

UNITED STATES PATENT OFFICE.

AUSTIN WALRATH, OF NEVADA CITY, CALIFORNIA.

PAVING AND ROOFING COMPOUND.

SPECIFICATION forming part of Letters Patent No. 376,172, dated January 10, 1888.

Application filed September 22, 1886. Serial No. 214,289. (No specimens.)

To all whom it may concern:

Be it known that I, AUSTIN WALRATH, of Nevada City and State of California, have invented certain new and useful Improvements in Pavement and Roofing Compounds; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to an improved method or process for treating bituminous sand-rock, such as is described in an application for a patent recently filed by me, wherein I claimed the process of using steam for treating the sand-rock preparatory to spreading it down upon a street surface or roof for making pavements and roofs. This bituminous sand-rock has been known for several years, and many unsuccessful attempts have been made to utilize it for pavements and roofs. In all these attempts that I am aware of the substance was treated as asphaltum and by the same processes and in the same manner that asphaltum was treated.

My first experiments convinced me that the substance was entirely different from asphalt and required a new and different treatment to adapt it for paving and roofing purposes. I soon discovered that it contained in itself all the elements of a first-class paving material, and that all it required was to be rendered plastic, so that it could be spread evenly upon the surface to be paved or roofed, and to this end I successfully employed steam as the agent or medium for reducing it to the necessary condition of plasticity.

Since filing my said former application I have still further extended my experiments, and find that I can reduce the bituminous sand-rock to a condition better suited for paving and roofing purposes by means of hot air. When steam is used, the water in the steam, intermingling with the softened sand-rock,

renders it semi-liquid, so that it spreads easily, and when it dries out it makes a good and substantial pavement or roof, as stated in my former application; but it takes some time for it to dry out, so that in case of a pavement it cannot be traveled on for some time after it has been laid; but by using hot air as a liquefying medium the sand-rock is reduced to a plastic state, which permits of its being spread readily, and then, by properly rolling it, so as to condense and compress the material upon the road-surface, the pavement is at once completed and ready for travel.

To treat the sand-rock I place it in any suitable vessel, open or closed, and turn upon it a stream of heated air, so that the hot air will come in contact with every portion. This causes it to crumble and settle down into a heavy plastic condition, which, however, is sufficiently liquid to permit of its being easily and evenly spread with a hoe. It is then rolled with a heavy roller to condense it and produce an even surface. When cool, it is ready to receive travel. The air may be heated in any convenient and known method for heating air, and the degree of temperature of the air is immaterial so long as it is hot enough to dissolve the rock.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The process or method of treating bituminous sand-rock by means of heated air for reducing it to a plastic condition in order to prepare it for paving and roofing purposes.

In witness whereof I have hereunto set my hand.

AUSTIN WALRATH.

Witnesses:

M. G. LOEFLER,
ED. H. COLEMAN.