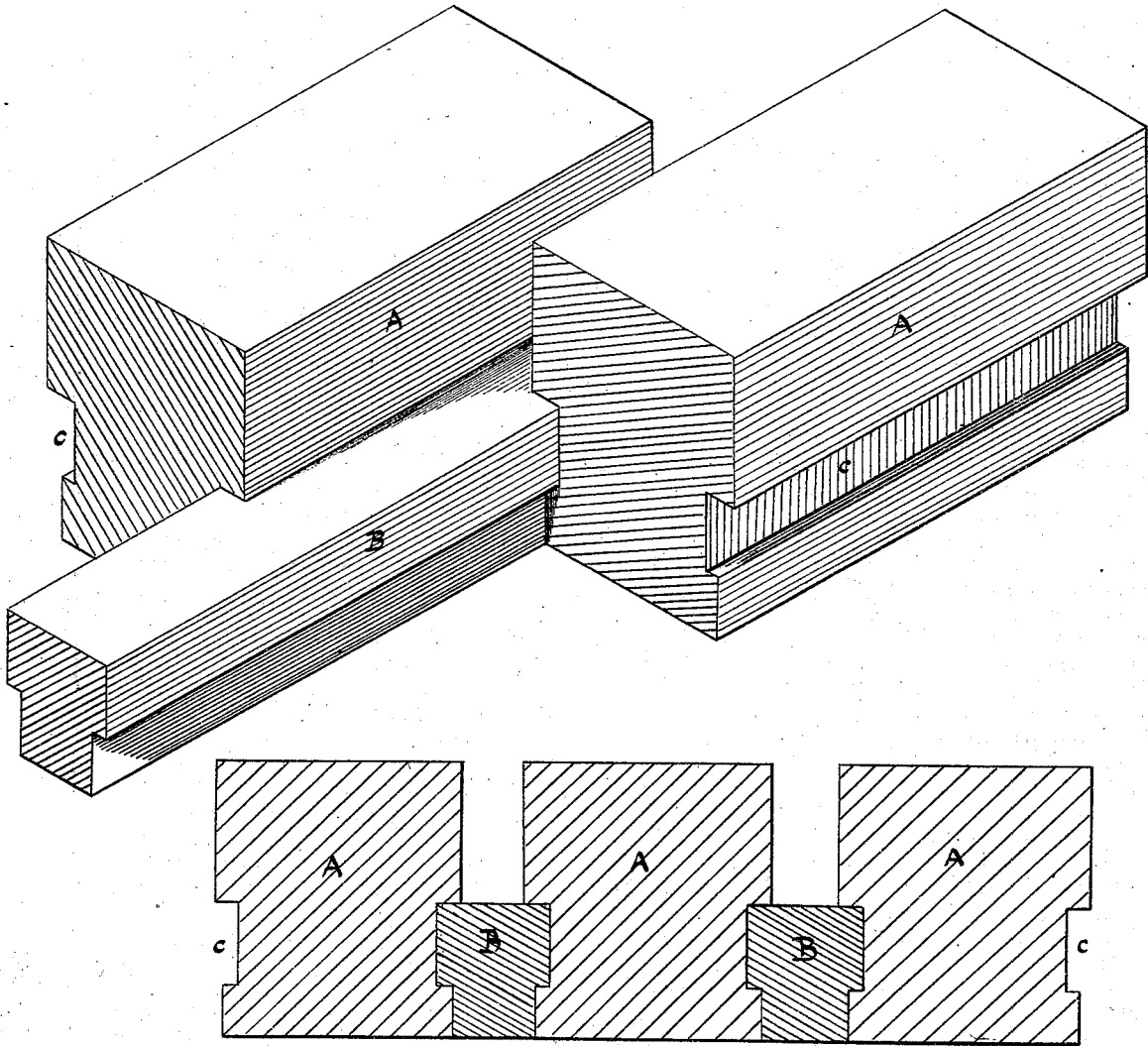


Improvement in Composition for Wooden Pavements.

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Edward A. S. Roberts.

PATENTED AUG 1 1871



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD A. L. ROBERTS, OF TITUSVILLE, PENNSYLVANIA.

IMPROVEMENT IN WOOD AND CONCRETE PAVEMENTS.

Specification forming part of Letters Patent No. 117,685, dated August 1, 1871.

To all whom it may concern:

Be it known that I, EDWARD A. L. ROBERTS, of Titusville, in the county of Crawford and State of Pennsylvania, have invented a new and useful Composition for Wooden Pavements; and I do hereby declare the following to be a full, clear, and exact description thereof.

My improvement in wooden pavements is designed to increase the durability of the wooden blocks of which it is composed, and to give increased strength and firmness to the pavement when laid down, which I effect by the use of an improved composition for filling in between the separate blocks and covering their upper surfaces, which tends not only to prevent the penetration of water and solid particles, but also serves to unite and bind together the separate pieces in a solid mass, and prevent the tendency to unevenness of surface caused in wooden pavements heretofore used by the separation of the blocks; and, also, by the peculiar shape of the blocks and of the wooden strips or string-pieces placed between them, which tends to prevent the breaking up of the hardened composition which I use for the purpose before stated.

To enable others skilled in the art to use my invention, I will proceed to describe it more fully.

The composition which I employ for filling in between the separate wooden blocks and covering their upper surfaces when laid as a pavement consists of a mixture of common salt, (muriate of soda,) plaster of Paris, (gypsum,) and sand or fine pebbles, which are well mixed together in a dry state in the proportions of one part of salt, two parts of plaster of Paris, and four parts of sand or pebbles or thereabout, the proportion of ingredients just given being that which I prefer, although it may be varied as convenience or necessity may dictate. After the pavement, consisting of wooden blocks placed on ground with string-pieces or strips interposed between them in such a manner as to leave a groove or space between each row of blocks, has been laid, the grooves or spaces between the rows of blocks are filled with the dry composition hereinbefore described, which is also scattered freely over the surface of the pavement, so that the composition may find its way into all the interstices between the ends or sides of the blocks and between the blocks and the strips or string-pieces. Sand is then scattered over the surface of the pavement,

which is rolled down with rollers. Water is then sprinkled over the pavement thus laid, which passes down into the dry composition, and, uniting with it, causes it to set, thus forming a hard cement, almost if not quite impervious to water, and uniting the pieces of wood, blocks, and strips forming the pavement into a solid mass. It is obvious that the water requisite to unite the dry composition as a cement would be supplied by a fall of rain, so that it is not always necessary artificially to sprinkle the pavement after it is laid. If preferred, the mixture may be wet and formed into a mortar before it is applied; but this method is not so easy of application as the use of the composition in a dry state, and is liable to the objection that the plaster of Paris soon sets after it has been mixed with water, so that only a small quantity could be mixed with water at one time.

While my composition, when used as described, tends to bind together the blocks of wood and string-pieces in a solid mass, and may be used with the Nicolson or other wooden pavement, yet it is advisable to construct the pavement in such a manner as that it shall not be apt to become uneven by the separation of its parts. In order, therefore, that the pavement may be so constructed as that, while the composition or cement may unite the blocks and strips, they may be themselves so united as to have the least practical tendency to separate or move relatively to each other, which might crack the cement, I will proceed to describe the construction and arrangement of the blocks and strips which I use for this purpose.

In the drawing is represented the shape of the blocks and strips which compose my improved pavement, A A being the blocks, and B the string-piece or strip. The blocks are made T-shaped, and are placed with the head or broadest face upward. The shape is shown in cross-section in Fig. 2, while Fig. 1 is a perspective view of the blocks and strips as they are joined in laying the pavement. The blocks are made with a rabbet or groove, *c*, extending lengthwise of the block on each side from end to end, the top of the groove about midway between the top and bottom of the block. The head of the block above the groove *c* is wider than the base below the groove *c*, as shown in Fig. 2, so that the upper face of the groove *c* is wider and deeper than the

lower face. The string-pieces or strips B are also T-shaped without any base, the projections of the head on each side of the string-pieces fitting not too tightly into the grooves *c c* in the blocks on each side. The stem or perpendicular part of the string-pieces is so wide as to leave a space, *d*, between the head-pieces of the blocks when the pavement is laid, which space *d* is to be filled with the composition above described. The stem of the string-piece extends down to the bottom of the blocks A, so that the under sides of the blocks and string-pieces when put together are flush with each other. The effect of this construction in making the under face of the grooves *c* in the blocks not so deep as the upper face is that, if by any accident or uneven pressure the blocks should become separated so as to displace the string-piece, it will easily slip into place again, owing to the greater surface-bearing on the upper surface of the head of the string-piece B. The blocks A A are so placed as to break joint at the ends, which strengthens the bond of the pavement, and are laid on the ground, previously leveled, with or without a coating of sand or gravel,

and without any flooring of boards, which is rendered unnecessary by the rectangular grooves in the blocks and the strips, which, entering the grooves, prevent the depression of the individual blocks.

Having thus described my improvement, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The composition of salt, gypsum, and sand or fine pebbles as a filling for wood pavements, substantially as hereinbefore described.

2. The T-shaped blocks, having a rectangular groove, *c*, on each side, and with a head of greater width than the base, in combination with the rectangular T-shaped strips fitting into the grooves of the blocks, substantially as hereinbefore described.

In testimony whereof I, the said EDWARD A. L. ROBERTS, have hereunto set my hand.

E. A. L. ROBERTS.

Witnesses:

W. N. PAXTON,
W. BAKEWELL.