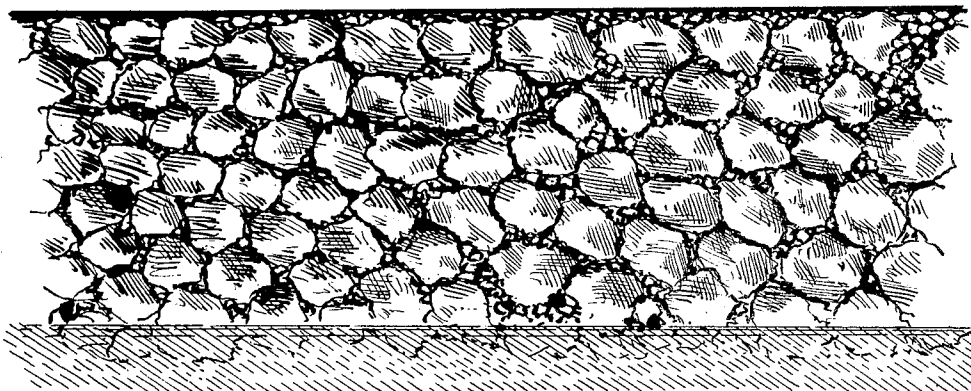


No. 829,247.

PATENTED AUG. 21, 1906.

T. N. BADGER.
PAVEMENT OR ROADWAY.
APPLICATION FILED JUNE 8, 1903.



Witnesses..

M. Regnier

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UNITED STATES PATENT OFFICE.

THOMAS N. BADGER, OF EMERYVILLE, CALIFORNIA.

PAVEMENT OR ROADWAY.

No. 829,247.

Specification of Letters Patent.

Patented Aug. 21, 1906.

Application filed June 8, 1903. Serial No. 160,577.

To all whom it may concern:

Be it known that I, THOMAS N. BADGER, a citizen of the United States, residing at Emeryville, in the county of Alameda and State of California, have invented a new and useful Improvement in Pavements or Roadways, of which the following is a specification.

This invention relates to improvements made in the production of macadam roadway or street-pavements of that character or description in which the particles of broken stone and material of different grades of fineness are mixed with asphalt or other similar bituminous material, so as to bind the particles of the macadam in a solid mass; and the invention has for its object the production of a pavement or roadway of the character or description described having several improved features and advantages both as regards the solidity, firmness, and other qualities of its surfaces, its durability, and the great reduction in the labor and expense involved in its construction of a pavement or roadway of this class.

To such end and object chiefly my said invention consists in the production of a roadway or street-pavement from broken stones of different grades or degrees of fineness and crude mineral oil as hereinafter described, and pointed out in the claims at the end of this specification.

In proceeding to describe at length the nature of the present improvement and the manner in which I proceed to produce, apply, and carry out the same I shall refer to the accompanying drawing, which represents a vertical section of a portion of a pavement or roadway constructed in accordance with the invention.

The material employed is the usual macadam, comprising particles of crushed or broken stone of various degrees of fineness, but usually only two grades are used—namely, a coarse grade composed of particles small enough to pass through a two-and-one-half-inch ring and a fine grade consisting of what are commonly termed "screenings." The coarse material is first laid and spread to an even depth in a single layer upon the foundation of the road, which has been previously prepared, and upon the layer of coarse particles I then spread the screenings or material composed of the finer particles, care being taken to distribute the fine material uniformly over the surface of the layer of coarse material and in sufficient quantity to fill

the interstices in the body or layer of coarse stones. After the layer of screenings is spread and distributed over the surface in this manner I proceed at once, without further treatment or working, to fill in the interstices between all the particles, both fine and coarse, with crude mineral oil by sprinkling the oil upon and over the surface, either by hand, by means of a hose having a sprinkling-nozzle on one end and connected with a tank, or by means of a sprinkling-cart having a sprinkling device of suitable character to distribute the crude oil. The oil is applied in this manner in sufficient quantity to penetrate and fill the interstices in the mass of material previously laid. The crude oil is successfully applied in a cold state or at normal temperature; but in some cases it may be found preferable to raise the temperature to about 200° Fahrenheit before applying the oil. This will depend upon the season of the year and the climate in which the work is being carried on at the time. In this operation of sprinkling the oil the filling of the interstices is effected by the force of gravity, and as the mass of coarse and fine particles previously laid is still in a loose and uncompact state the oil is quickly taken up and readily penetrates the mass, effectively coating all the particles. The quantity of oil used should not be less than one gallon to every square yard, and in every case the sprinkling operation should be carried on until the body or mass of stone and screenings is thoroughly and evenly saturated. After this is done the surface of the roadway is rolled with a ten-ton roller for twenty-four hours. At the end of that operation the roadway is ready for use. As thus constructed my improved roadway furnishes a solid, firm, and compact surface that will not disintegrate or become pulverized under wear, it will not hold water nor become muddy, and it will not require sprinkling during the driest weather.

I do not claim, broadly, the production of a pavement or roadway from macadam and bituminous material mixed and incorporated together; but,

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

1. A pavement or roadway consisting of a layer of relatively coarse broken stone and finer broken stone filling the interstices between the coarser stone pieces and also con-

stituting a top layer or coating, and a filling of crude oil filling the interstices between the stone masses, the whole being compacted together, substantially as set forth.

5 2. The herein-described improvement in the production of a pavement or roadway from macadam and similar material consisting in first spreading a mass of relatively coarse particles of the stone, then spreading a
10 layer of relatively fine particles in sufficient quantity to fill the interstices in the previously-laid mass of coarse particles, then

sprinkling with crude mineral oil the mass or body of material previously laid until the spaces and interstices therein are filled by the oil, and finally rolling the surface of the pavement. 15

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

THOMAS N. BADGER.

Witnesses:

EDWARD E. OSBORN,
M. REGNER.