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UNITED STATES PATENT OFFICE.

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PAVING MATERIAL AND PROCESS OF MAKING SAME.

1,371,032.

Specification of Letters Patent.

Patented Mar. 8, 1921.

No Drawing.

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To all whom it may concern:

Be it known that I, **MATTHEW B. KENDRICK**, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Paving Material and Process of Making Same, of which the following is a specification.

The invention relates generally to outdoor pavements that are exposed to the weather, and an object of my invention is to provide a pavement for highways or streets, or for sidewalks, which shall be so constructed or composed of such material as to be firm and durable and adapted to prevent the accumulation of ice and in some cases prevent the formation of ice on the pavement, or to prevent adhesion of ice to the pavement which is a source of danger and troublesome to remove, during winter seasons; and the invention relates more particularly to the uppermost or top portion of the pavement, and also to the material adapted to constitute such portion, and to the process of making the same, in conformity with the objects of the invention. Another object is to provide an improved material for paving which shall be so constituted as to be adapted to prevent or tend to prevent dangerously icy road or sidewalk surfaces, in order to eliminate danger to pedestrians, animals or vehicles using the pavements. A further object is to provide an improved paving material which shall be adapted to be incorporated or used with other material or materials in the construction of pavements, and be qualified to prevent the formation or accumulation of ice in cold weather upon the pavement. And a still further object is to provide a simple and improved process of producing or preparing top or surface coatings of pavements and ingredients thereof.

With the above-mentioned and other objects in view, the invention consists in a novel primary composition of sand and salt or chlorid of sodium to be used as a component of surfacing material of pavements, and the invention consists also in a novel surfacing material for pavements having the primary composition therein, and in the combination of elements of the structure of the pavement. And, further, the invention consists of a novel process of producing the primary composition.

My primary composition consists of river

sand or pit sand and specially prepared salt, in the proportion of approximately ninety parts of sand and ten parts of salt, by weight. In the process of preparing the composition, a quantity of coarse salt is placed in a closed mixer or agitator, preferably a revolving type, and subjected therein (while being agitated) to a temperature of about 180 degrees, Fahr., being heated and thoroughly dried, and in the operation the salt is broken up and pulverized so as to be finely granulated. The sand is screened and it and the prepared salt are placed together and slightly dampened so that the particles of salt shall adhere to the sand grains in case the sand is not already damp or slightly wet when the sand is dry about ten gallons of water or less to one thousand pounds of sand is preferably used. The dampened sand and salt mass is placed in a mechanical mixer, preferably a closed revolving type, and gradually subjected to a super-heating temperature of approximately 300 degrees, Fahr., the ingredients of the mass being thoroughly mixed together. In the process of preparing the material the salt is taken up or absorbed by the sand. The resultant composition which is dry and hard and sand-like in consistency, for convenience is run through a 40 by 80 mesh sieve and put up in packages, preferably in sacks of 100 pounds each.

In the preparation of my surfacing material for the top or surface layer of a street or roadway pavement, 800 pounds of the primary composition, 100 pounds of asphalt, and 100 pounds of lime-stone dust or "Portland" or similar cement are mixed together to produce 1,000 pounds of the surfacing material, or in similar proportions. This material may be used also if desired in the construction of sidewalks or other pavements.

In the preparation of a modified surfacing material, for hard-surface pavements such as sidewalks, the asphalt is preferably omitted, and the primary composition and cement are mixed together in the proportion of about fifty per cent. each, or of equal parts.

In practical use, the improved surfacing material is placed upon a suitable foundation which may differ as may be desired to suit different conditions. When conditions are favorable to the formation of ice on pavements, the improved surfacing material, by virtue of the well-known proper-

ties of salt incorporated therein, prevents the accumulation of ice or the solidification of moisture upon the pavement, the salineness of the sand in the composition
5 or material having a tendency directly to dissolve or melt ice on the pavement.

I claim:

1. A paving material composition comprising approximately ninety parts of sand
10 and ten parts of salt by weight intimately combined and the sand having salt absorbed therein, the composition being granulated and dry.

2. A paving material composition consisting of a mixture containing approximately ten parts by weight of thoroughly
15 dry salt pulverized and approximately ninety parts of sand by weight mixed together and being dry and hard and of fixed
20 consistency.

3. A paving material comprising a composition consisting of approximately equal parts of cement and a primary composition mixed together, the primary composition
25 consisting of approximately ninety

parts of sand and ten parts of salt by weight intimately combined and the sand having salt absorbed therein.

4. The process of making a component of paving material, having sand and salt therein, consisting in subjecting the salt to a
30 high degree of heat, which shall be approximately 180 deg., Fah., and in subsequently mixing the treated salt with the sand.

5. The process of making a component of
35 paving material, having salinous sand therein, consisting in subjecting salt to a high degree of heat, placing the treated salt with a quantity of sand to form a mass, and in
mixing the constituents of the mass together
40 in damp condition and subjecting the mass during mixing operations to a relatively higher degree of heat.

In testimony whereof, I affix my signature in presence of two witnesses.

MATTHEW B. KENDRICK.

Witnesses:

DANL. L. BEDINGER,
VIVIAN MAYFIELD.