

# UNITED STATES PATENT OFFICE.

NATHAN B. ABBOTT, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN P. CRANFORD, OF SAME PLACE.

## IMPROVEMENT IN COMPOSITIONS FOR CONCRETE PAVEMENTS.

Specification forming part of Letters Patent No. **198,260**, dated December 18, 1877; application filed October 12, 1877.

*To all whom it may concern:*

Be it known that I, NATHAN B. ABBOTT, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Composition Pavements, of which the following is a specification:

Pavements have been made in which distilled gas-tar, asphalt, and numerous other bituminous materials have been employed with sand, gravel, broken stone, &c. I have discovered that by the use of the residuum of the distillation of petroleum known as "wax-tailings," in connection with asphalt and sand, or similar material, the pavement is improved, as the substances employed are more uniformly combined, there is little or no change by evaporation, and the pavement does not soften in hot weather, and is tough and reliable under all circumstances.

The pavement is composed of the usual hard mineral substances, such as sand, gravel, broken stone, stone-dust, iron slag, or similar materials, either separate or with two or more of said substances, combined in suitable proportions. These are thoroughly dried, and should be at a temperature of about 300° at the time my improved bituminous composition is added. The mixing is to be performed in any usual way.

I make use of asphalt and petroleum wax-tailings in the proportion of from thirty-five to forty-five gallons of liquid asphalt to from twelve to sixteen gallons of petroleum wax-tailings. This amount will be adapted to the preparation of about a cubic yard of the sand or hard mineral substances employed.

The asphalt and petroleum wax-tailings are to be combined thoroughly at a temperature of about 400° Fahrenheit, and then mixed with the hot sand or hard mineral substances, and spread evenly and rammed or rolled while hot.

The pavement made in this manner will be found superior in the particulars hereinbefore mentioned.

I am aware that paraffine and paraffine-oil, and the residuum of the distillation of petroleum, have been used with bituminous materials in composition pavements; but the material known as "wax-tailings" or "petroleum-still wax" has not been so employed. I find that the pavement in which this is used is superior to the composition pavements in which other products of petroleum are combined with asphalt, because this still-wax is the last distillation, and is run off at a temperature of 800° to 1000° Fahrenheit, and hence does not contain the volatile materials that are distilled at a lower temperature, and the pavement is not rendered brittle by age, but remains tough, and does not soften under the heat of the sun.

I claim as my invention—

In composition pavements, the combination, with the hard mineral matters and asphalt, of petroleum wax-tailings, substantially as and for the purposes set forth.

Signed by me this 6th day of October, 1877.

NATHAN B. ABBOTT.

Witnesses:

S. H. BAUGHMAN,  
HENRY BENNING, Jr.

500 words