

UNITED STATES PATENT OFFICE.

EDWARD P. MORONG, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PRESERVING WOODEN PAVEMENTS.

Specification forming part of Letters Patent No. 134,479, dated December 31, 1872.

To all whom it may concern:

Be it known that I, EDWARD P. MORONG, of Boston, county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Preserving Wooden Pavements; and do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists in calling into exertion for the preservation of wooden pavements the natural forces of capillary attraction and evaporation, which ordinarily act as destroyers of the blocks of such pavements; and it is put into operation by introducing mineral antiseptics or preventives of rot into the earthen or sand form on which the ends of the blocks rest, either by mingling such antiseptics with the gravel or sand of which the form is made, or carrying them into the sand foundation by aid of water percolating or conducted to the form through the crevices, seams, and channels of the pavement.

In laying wooden pavements with or without a floor it has been found that wood untreated by either the Kyan, Burnett, or some other process decays quite rapidly; and even wood paving-blocks treated by Burnettizing, Kyanizing, or otherwise soon decay; and it is to be noticed that the decay always sets in from the bottom. Wood pavements laid on tar concrete are not quite so liable to this objection, but are far more costly than those laid directly on the sand or earth form, and are very objectionable from their difficulty of repair and the impossibility of reaching the substructures of the streets and restoring the pavement to its original condition without very great cost of preparing a new concrete foundation. This decay is, no doubt, due to the absorption of water by the base of the wooden block from the soil, and, in case of treated blocks, to the gradual retirement of the chemical in the pores of the wood from the base to the top of the block under the influences of absorption, capillary attraction, and surface evaporation.

My object is, then, to place some more or less soluble antiseptic in juxtaposition to the ends of the wooden blocks as they rest in the sand form so that it may be absorbed gradually into the pores of the wood, and, as it works

upward, prevent decay, the supply of the same in the form being in excess of the ultimate absorptive capacity of the blocks.

I contemplate using for the above purpose soluble sulphates and sulphites of the metals: as sulphate and sulphite of iron or copper, of magnesium, and sodium; chlorides of zinc, iron, calcium, magnesium, sodium; and particularly the slightly soluble metallic oxides, as lime, magnesia, soda, and the like. Probably the best and cheapest of these is hydrate of lime, and the manner of its use will be accurately enough a description of the use of either of the others.

I take a barrel of air-slaked lime and mingle it carefully in the heaps of grading or filling sand or gravel of which the foundation or form is to be made, in the proportion of about a barrel to one or two cubic yards of sand or gravel. This I spread upon the graded road-bed to the depth of two or three inches; set my blocks upon the same, and the moisture of the earth will dissolve a portion of the lime and carry it to the base of the wooden blocks, when it becomes subject to capillary attraction and enters the pores of the wood. If it be preferred, this antiseptic can be mixed with the sand, gravel, or pebbles to be used for packing the channels and interstices of the blocks, to be subsequently carried to its place by water, either naturally falling or artificially directed upon the pavement; or such sand or gravel mingled with an antiseptic may be spread on the top of the pavement to work its way into the channels, and thence into the foundation round the base of the blocks; or the pavement may be washed down with water, having antiseptic chemicals in solution or suspension at such a time that the antiseptics shall penetrate to and saturate the sand or earth form around the base of the blocks, and thus present the same to the base of the wooden blocks for absorption, as above described.

It will be remembered that a pavement is practically a roof to the soil beneath, shedding rain from it and keeping it comparatively dry; and that shortly after travel sets in over a pavement the channels and interstices get so thoroughly filled and water-tight that only the ordinary moisture rising from the ground is present beneath the blocks, and thus there is

very little liability of the antiseptic chemical in the sand form being washed away, and the action of moisture in covered earth is always from below upward, evaporation in the case supposed being only through the blocks.

I do not claim, broadly, the interposition of an antiseptic compound between the blocks forming the pavement and the foundation upon which they rest, as Triplea's patent of May 7, 1872, describes such a use of certain antiseptics; but my process is distinguished from his by the following-named characteristics: First, that the capillary character of the wood should not be impaired by filling or destroying its pores; second, that the antiseptic material should be slowly soluble, so as to prolong the effect; and, third, that the tops of

the blocks should be left free from water-proofing compounds, so that evaporation can take place, and capillary force may draw the preservative material into said blocks while they are resting in position.

I claim as my invention and desire to secure by Letters Patent—

The hereinbefore-described process of preserving the blocks of wooden pavements, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of October, A. D. 1872.

EDWARD P. MORONG.

Witnesses:

SYLVESTER ALMY,
WALTER E. BLANCHARD.