

# UNITED STATES PATENT OFFICE.

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## CONCRETE PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 381,667, dated April 24, 1888.

Application filed December 28, 1887. Serial No. 259,258. (No specimens.)

*To all whom it may concern:*

Be it known that I, GEORGE A. BAYARD, a citizen of the United States, residing at Bellefonte, in the county of Centre and State of Pennsylvania, have invented a new and useful Improvement in Concrete Pavements, of which the following is a specification.

My invention relates to improvements in concrete pavements, which will be hereinafter more fully described.

I first lay a foundation or base of coarse broken stone and ashes or pebbles and roll the same until thoroughly settled, after which I mix broken stone, cinders, and pebbles with tar and form a second or intermediate layer of this. This intermediate layer is preferably from three to four inches thick, and after it has been thoroughly rolled I spread over its surface a layer (from one-half to two inches thick) of sand or ashes, small pebbles, and coal-tar well mixed together. This layer must also be consolidated by rolling and the surface rendered as smooth as possible. This third or surface layer is intended to fill up all depressions, smooth the uneven places, and present a surface such as the finished work is intended to have. Over this surface is spread a filling-coat consisting of coal-tar, resin, and unslaked lime, in the following proportions: coal-tar, twenty gallons; resin, two to two and one-half pounds; lime, two to two and one-half pounds. These ingredients must be well mixed together and boiled, and the mixture is poured over the surface of the last or surface layer in a liquid state. All pavements of this general construction—namely, one or more layers of broken stone joined by tar or cement—are very porous, and this filling-coat is designed to fill all the pores and interstices, so as to render the pavement perfectly solid and water-tight. To this end the mixture is poured on the pavement until no more will be absorbed. Ordinary surface-cement, as Portland or its equivalent, is now spread over the pavement,

and it is again rolled, after which sharp sand is spread over the surface. This construction makes a pavement which is water-tight and solid, with no appreciable porosity, therefore allowing no chance for it to absorb moisture from the ground and remain in a damp state. The water will also flow off the surface more readily and quickly.

It will be seen that there are three distinct layers in this pavement—namely, a foundation-layer of coarse stone, an intermediate layer of smaller stone, cinders, pebbles, and coal-tar, and a surface-layer of sand or ashes, small pebbles, and coal-tar well mingled. These three layers, after being successively rolled, are finally consolidated as firmly as possible, are then united by a filling coat or mixture which percolates through the pores and interstices which have not been closed by rolling and unites the layers to form a perfectly water-tight impervious mass. The lime in the filling renders the same very hard when it becomes calcined by exposure. Before this filling mixture becomes thoroughly hard, however, the surface-cement, as before described, and the sand are added.

Having thus described my invention, I claim as follows:

The improved concrete pavement herein described, consisting of a foundation-layer of coarse broken stone and ashes or pebbles, a second layer of broken stone, cinders, pebbles, and tar, a third layer of sand, small pebbles, and coal-tar, resin, and unslaked lime, and a surface-coating of cement and sand, as described and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE A. BAYARD.

Witnesses:

WILBUR F. REEDER,  
W. E. GRAY.