

(No Model.)

J. MURPHY.  
GROUT.

No. 442,132.

Patented Dec. 9, 1890.

*Portland Cement  
Cement  
Grout*

FIG. 1.

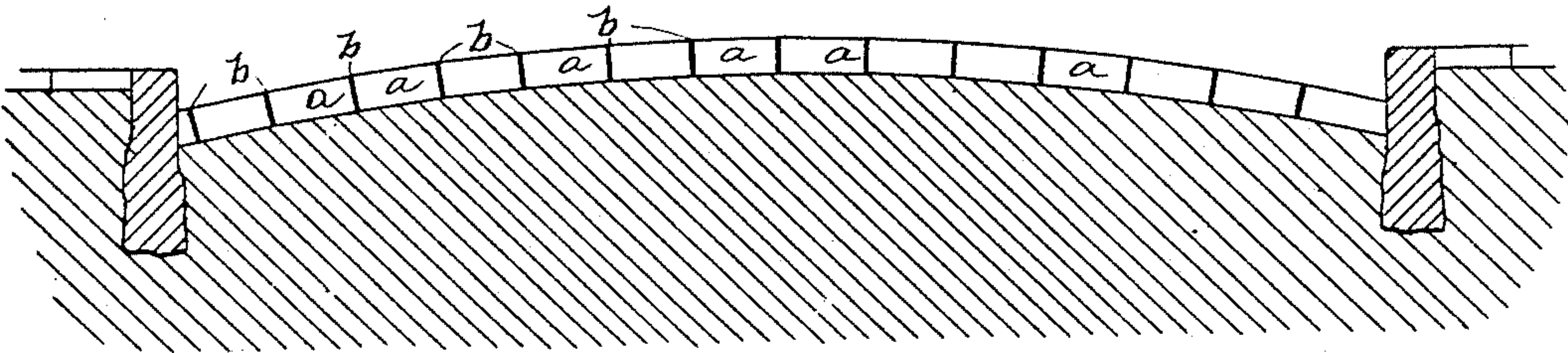
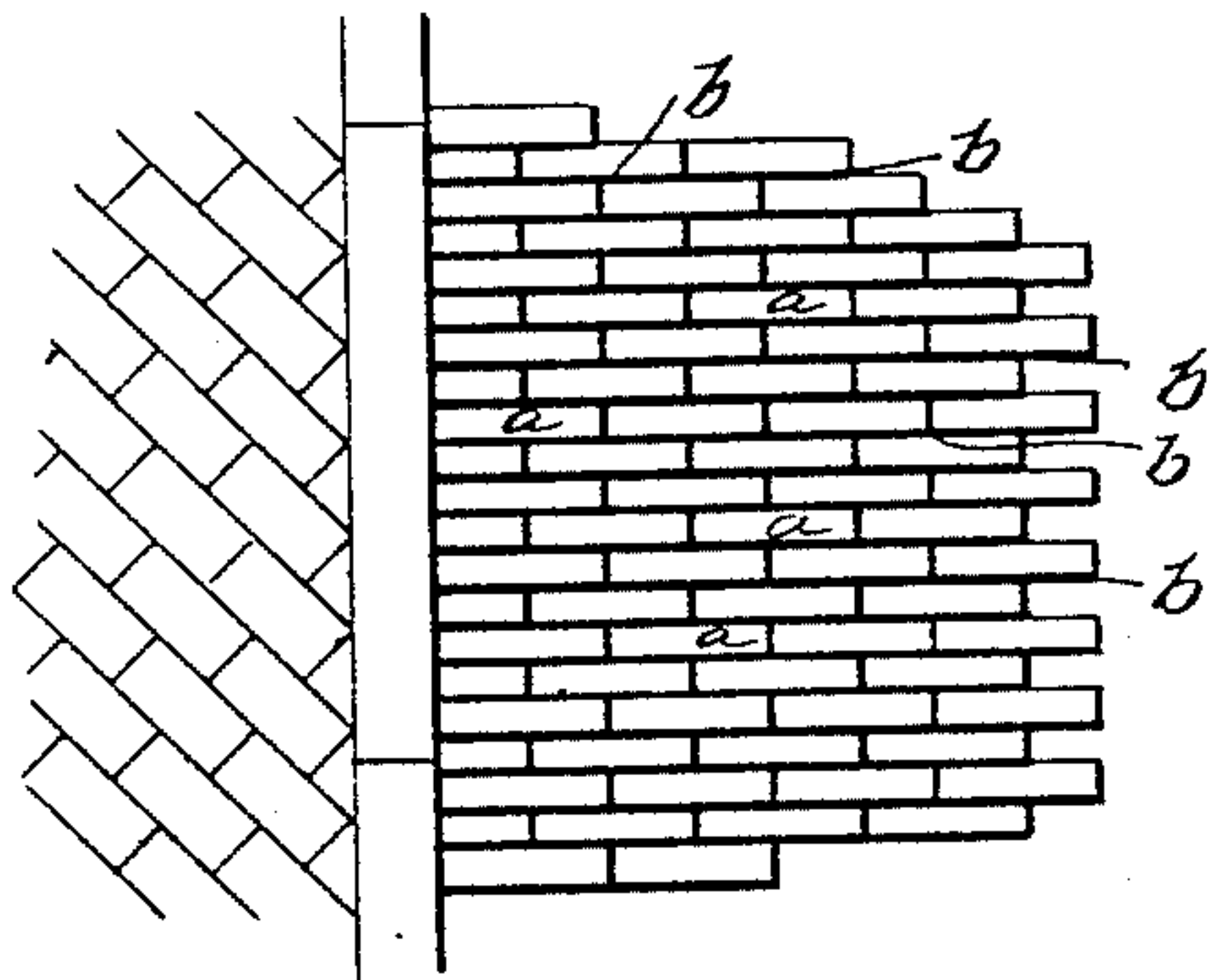


FIG. 2.



WITNESSES:

*J. M. Travel*  
*E. E. Bragg*

INVENTOR

*John Murphy*

BY

*Staley & Shepherd*

ATTORNEYS

Pulverized cinders,  
Portland cement,  
manganese,

172,122

Cinder  
Portland cement  
manganese

# UNITED STATES PATENT OFFICE.

JOHN MURPHY, OF COLUMBUS, OHIO.

## GROUT.

SPECIFICATION forming part of Letters Patent No. 442,132, dated December 9, 1890.

Application filed September 8, 1890. Serial No. 364,383. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MURPHY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Grout, of which the following is a specification.

My invention relates to the improvement of grout, such as is adapted for an interstitial filling for brick or hard-burned block pavements.

The objects of my invention are to provide a grout of this class of such ingredients as to produce an indurate and adhesive compound, to produce grout which, when applied as an interstitial filling for brick or hard-burned block pavements, will operate to firmly unite said bricks or blocks, form a durable filling therefor, protect the edges of the blocks from wearing or rounding, and provide, in connection therewith, a continuous and level surface.

In the accompanying drawings, Figure 1 is a transverse section of a street-pavement, showing the use of my improved grout as a filling therefor. Fig. 2 is a plan view of a number of paving blocks or bricks laid together and filled with said grout.

Similar letters refer to similar parts throughout the several views.

My improved grout consists of the following ingredients, combined about in the proportions stated: pulverized furnace-cinders, fifty per cent.; Portland cement, forty per

cent.; manganese, ten per cent. These ingredients are thoroughly mixed and reduced to a plastic or liquid mass, and the compound thus attained is poured between the bricks or blocks *a*, as shown at *b*. The indurating and adhesive properties of the grout render it, when dry, an exceedingly hard mass, the wearing quality of which is approximately equal to the wearing quality of the paving material. It will readily be seen that a grout of this character will prevent the wearing away of the edges of the said bricks or blocks, and the consequent production of an uneven surface.

I am aware that tar and various compounds forming a grout have been used for this purpose; but the grout herein described differs from these in its composition. It is also evident that my improved grout is, when compared with tar and other similar substances, inexpensive.

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

As an interstitial filling for brick or hard-burned paving-blocks, a grout consisting of pulverized cinders, Portland cement, and manganese, combined in about the proportions specified.

JOHN MURPHY.

In presence of—

C. C. SHEPHERD,  
E. E. BRAGG.