

United States Patent Office.

EDOUARD J. DESMEDT, OF NEW YORK, N. Y., ASSIGNOR TO GRAHAMITE ASPHALT COMPANY, OF SAME PLACE.

Letters Patent No. 110,121, dated December 13, 1870.

IMPROVEMENT IN ASPHALT ROADS AND PAVEMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EDOUARD J. DESMEDT, of New York city, in the county of New York and State of New York, have invented a new and useful Improvement in Asphalt Roads and Pavements; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

This invention relates to improvements in asphalt compounds for roads and pavements, and it consists in a combination of grahamite petroline, grahamite albertite, and sand, or gravel, or powdered limestone, &c., as follows:

Grahamite and albertite are similar natural substances belonging to the family of asphaltum, but they differ from ordinary asphalts in a great many respects. I shall not undertake now to describe all the chemical differences between those forenamed minerals and ordinary asphalts, it being only necessary to state that by their peculiar composition they possess qualities peculiarly adapted for the construction of asphalt roads which other asphalts do not possess.

Road constructed with these minerals, and principally by the method which I shall give hereafter, will stand a greater degree of heat than when made of any other asphalt, and will conserve their necessary elasticity under cold as well as heat.

These qualities are derived from the peculiar petroline and asphaltine which these minerals are principally composed of; grahamite and albertite are composed of asphaltine and petroline, with an excess of the former, and in consequence do not melt except under a very high degree of heat, so that it is necessary to isolate the petroline and to combine it with the forenamed minerals afterward in given proportions to arrive at good results.

To arrive at the said required results, I decompose the forenamed minerals by distillation into hydrocarbon oil, petroline, sometimes called bitumen, and

coke; the coke is left in the retort, and the hydrocarbon oil, keeping in solution the petroline, passes over in vapors and is condensed.

To isolate the petroline, the condensed oil is distilled again until 50 per cent. of oil has been obtained, and what is left in the still is petroline.

This petroline, melting under a higher degree of heat than ordinary heat, possesses an elasticity which I never observed in other petroline, and is therefore, as I stated before, better adapted for asphalt roads than any other, and, by the combination of the grahamite or albertite with this petroline in different proportions, asphalts are obtained suitable for various degrees of temperature, as high as 300°.

This peculiar petroline, which I term grahamite petroline, is used for the combination with grahamite albertite, or any other hard asphaltum, in the following manner:

Grahamite, albertite, or any other hard asphaltums, from 20 per cent. to 70 per cent. parts; grahamite-petroline, 30 per cent. to 80 per cent. sand or powdered stone, such as limestone, or any other, from 300 to 700 parts.

The petroline and grahamite being melted together, the said proportions of hot sand or powdered stone are mixed with them by hand, or any suitable machine, and applied to the road.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The combination of grahamite petroline with grahamite albertite, or any hard asphalt, and the same combined with sand, powdered limestone, or any other like substance, all substantially as specified.

EDOUARD J. DESMEDT.

Witnesses:

GEO. W. MABEE,
ALEX. F. ROBERTS.