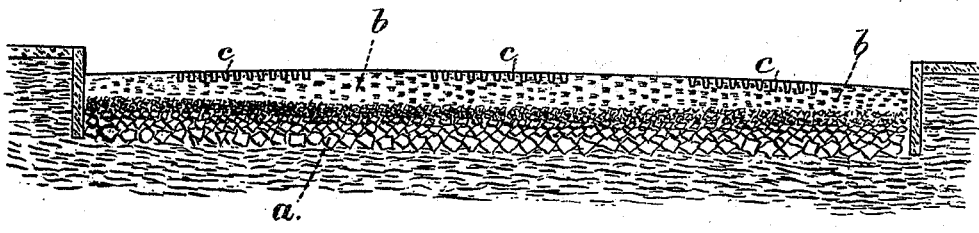


J. P. CRANFORD.  
Composition Pavement.

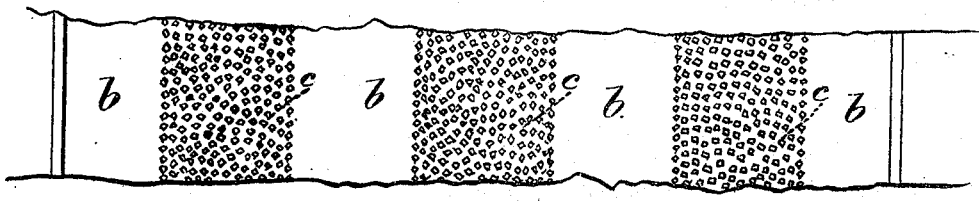
No. 210,101.

Patented Nov. 19, 1878.

*Fig. 1.*



*Fig. 2.*



*Inventor*

*John P. Cranford.*

*per Lemuel W. Terrell*

*att'y.*

*Witnesses*

*Chas. H. Smith  
Geo. J. Pinckney*

# UNITED STATES PATENT OFFICE.

JOHN P. CRANFORD, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF  
AND NATHAN B. ABBOTT, OF SAME PLACE.

## IMPROVEMENT IN COMPOSITION PAVEMENTS.

Specification forming part of Letters Patent No. **210,101**, dated November 19, 1878; application filed  
March 1, 1878.

*To all whom it may concern:*

Be it known that I, JOHN P. CRANFORD, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Composition Pavements, of which the following is a specification:

Pavements have been made with foundations of stone or of wood, covered by a surface of asphalt or other bituminous material and sand or gravel, and this character of a surface is very durable when properly laid; but when the pavement is wet the horse's shoes sometimes slip upon the same. This is particularly the case when the shoes are old and worn, and free from calks or projections.

The object of the present invention is to lessen the risk of slipping upon the composition pavement, and not injure the character of such pavement.

In the drawing, Figure 1 is a section, and Fig. 2 a plan illustrating my improvement.

The foundation *a* is to be of concrete, broken stones, paving-stones, wooden blocks, or other suitable support for the layer or layers of asphalt composition *b* forming the surface of the pavement. This character of pavement, being known, requires no further description.

Before the composition pavement *b* is solidified by rolling or otherwise, the small cubes, blocks, or pieces *c* of stone are scattered or placed over either the entire surface or in one or more lines longitudinally of the street. They are to be of granite or other hard, durable material, and are preferably coated with a bituminous compound, and in a hot condition.

The composition is now consolidated by rolling, ramming, or otherwise, and the street is rendered smooth; but the stones are level with the surface thereof, and by the action of the wheels and the slight abrasion due to the travel these stones become exposed sufficiently to form a foot-hold for horses to prevent slipping. This result is attained by the stones because their surfaces are of a different texture to the composition pavement, and the variety

in the texture and any slight inequalities in the surface give better foot-hold in wet weather than either material would if used separately.

By scattering or placing the blocks upon the composition in lines longitudinally of the street and in positions where the horses would travel, the same become a foot-hold for the horses; but the wheels will run upon the composition at the sides of the horseway.

The stones may be in the form of cubes, strips, or spalls, and laid with more or less regularity; and where it is desired to make the stone surface equal, or nearly so, to the bituminous in portions or the whole of the street, the same may be done by laying down strips of granite, slate, flagstone, or other suitable material, in regular order, upon the bituminous material and rolling and consolidating the material, as aforesaid.

I am aware that pavements have been made of stone with bituminous material poured upon the same and rolled; also, that sand, gravel, or pulverized stone has been scattered upon pavement that has been previously rolled, so as to prevent the surface becoming soft. In my method of laying, the bituminous material is not covered, but forms the principal portion of the surface, and the pieces of stone or similar material are laid in such bituminous material before the same is consolidated, so as to be firmly embedded therein.

I claim as my invention—

The method herein specified of laying bituminous pavement upon a suitable foundation, consisting in spreading the bituminous material, and then placing upon the same blocks or pieces of stone, and consolidating the same by ramming or rolling, substantially as set forth.

Signed by me this 27th day of February, A. D. 1878.

JOHN P. CRANFORD.

Witnesses:

GEO. T. PINCKNEY,  
CHAS. H. SMITH.