C. DAVIS.

METHOD OF MAKING PAVEMENTS.

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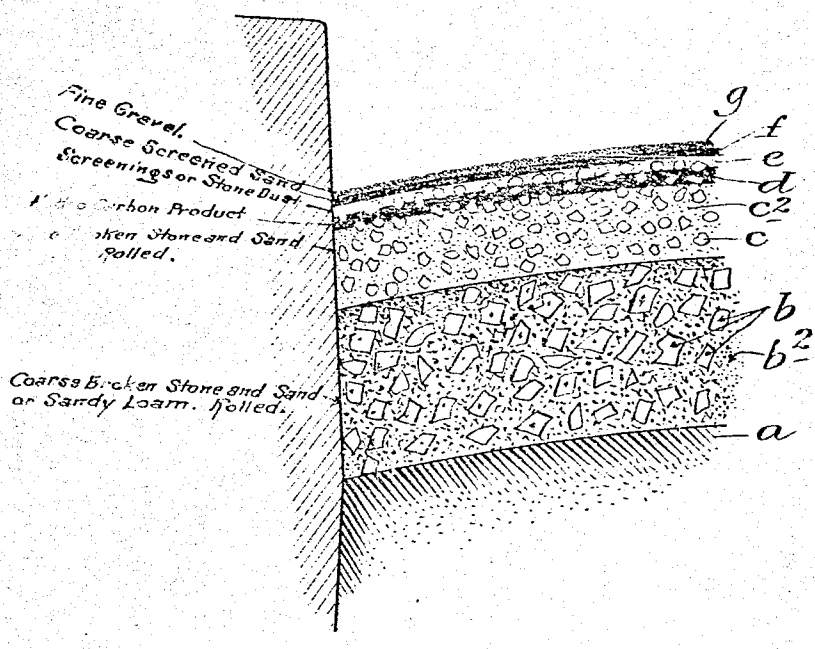
984,801.

Patented Feb. 21, 1911




WITNESSES

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# UNITED STATES PATENT OFFICE.

CLOYD DAVIS, OF MINEOLA, NEW YORK.

## METHOD OF MAKING PAVEMENTS.

984,801. Specification of Letters Patent. Patented Feb. 21, 1911.

Application filed February 23, 1910. Serial No. 545,388.

*To all whom it may concern:*

Be it known that I, CLOYD DAVIS, a citizen of the United States, and residing at Mineola, in the county of Nassau and State of New York, have invented a certain new and useful Method of Making Pavements, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to pavements, or to the paving of streets and roads, and it consists of a new and useful method which is fully disclosed in the following specification and by means of which a pavement or road surface is produced which employs among other ingredients asphaltum or a similar hydrocarbon product preferably treated so as to make it lapidescent in quality, whereby the pavement or road surface so produced is practically indestructible under ordinary use and will not become soft and oily under the influence of the rays of the sun or in warm weather, and which also will not become slippery when moist or covered with water in cold weather, and the surface of which will be smooth and even throughout, and which is also comparatively inexpensive, both as to its original cost and the expense of maintenance; and with these and other objects in view the invention consists in the method of paving streets or roads hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, said drawing being a partial transverse vertical section of a pavement made according to my invention.

In the practice of my invention the road bed is first prepared according to any preferred plans or specifications and this bed *a* is then thoroughly rolled with a roller preferably of about ten tons weight. After the preparation of the road bed as above described said bed is covered with a layer *b* of broken stone preferably of not less than two or two and one-half inches in dimensions, and said layer of broken stone may be of any preferred thickness according to the use for which the road is intended, and this layer of broken stone is filled in with sandy loam $b^2$, after which the surface is again rolled and thoroughly broomed until a smooth surface is produced, which is devoid of all cracks, crevices or apertures, and the rolling is continued until a solid, hard surface is provided. Another layer *c* of broken stone, finer than the first named layer and preferably broken so as to not exceed one and one-half inches in dimensions is applied, the thickness of said layer being predetermined according to the use for which the road is intended and this layer of stone is again rolled and filled in to approximately one or one and one-half inches from the top surface thereof with fine screened sand $c^2$ free from loam, the screen employed being preferably of about one-half inch mesh, and on this surface so produced is placed a layer *d* of asphaltum or a similar hydrocarbon product, said layer employing not less than one and one-half gallons to the square yard. The thickness of the layer of asphaltum or similar material is not great enough to fully cover the broken stone and after this layer is applied, a thin layer or cover *e* of screenings or stone dust is immediately placed thereon sufficient to cover the broken stone only; after which a thin layer or covering *f* of coarse screened sand is applied, the screen being preferably of about three-quarters mesh and the surface thus produced is again thoroughly broomed until the screenings and sand are well mixed together and the said surface is devoid of all creases between the stone after which the said surface is again rolled until it is hard as it is possible to make it, and during this operation of rolling the said surface is also broomed. The road or street is now closed to all traffic and allowed to stand at least twenty-four hours free of use, at the end of which time the surface is again preferably puddled with the usual sprinkling wagon, after which a cover or layer *g* of fine gravel about one-half inch in thickness is applied, said gravel being screened through a screen of one-half inch mesh, after which the surface is again rolled until as much of gravel as possible is crushed into said surface, thus forming a solid, concrete top or impact surface, the roller employed being preferably of approximately ten ton weight.

The asphaltum employed may, if desired, be the ordinary asphaltum of commerce, but in practice I prefer to use a composition consisting of the following ingredients:—

| | |
|---|---|
| Asphaltum | 97% |
| Sulfuric acid | $1\frac{5}{16}$% |
| Water | $1\frac{5}{16}$% |

In preparing this composition for use the

asphaltum is first heated and dissolved in the usual manner, after which the acid and water are thoroughly mingled and the product thus produced is then thoroughly mixed with the melted asphaltum, after which the composition thus produced is allowed to cool when it assumes the form of ordinary asphaltum, which in the process of making the pavement hereinbefore described is melted and applied in the manner specified.

The composition produced in the manner described consists of a sulfureted asphaltum having lapidescent qualities, in which the oil of the asphaltum is oxidized or partially so and a pavement of the class specified in which this composition is employed will not become soft under the effects of summer heat and will not exude oil in the manner of ordinary asphaltum pavements. A pavement produced in this manner is also much less expensive than asphaltum pavements as usually made, and is also much less expensive than what are known as block pavements which employ sand and asphaltum or coal tar, and the surface of pavements produced in this manner consists, practically, of a solid, concrete substance and will not become slippery in wet weather and may be easily kept clean at all times and is also weather proof, and many other advantages will readily suggest themselves to all those familiar with the construction of pavements or road beds of this class.

The composition of asphaltum, sulfuric acid and water described is not claimed herein but is made the subject of a separate application filed by me on equal date herewith.

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

1. The herein described method of making pavements consisting of first providing a road bed, covering the same with a layer of broken stone, filling said layer of broken stone with sand or sandy loam, rolling the surface thus produced, covering said surface with another layer of broken stone, the stone being of less dimensions than those of the first layer, filling in said layer with sand to within a predetermined point of the top thereof and rolling the same, then placing thereon a layer consisting of a hydrocarbon product, the thickness of which is not sufficient to thoroughly cover the last layer of stone, then covering the said last layer of stone and the layer consisting of a hydrocarbon product with screenings or stone dust, sufficient to cover the broken stone, then covering the screenings or stone dust with a thin layer of coarse screened sand, then brooming until the screenings and sand are thoroughly mixed and then rolling the surface thus produced.

2. The herein described method of making pavements consisting of first providing a road bed, covering the same with a layer of broken stone, filling said layer of broken stone with sand or sandy loam, rolling the surface thus produced, covering said surface with another layer of broken stone, the stone being of less dimensions than those of the first layer, filling in said layer with sand to within a predetermined point of the top thereof and rolling the same, then placing thereon a layer consisting of hydrocarbon product, the thickness of which is not sufficient to thoroughly cover the last layer of stone, then covering the said last layer of stone and the layer consisting of a hydrocarbon product with screenings or stone dust, sufficient to cover the broken stone, then covering the screenings or stone dust with a thin layer of coarse screened sand, then brooming until the screenings and sand are thoroughly mixed, then rolling the surface thus produced, and at the end of a predetermined time covering the surface thus produced with gravel and then rolling the gravel so as to produce a solid concrete surface.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 21st day of February 1910.

CLOYD DAVIS.

Witnesses:
C. E. MULREANY,
B. M. RYERSON.