

UNITED STATES PATENT OFFICE.

JAMES STANSFIELD, OF TODMORDEN, COUNTY OF YORK, ENGLAND.

ASPHALT PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 375,018, dated December 20, 1887.

Application filed October 4, 1886. Serial No. 215,300. (No specimens.) Patented in England October 31, 1884, No. 14,393.

To all whom it may concern:

Be it known that I, JAMES STANSFIELD, a subject of the Queen of England, &c., asphalt manufacturer, of Todmorden, in the county of York, England, have invented certain Improvements in Asphalt Pavements, (for which I have obtained a patent in Great Britain, No. 14,393, bearing date October 31, 1884;) and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in laying the asphalt in such a manner that the finished surface presents a highly-improved appearance of any desired color, with increased durability and safety of footing on inclines to both man and beast, and can also be rendered, if requisite or desired, absolutely impervious to wet or noxious gases.

Upon a layer of asphalt composed of comparatively fine sizes of stone chippings, gravel, ashes, sand, or similar material mixed with hot or cold tar or mixture of mineral or other pitch and creosote or other oil, (which layer may have been spread over a preceding coarser layer or not, as the case may be,) and well rolled, I spread a coat of varnish or paint composed of mineral, rock, or other similar pitch, (alone or in combination,) with creosote-oil and dried finely-powdered chalk or spent lime from gas, ammonia, or other similar substance, in such proportions as to give a consistency to the varnish or paint which shall cause to adhere to it a layer of clean particles of granite, limestone, or other similar material, which I spread over it in either a hot or cold state and roll into the varnish and the top layer of asphalt, so that they are partially embedded and partially exposed.

I vary the consistency of the varnish or paint in accordance with the sizes of the particles of stone, the amount of probable traffic over the asphalt, the temperature at which the stone is laid thereon, and the state of the weather at the time the work is executed, but the usual proportion is as follows: pitch, eight parts; creosote-oil, three and one-half parts; carbonate of lime, (finely powdered,) two parts; and resin, one part.

More or less creosote-oil is used, as required, the result required being a varnish or paint which shall remain sufficiently adhesive after cooling to stick to the fingers or a piece of clean cold stone, but with sufficient body to prevent its sinking when cool between the interstices of the asphalt upon which it is laid; or, if coal-tar is employed instead of creosote-oil, the proportions would be about as follows: pitch, four parts; coal-tar, eight parts; carbonate of lime, (finely powdered,) two parts; resin, one part, and can apply any size of stone or other surface dressing from sand passed through a one-eighth-inch screen to the size of ordinary macadam or larger. The larger stones are laid by hand upon the varnish in the manner of coarse mosaic work, and the interstices between the pieces of stone are then carefully filled up with gradually-decreasing sizes of stone until the varnish is entirely covered up. The surface is then well rolled until the larger pieces of stone are embedded to at least a third of their size. Where a smoother surface is required and a finer size of stone chippings employed, the latter are spread over the surface by hand or shovel until the varnish is completely covered, and then rolled well into the varnish. The surface is then swept and the roller passed over it again to firmly fasten any slightly-embedded particles of stone.

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

In an asphalt pavement, a surface or wearing layer formed by spreading a coat of varnish or paint composed of pitch, creosote-oil, (or coal-tar,) finely-powdered carbonate of lime, and resin in the proportions and manner hereinbefore described, and rolling therein suitably-sized particles of stone, also in the manner hereinbefore described.

In testimony that I claim the foregoing I have hereunto set my hand this 17th. day of September, 1886.

JAMES STANSFIELD.

Witnesses:

JOHN HENRY TOPHAM,
JAMES DONNISON.