

UNITED STATES PATENT OFFICE.

CORNELIUS BURLEW, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN ASPHALT PAVEMENTS.

Specification forming part of Letters Patent No. 121,082, dated November 21, 1871.

To all whom it may concern:

Be it known that I, CORNELIUS BURLEW, of the city of Washington, in the District of Columbia, have invented an Improvement in Asphalt Pavements, of which the following is a specification:

My invention relates to an improved concrete composition for the construction of streets, pavements, roadways, floors, &c., and has for its object the production of a tougher, more solid, and durable surface for the same than is now commonly obtained in asphaltic pavements.

To obtain a firm enduring street pavement a good foundation is a primal requisite. This I secure by first making the surface of the street or roadway, after it has been properly graded, as solid and compact as possible by continued heavy rolling or tamping. I then spread thereon a bed of broken stone or gravel to the depth of about five inches, and after sprinkling the same well with hot tar, roll with heavy rollers until the whole becomes thoroughly packed together and consolidated. Upon this hard foundation I spread my improved concrete composition, which is prepared as follows:

Mix well equal parts of clean sand, gravel, coal-ashes, pulverized stone or stone-dust, and marl with about five per cent. of good hydraulic cement. Heat this mass thoroughly, so as to expel all moisture therefrom, and then dampen it while hot and thoroughly incorporate therewith a solution composed of about fifteen gallons of roofers' pitch or coal-tar bitumen, seven gallons of distilled coal-tar, three gallons of asphaltum, and a half pint of nitrous acid, and heated to about 185° Fahrenheit. This plastic concrete thus ob-

tained is spread in a hot state upon the foundation-bed to a depth of about one and a half inches, and then compressed and packed by means of rollers or tamping tools until it is not only condensed into a tough malleable body, but is closely united and cemented to the foundation beneath, forming therewith a firm solid roadway, possessing very great durability. This pavement is finished by mopping over its surface while yet warm with hot coal-tar from which the volatile elements have been expelled by distillation, sprinkling it with sand, and finally rolling it to a smooth even surface. So soon as the concrete thus prepared and laid cools off it becomes hard and tough, so as to resist effectually the wear of the heaviest travel thereon.

In applying my improved composition to the construction of cellar-floors, foot-pavements, or roads for parks or light travel, the foundation of broken stones is not required; but the concrete may be laid immediately upon a simple bed of earth, prepared and compacted by rolling and tamping, as hereinbefore set forth. In this case its depth is increased to some two inches.

I claim as my invention—

A concrete composition for pavements and floors, composed of equal parts of sand, gravel, coal-ashes, pulverized stone, and marl, combined with about five per cent. of hydraulic cement, and saturated with the within-described solution of roofers' pitch, coal-tar, gum asphaltum, and nitrous acid.

CORNELIUS BURLEW.

Witnesses:

DAVID A. BURR,
EWELL A. DICK.

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