

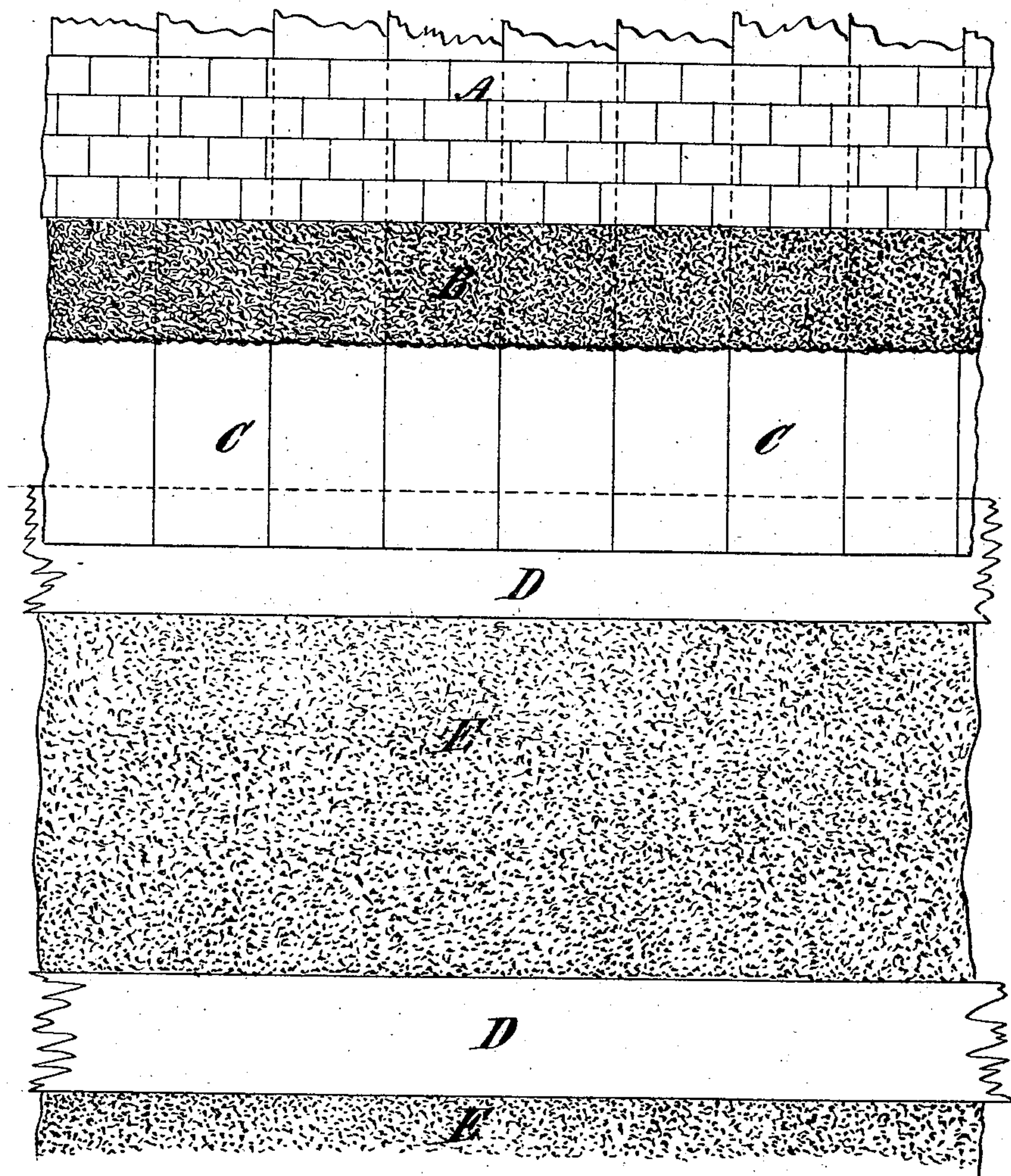
C. PINNINGTON.

Pavements.

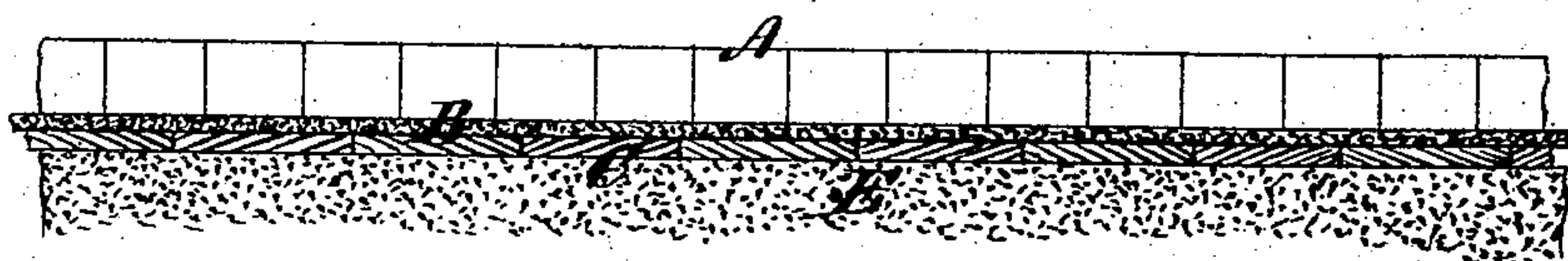
No. 153,374.

Patented July 21, 1874.

*Fig: 1*



*Fig: 2*



*Witnesses:*

*Michael Ryan*

*Fred. Haynes*

*C. Pinnington*  
*by his Attorney*  
*Brown & Allen*



# UNITED STATES PATENT OFFICE.

CHARLES PENNINGTON, OF ST. JAMES TERRACE, CALEDONIAN ROAD,  
ENGLAND.

## IMPROVEMENT IN PAVEMENTS.

Specification forming part of Letters Patent No. **153,374**, dated July 21, 1874; application filed  
May 29, 1874.

*To all whom it may concern:*

Be it known that I, CHARLES PENNINGTON, of Saint James Terrace, Caledonian Road, in the county of Middlesex, England, have invented certain Improvements in Paving Roads and Ways or other surfaces, of which the following is a specification:

This invention relates to improvements in the method of paving roads, ways, or other surfaces with wood, granite, and other materials, arranged and combined in such manner as to produce a road or upper surface of granite, impervious to moisture from above or below, the granite being embedded in or upon elastic materials placed on a wood flooring, so as to deaden the sound caused by horses or vehicles traveling thereon.

For this purpose all the boards used in this improved method of road-making I prefer to dress with tar or other preserving matter.

In carrying my invention into practice I first excavate and level the subsoil to a depth of about eight inches, and upon this I place a layer of from three to four inches of strong concrete. Embedded in this concrete, flush with its surface, and extending across the road from side to side, at intervals of about three feet from the center of each, I place boards or bearers, by preference about one and one-fourth inch thick and nine inches wide, and of convenient lengths to support the flooring or foundation of the road. Over and upon these bearers, with their ends resting on the cross-pieces, and joining each other midway on the bearers three-foot lengths, or thereabout, of deal ends or planks are placed side by side, and close together, to form a complete flooring, to support the stone blocks or cubes forming the upper surface of the road, the ends of the planks being nailed to the bearers, to prevent them from shifting or tilting. Upon this floor of planking a layer of soft matter, composed of tan-bark and tar, or jute, or matting, or any other cheap fibrous materials—sacking or the like—is placed, and in or upon this (closely paved) small cubes of granite—by preference about three inches by three inches—are placed, after which the joints are grouted in with hot tar and pitch, in the proportion of about one-fourth pitch to three-fourths of tar. This or any other bituminous matter will answer the purpose. The whole

is covered with a thin layer of clean, dry, sand, and a roller is passed over the whole, in order to charge or fill the joints, and thus hermetically seal up the work.

A stone or granite surface of this character will wear longer than any other material; and, the size of the blocks being small, will render the road-surface very safe to travel upon, as the numberless interstices will prevent horses from slipping. The stone or granite will be muffled by being set in soft elastic matter, and, in consequence, will not give out much sound; and, owing to the cubes or blocks of granite being kept in position by the flooring underneath, the wear will be uniform.

The method of grouting the joints will render the road impervious to wet; and, as the support to the stone or granite forming the surface of the road is perfect, the blocks cannot be forced down, nor can any matter be pressed up, a road being thus produced which will be silent, safe, clean, and durable at a reasonable cost.

Roads that have been previously paved will require but little concrete, as the old bottom need not be moved, and the old stone or granite blocks may be redressed, and made to serve again.

In the accompanying drawing, Figure 1 is a top view, partly in section, of a pavement constructed according to my invention. Fig. 2 is a vertical section of the same.

A represents the surface of the road when finished; B, the tan-bark and bitumen on which the stone is placed; C, the flooring on which the tan-bark is placed; D, cross-boards or bearers, partly covered by the boards or flooring; E, the concrete bottom, on which the cross-timbers or bearers are embedded flush with the concrete.

What I claim as new, and desire to secure by Letters Patent, is—

The elastic bedding B, in combination with the concrete bottom E, cross-timbers or bearers D, flooring C, and paved surface A, substantially as and for the purpose shown and described.

CHARLES PENNINGTON.

Witnesses:

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