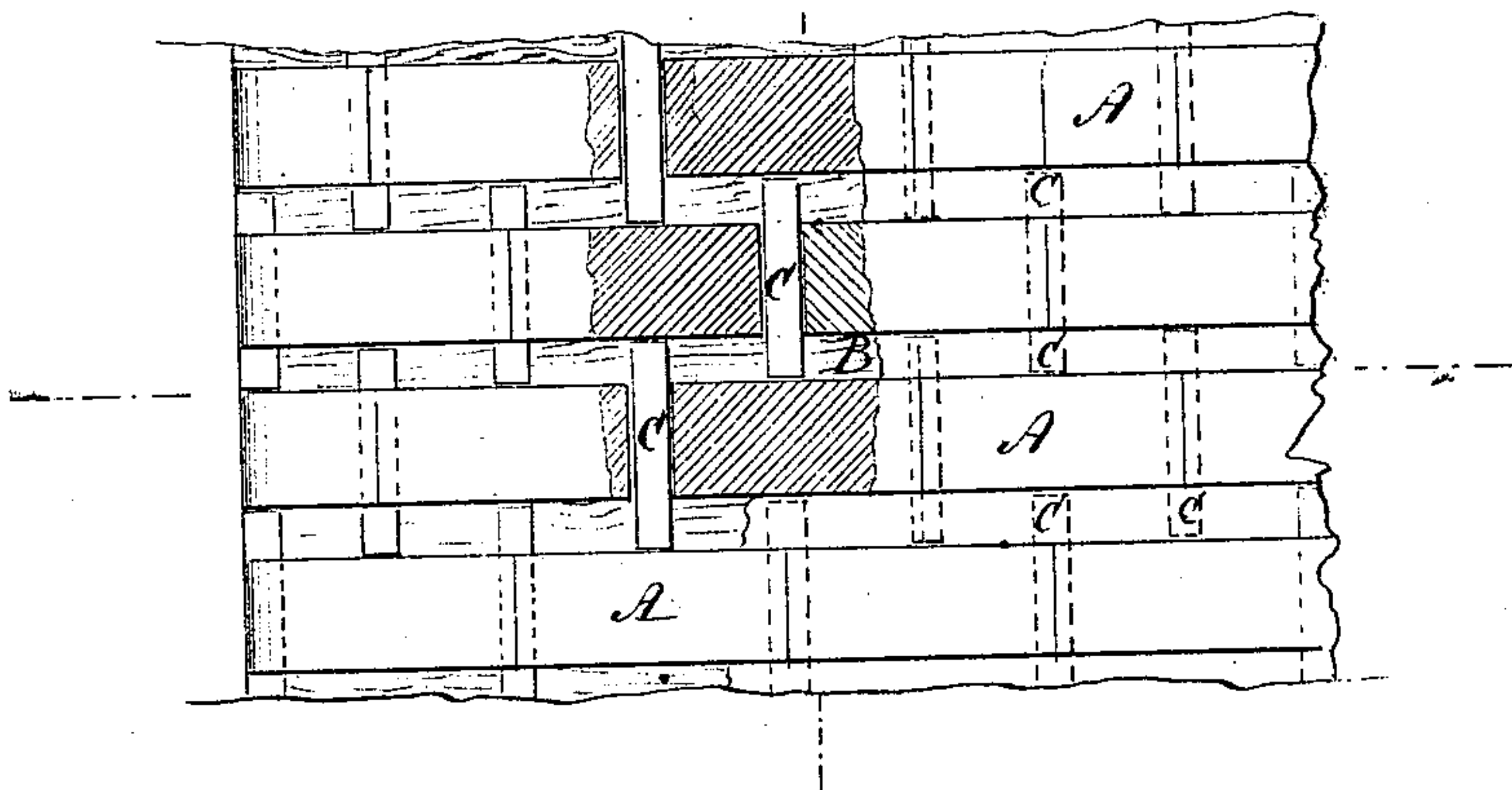


Fig: 3



Witnesses:

*John D. Person &
H. M. Foster*

Inventors

*John W. Brocklebank
Geo. W. Tubbs*

UNITED STATES PATENT OFFICE.

JOHN W. BROCKLEBANK, OF NEW YORK, N. Y., AND GEORGE W. TUBBS,
OF ELIZABETH, NEW JERSEY.

IMPROVEMENT IN WOOD PAVEMENT.

Specification forming part of Letters Patent No. 103,713, dated May 31, 1870.

To all whom it may concern:

Be it known that we, JOHN W. BROCKLEBANK, of the city, county, and State of New York, and GEORGE W. TUBBS, of Elizabeth, in the county of Union and State of New Jersey, have invented a new and Improved Wood Pavement; and do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in wood pavements of that kind wherein blocks arranged vertically in rows across the road-bed, either with or without spaces between, to be filled with gravel, &c., are placed upon a superstructure intermediate between the graded road-bed and the blocks; and it consists in an arrangement of the said blocks on a foundation of sills laid across the road-bed, parallel with each other, on the graded surface, with spaces between filled with sharp sand, the said spaces being as wide as the thickness of the blocks which are set upon the sand, and they are supported at the edges, which are placed together in forming the continuous row, by short joists laid across the sills, the corners of the blocks being recessed for the purpose, each joist supporting two blocks. These joists are employed also to regulate the spacing of the blocks, which is done by making the joists the right length to extend from the side of one row through the next or through two rows, and to the line for the second or third row, and arranging the rows of blocks to break joints, and placing the end of each joist as it is laid against the side of the row previously laid, from which the ends of the joists laid with the previous row of blocks, or some of them, project, so that the sides of the blocks being laid are placed against them.

Instead of placing the blocks wholly on the sand and on the joists, I may in some cases place the sleepers or sills nearer together, and have the blocks rest partly on them also.

Figure 1 represents a longitudinal sectional elevation of two sections of our improved pavement. Fig. 2 is a section, taken transversely of the road-bed, some of the blocks being broken

out, to show the gravel. Fig. 3 is a plan, partly sectioned horizontally.

Similar letters of reference indicate corresponding parts.

The blocks A are of the ordinary sort, and they are to sit on the foundation in rows across the street, with spaces B between, to be filled with gravel, sand, and the like, in the usual way.

I propose to make the foundation for the blocks by placing transversely on the graded road-bed D the long sills E, either of the same width as the spaces between the blocks, or a little wider, as at E', and they may be either in rectangular form in cross-section, or they may have oblique sides, as at G. They are set edgewise, with sharp sand packed between them, as at H. Care is taken to arrange the sills E so as to break joints, and, if preferred, small blocks or plates are bedded in the surface of the graded road-bed under them at the ends, to prevent the latter from being sprung or settling down thereat.

If preferred, the sills E G may be curved to suit the transverse curvature of the road-bed, either by sawing partly through and bending them, or they may be sawed to the required curvature; but, for all practical purposes, the proper curvature may be had by a judicious arrangement of the sills, the lengths being suited to the crown of the road-bed and the sloping sides.

The nature of sharp sand is such that it will not pack or condense to any material extent by pressure or force; hence it is admirably adapted for making, in connection with these transverse sills, a non-elastic and uniform foundation. The sills prevent any lateral movement or displacement of the sand, and they are very useful for lining the rows of blocks in laying them.

I propose, as a means of spacing the blocks as they are set upon this foundation, and also as a means of partially sustaining the blocks vertically, and distributing the force of blows delivered vertically on the blocks over the foundation as much as possible, to employ the short joists C at the joints between the edges of the blocks A, where they are recessed or rabbeted across the edges at the lower ends, as shown, for the purpose of providing space for

the said joists to pass through them, across the sills, from the side of one row to the side of the second, or it may be to the third one; or the said joists may be passed through grooves cut wholly in the blocks between the ends. In this case I have represented the rabbet as of rectangular form; but they may be in any other form—for instance, the side walls may be undercut, or so as to form dovetail grooves, and the joists may be correspondingly formed, so that, being nailed to the sills, they will prevent the blocks from rising. These joists are laid on the foundation as the blocks are set, perpendicular to them, across one or two of the sills, as the case may be, whether they extend to the second or third row, and the blocks are placed with their sides against the ends of those joists previously laid and extending through the one, two, or more rows of blocks laid upon them.

In case the grooves and joists are dovetailed, the blocks must be placed so that the joists extending beyond the row being laid will enter the notches for them. Then the blocks are slid up to their required position against the ends of those joists which extend only the distance of the spaces between the blocks.

It will be seen that this mode of spacing the blocks and partially supporting them may be made use of when they are placed on the common continuous flooring of boards, whether the latter be laid continuously in the direction of the street or transversely thereof; and in the latter case the joists C, crossing the joints of the floor, will have the effect of binding them, or distributing the force on the foundation. They are applicable also for securing and partially supporting the frusto-pyramidal blocks, or the wedge-shaped blocks, which come together at the base, and have the wedge-shaped

spaces between for filling with gravel. In using these two latter shapes of blocks with the foundation which I have here described, the arrangement would be such that the edges of the rows of blocks at the base would meet at the centers of the sills.

This arrangement of the foundation will be found much more permanent and solid than the continuous foundation of boards commonly used, and such as described in the English patent of Reynolds, No. 9,266, for the sand, being packed between the sills and graded to the level of the sills, makes a very even surface throughout, which does not have any tendency to spring upward, as the continuous board foundations are apt to do after being pressed down on the soft places in the road-bed by the passing things above and released again. The sills, being set edgewise to the direction of the strain and confined very firmly in the sand, cannot spring.

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

The combination of the blocks A, spacing or supporting joists C, the transverse sills E or G, and the sand, the sills being laid on the graded road-bed, and the sand packed between them, and the blocks being arranged either to rest wholly on the sand and the joists C, or partly on the sand, the joists, and the sills, and either secured to the sills by the joists or not, all substantially as specified.

The above specification of our invention signed by us this 9th day of May, 1870.

JOHN W. BROCKLEBANK.

GEORGE W. TUBBS.

Witnesses:

GEO. W. MABEE,

ALEX. F. ROBERTS.