

# UNITED STATES PATENT OFFICE.

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## METHOD OF MAKING SHEET-ASPHALT PAVEMENTS.

SPECIFICATION forming part of Letters Patent No. 654,216, dated July 24, 1900.

Application filed September 15, 1899. Serial No. 730,625. (No specimens.)

*To all whom it may concern:*

Be it known that I, JOSEPH H. AMIES, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Methods of Making Sheet-Asphalt Pavements, of which the following is a specification.

My invention relates to methods of making sheet-asphalt pavements; and its object is to obviate defects and weaknesses in such pavements as usually constructed.

As is well known to those skilled in the art to which this invention pertains, sheet-asphalt pavements cannot carry enough asphalt, sufficiently reduced, to the proportion of sand used to prevent or retard volatilization of the asphalt for a sufficient length of time to give the pavement proper wearing power. The proportion of asphalt which such pavements will admit of is only about five per cent., which is insufficient to make a durable and efficient pavement. Some of the results of such small percentage of asphalt are, first, that in cold or winter weather the pavement becomes so hard and brittle that it breaks up and granulates; second, owing to the extreme hardness and want of elasticity in winter it becomes very slippery and dangerous to pedestrians and animals. This is due to the fact that the asphalt is not sufficiently reduced and of sufficient quantity to extend the pavement to a satisfactory duration; but if the proportion of reduced asphalt could be incorporated in the pavement the latter would break down in summer-time when the heat is intense, while in winter-time it would not possess sufficient elasticity to prevent slipping.

My invention obviates the above defects; and it consists in taking suitable fibers—such, for instance, as paper, paper-pulp, ground cork, shavings, leaves, hay, peat, palmettoes, cocoanut fiber, and the like—and creosoting them or vulcanizing them with pitch, tar, rosin, glucose and glue, molasses and glue, or other waterproof material which is elastic

in all temperatures and mixing them with the asphalt and sand just before or at the time the pavement is laid in the proportion of about ten to fifteen per cent. of asphalt to from eighty-five or ninety per cent. of sand and then laying the pavement in a single sheet. The creosoted fibers can be spread upon the top of the sheet-asphalt and raked or rolled in, and I have found that when the asphalt is sufficiently reduced and of sufficient quantity raw fibers can be raked in and rolled down to the surface of the sheet-asphalt after it is spread.

The sand used in the pavement is a good conductor of heat, while the fibers are non-conductors, and owing to the non-conducting properties of the fibers a larger percentage of reduced asphalt—from ten to fifteen per cent.—can be employed. Said fibers not being sensitive to or affected by temperature in winter, the pavement will possess sufficient elasticity to prevent slipping. The fibers also prevent “ironizing” under the action of wheels of vehicles and greatly toughen the pavement and increase its durability.

While I have found that from ten to fifteen per cent. of reduced asphalt will produce the desired result, still I do not wish to be confined to such. The proportions of fibers used will depend somewhat upon circumstances.

Having thus fully described my invention, what I claim is—

That improvement in the art of making pavements which consists in taking fibers and coating them with an elastic waterproof material, and during the process of laying the pavement, mixing the coated fibers with asphalt and sand in about the proportions specified, and then laying the pavement in a single sheet.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOSEPH H. AMIES.

Witnesses:

JAMES P. PETIT,  
CHARLES J. FLECK.