J. F. Paul.

Wood Pavement.

No. 91,158. Patented Jun. 8, 1869.

Fig: 1.

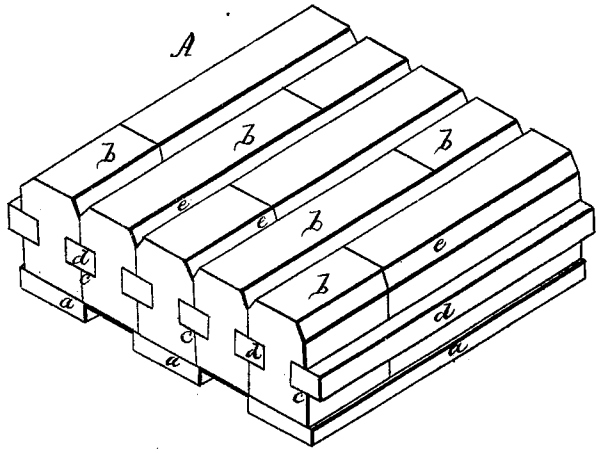
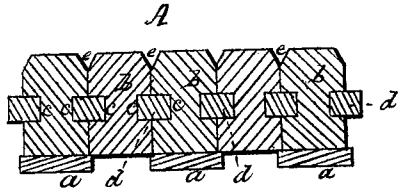
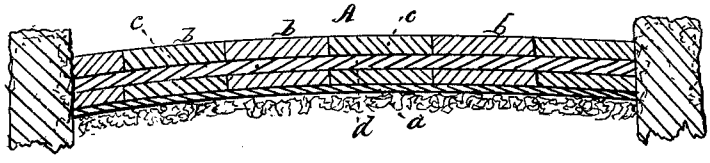


Fig: 2.



General section of street.



Witnesses.

Geo. A. Loring.
C. Griffith.

Inventor.
Joseph E Paul.
by his Attorney.
Frederick Curtis.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

United States Patent Office.

JOSEPH F. PAUL, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 91,158, *dated June* 8, 1869.

IMPROVED WOOD PAVEMENT.

The Schedule referred to in these Letters Patent and making part of the same.

To all to whom these presents shall come:

Be it known that I, JOSEPH F. PAUL, of Boston, in the county of Suffolk, and Commonwealth of Massachusetts, have made an invention of certain new and useful Improvements in Wooden Pavements for Streets; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 is a perspective representation, and

Figure 2, a vertical section of an example of pavement, embodying my invention.

This invention relates to a class of street-pavement, composed of continuous series of rectangular blocks of wood, placed upon end upon a suitable foundation, and properly secured together; such invention having for its object the production of a pavement of this class, which shall be equally solid and durable with any heretofore constructed, and which may be prepared and laid with much less expenditure of time and money, than under any mode previously adopted.

Another feature in my invention, which gives it prominence and value, results from the ability to remove and relay, without an extended disturbance, small portions of it, should it be found desirable to excavate below the surface of the earth, which frequently becomes necessary in large cities, where pavements are universally employed; a further resultant advantage of a pavement, as hereinafter explained, being, that the laying of the blocks may be begun at, and continued from any point in the entire width of the street.

In the drawings, to which allusion has already been made as accompanying this specification, and which illustrate my invention, a portion of the street-pavement, laid as contemplated by myself, is shown at A, in which *a a*, &c., represent a series of thin and narrow strips of wood, or stringers, which are to be laid upon the surface of the earth comprising the bed of the street, these stringers being deposited with contracted intervening spaces, for reasons of economy in the use of material, and for permitting escape of any water which may find its way between the blocks of wood composing the superstructure, although, in practice, I claim that is is nearly impossible for moisture to pass between these blocks.

These stringers, lying transversely upon the convex surface of the earth, necessarily assume an arched outline, which, as their ends abut against the curbstones, which bound the streets, imparts a certain degree of elasticity to the pavement, and aids, to a great extent, in preventing indentations in its surface, or sinking of a portion of its component blocks in isolated spots.

The blocks of wood composing, in aggregate, the superstructure of the pavement, are represented, individually, at *b b*, &c., in the drawings, as rectangular in general outline, oblong in cross-section, and, preferably, with their height exceeding their width, the latter being somewhat less than that of the stringers.

The blocks are laid end on upon the stringers, in the manner as represented; that is, each alternate block is placed in the centre of each stringer, while the intermediate blocks are placed over the blank spaces between the stringers, and resting, at each edge, upon the surface of the latter, the blank spaces, as before mentioned, admitting escape of water, should any find its way between the blocks of wood.

Each block *b* is grooved upon its two opposite sides, longitudinally, as shown at *c*, such grooves, when two blocks are united, forming an enclosed groove, for the reception of a series of tongues, *d d*, composed of long alternated strips of wood, which should tightly fill the grooves, in order to bind the series of blocks firmly together.

The upper edges of the two opposite sides of each block are chamfered, as shown at *e e*, &c., the union of two blocks, or two series of blocks, thus prepared, producing ridges in the general surface of the roadway, and securing a firm foothold for horses.

In laying a street with the pavement above described, the stringers (if such are to be employed) are laid upon the surface of the bed of the street, and transversely thereof, with their ends abutting against the contiguous curbstone. A series of blocks is then to be driven upon the projecting tongue, and closely up against those already laid, until a second line is formed, extending across the street, in like manner to the first, and so on until the street is paved to the desired extent.

I am aware, that previous to my present invention, many and various modes of laying wooden pavements have been adopted, several of which approximate more or less closely thereto. For instance, in the well-known Stafford pavement a series of blocks is employed, provided with dovetailed grooves, upon opposite sides, and joined by a double-dovetailed tongue. A number of blocks is thus joined together, sufficient to form a section of about two feet square, and a pavement is produced, by laying a series of these sections side by side, until the road-bed is filled.

In many instances, some of these sections are apt to become misplaced, or sunken, with injurious effects.

The employment of the dovetailed grooves and double tongue in the Stafford pavement, does not permit the use of a continuous tongue, extending entirely across the street, nor of applying a block independently, or in any particular spot, upon the series previously laid, as the blocks must be driven upon the tongue from one end.

By the adaptation of the tongue and groove, as shown in my invention, I am enabled to secure the

practical benefits of a continuous block, in addition to the advantages resulting from the ease and rapidity with which the individual blocks may be applied.

It will be apparent, from the foregoing explanation, and as has already been observed, that the laying of the blocks upon one another, may be begun and continued from any desired point in the entire street.

Should it become necessary, for any purpose, to take up a small portion of this pavement, laid as above described, the desired number of blocks is to be cut out and removed, without disturbance to those remaining.

To substitute new blocks for those removed, the excess of wood below the groove upon each side, is cut from such as are to be inserted, which will allow of their being driven directly into place. Or, another mode of effecting the last-mentioned result would be, after the removal of the desired number of blocks, to cut off a small portion of the end of each exposed tongue, which will allow the blocks to be first lowered upon the stringers, or foundations, and then driven upon the tongues.

I lay no especial claim to the mode of keying the pavement-blocks, herein described; but

What I claim as being novel and original with myself, and desire to secure by Letters Patent of the United States, is as follows:

I claim, a pavement, composed of a series of oblong blocks of wood, united together by grooves, and a tongue, extending entirely across the foundation, when the tongue and grooves, by which they are united, are of such nature, as to admit of a single block being driven directly upon the tongue, at any point in its entire length, when each alternate row of blocks thus connected, is supported by a longitudinal strip of plank, of such width as to form a support for the entire base of one row, and ledges for the support of the two contiguous rows of blocks, the same being substantially as before explained.

JOSEPH F. PAUL.

Witnesses:

FRED. CURTIS,

E. GRIFEITH.