

## UNITED STATES PATENT OFFICE.

ANDREW J. CRAWFORD, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN ASPHALT PAVEMENTS.

Specification forming part of Letters Patent No. 123,458, dated February 6, 1872.

## SPECIFICATION.

Be it known that I, A. J. CRAWFORD, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Composition for Pavements for Roads, Sidewalks, &c., of which the following is a full and exact description:

I prepare the road-way by leveling the surface and first laying a bed of broken stone to the depth, preferably, of about four inches, which is rolled solid with heavy rollers. On this road-bed I spread evenly a coating of composition, consisting of the following ingredients, compounded as hereafter described: Crawford's redistilled oil, one gallon; Trinidad asphalt, one hundred pounds; distilled coal-tar, twenty-five pounds; sulphur, three pounds.

These ingredients are melted and thoroughly mixed together, and while in a state of fusion gravel is added in such quantity that on admixture with the composition it will be thoroughly coated thereby. It is then spread upon the prepared road-bed and rolled while hot to a smooth and compact state. By cooling it hardens and is fit for immediate use.

An important element of this compound is what is known as Crawford's redistilled oil, and consists of a residuum of oil of petroleum obtained by distillation with superheated steam by injection and diffusion; then boiled and af-

terward redistilled by direct superheated steam until it is reduced to a gravity of 20°, and is no longer inflammable by ordinary means. This pure and heavy oil exerts a special influence on the asphaltum by rendering it so tough and tenacious that it does not become brittle and fly under concussion when used at extremely low temperatures. The coal-tar is also distilled to render it hard and free from volatile matter, and these ingredients, when combined with the sulphur, constitute a cement of extraordinary durability and fitness for service under travel.

Care must be had in melting the parts together not to employ too high a temperature; that at which they will fuse and admit of thorough admixture with one another being the most suitable.

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

A composition formed of the ingredients, and in the proportions substantially as herein specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

A. J. CRAWFORD.

Witnesses:

K. NEWELL JONES,  
J. FRASER.