UNITED STATES PATENT OFFICE.

JOSEPH HAY AMIES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE AMIES ASPHALT COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF SOUTH DAKOTA.

METHOD OF MAKING AND LAYING PAVING COMPOSITION.

932,941. Specification of Letters Patent. Patented Aug. 31, 1909.

No Drawing. Application filed May 1, 1909. Serial No. 493,298.

To all whom it may concern:

Be it known that I, JOSEPH HAY AMIES, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Method of Making and Laying Paving Composition, of which the following is a specification.

The object of the herein described invention is to secure perfect inherent stability in a paving composition after it has been laid and rolled to a finished condition.

In sheet asphalt paving as commonly practiced, about 31 per cent. of voids are found. In some cases, a bituminous macadam composition for paving has been made reducing this percentage of voids to from 15 to 18% of voids. These voids, however, form pockets for carbonic acid gas that in time destroys the pavement. It is acknowledged by the experts of the art that a perfect voidless pavement would be an age lasting one.

In practice, the run of the stone crusher is taken and each ton of crushed stone is kept separate. The dust is as nearly as possible screened out of each ton of crushed stone and weighed, so that the exact proportion of dust to stone is ascertained. This stone dust is separately treated and kept separate from the other portion of the ton batch of crushed stone for the reason that better results are obtained by treating them separately. This is necessary to the success of the process because in cases where stone dust is treated in combination with the whole batch, the coarser materials separate in handling and the larger pieces will bunch together when the pavement is laid and the smaller particles will also form together in the pavement, thereby resulting in irregularity of density. The stone dust in a cold condition is coated with a suitable thin oil, like crude oil and gasolene, or gas oil, alcohol, benzine or any light oil which will answer the purpose and which may be found to be the cheapest. The employment of the thin oil is to cover over the usually moisture covered particles of the stone dust and make it acceptable to the hot bituminous, asphaltic or like cement which is to be applied. After this second application a due amount of calcium oxid or partly slaked lime will be added and mixed in. The same treatment will be given to the other portion of the batch ton of stone. These compositions will be cooled and treated in a manner to secure a friable and granular condition of the composition.

When laid in the street or road, the exact measures of the two compositions will be associated as originally found by weight to be their relations in proportion. It has been found best to lay a layer of the coarser materials and throw over these the finer materials to fill the voids, and this is kept up in successive layers in exact proportions of the two compositions. When this has been done to a thickness demanded by the specifications provided for the street or road building the composition will be compressed. This will be preferably effected by using at first a very light roller which will be run in every possible direction over the composition to secure an accurate placing of the particles. Then a heavy roller will be used to complete the compression. All the voids will thus be filled and a perfect voidless pavement secured.

What I claim is:—

The herein described method of paving which consists in taking batches of crushed stone, separating the finer portions from the coarser portions of the batch, separately treating these two portions with a bituminous or like cement, then laying a part of the coarser portions of the batch, then placing thereover and therethrough a part of the finer portion of the batch until all the existing voids of the coarser matter are filled, then again and again repeating the laying of these two portions in successive layers and finally compressing the whole, substantially as described.

In testimony whereof I have signed my name.

JOSEPH HAY AMIES.

Witnesses:
WILLIAM J. JACKSON,
MABEL KIMMIG.