

# UNITED STATES PATENT OFFICE.

LEWIS S. FILBERT, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN CONCRETE PAVEMENTS.

Specification forming part of Letters Patent No. **188,614**, dated March 20, 1877; application filed February 26, 1877.

*To all whom it may concern:*

Be it known that I, LEWIS S. FILBERT, of Philadelphia, in the county of Philadelphia, and in the State of Pennsylvania, have invented certain new and useful Improvements in Concrete Pavements; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in certain improvements in the concrete-pavement patent, No. 122,591, granted to Samuel Filbert January 9, 1872.

The improved pavement is laid on a base or substratum of broken stone well rolled and sprinkled or saturated with a composition distilled from coal-tar, or Trinidad or other asphalt, reduced by petroleum-tar or dead-oil distilled from tar.

Upon this base is laid a binder or layer of small broken stone or gravel, well heated and mixed with a composition distilled from coal-tar, or Trinidad or other asphalt, or both, reduced by a residuum of petroleum or petroleum-tar, and then well rolled with a steam or other heavy roller.

Upon this is laid either one or two layers of Trinidad or other asphalt, reduced by the residuum of petroleum or petroleum-tar, in the proportion of one part of residuum of petroleum to from three to eight parts of asphalt, as the case may be, well heated and mixed with fine sand or stone-dust, hydraulic or other cement, and a sufficient quantity of sulphur to vulcanize the mixture.

This mass is placed and spread upon the

binder or second coat while hot, and then well rolled and tamped, and top-dressed with hydraulic or other cement.

The addition of petroleum-tar makes the mass soft and easily worked, prevents cracking of the pavement, and at the same time makes a durable and lasting pavement.

I do not confine myself to any particular proportions of the ingredients, as they may be varied according to the quality of the pavement desired, and the use to which the pavement is to be put.

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

A vulcanized pavement formed with a base of broken stone rolled and sprinkled or saturated with a composition distilled from coal-tar, or asphalt reduced by petroleum-tar; then a binder or layer of small broken stone or gravel heated and mixed with a composition distilled from coal-tar or asphalt, or both, reduced by residuum of petroleum or petroleum-tar, and well rolled; and then a layer or top coat of Trinidad, or other asphalt, reduced by petroleum-tar mixed with fine sand, stone-dust, hydraulic cement, and sulphur, and heated so as to vulcanize the same, and then top-dressed with hydraulic or other cement, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of February, 1877.

L. S. FILBERT.

Witnesses:

J. M. MASON,  
FRANK GALT.