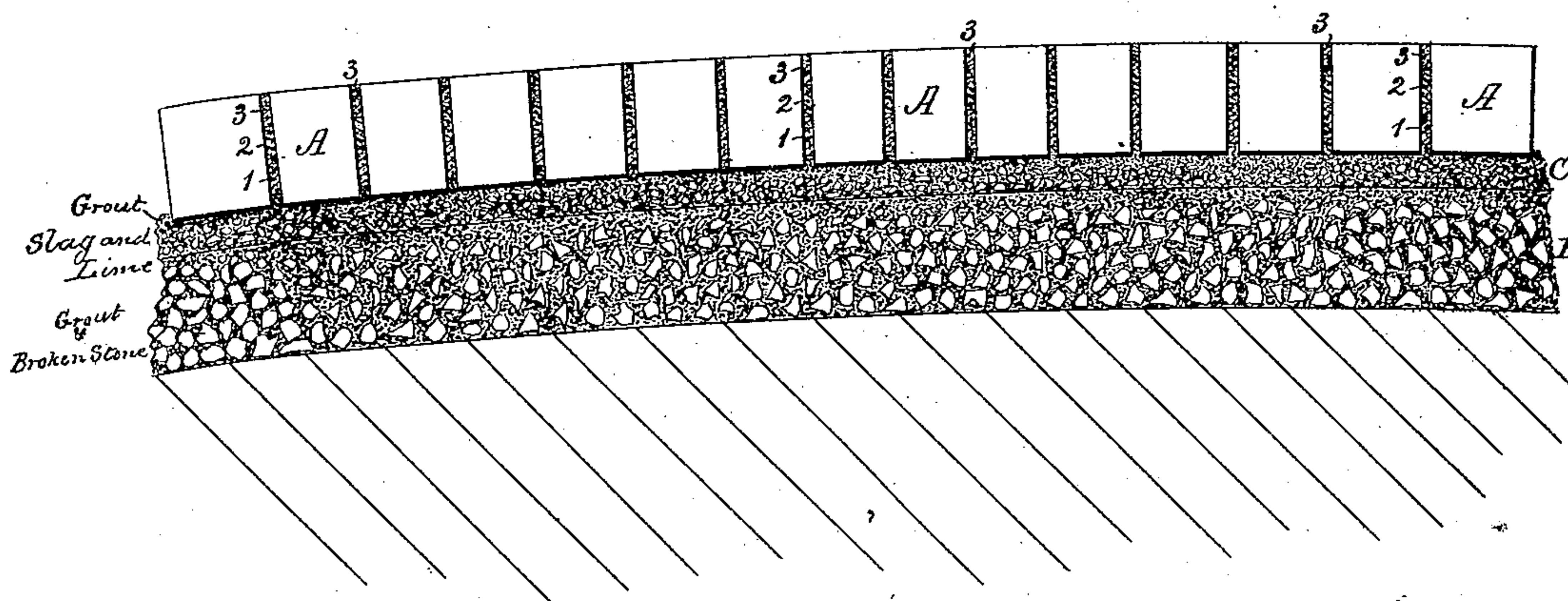


(No Model.)

J. MURPHY.
Pavement.

No. 238,706.

Patented March 8, 1881.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN MURPHY, OF COLUMBUS, OHIO.

PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 238,706, dated March 8, 1881.

Application filed January 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN MURPHY, of Columbus, in the county of Franklin and State of Ohio, have invented a new and Improved Pavement; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in the class of pavements composed of stone blocks laid upon a concrete or other water-tight foundation.

I form my pavement of stone blocks, broken stone, and grout, applied and combined as hereinafter described, reference being had to accompanying drawing, which shows a vertical section of the pavement and road-bed.

The letter A indicates the rectangular stone blocks forming the wearing-surface of the pavement.

B is a layer of broken stone and grout; C, a layer of slag and lime and a grout and sand filling for the interstices of the blocks.

In constructing the pavement the first step is to prepare the road-bed. If this be wet or springy soil it should be underdrained, and is, in any case, to be properly graded. Upon such bed I spread a layer of broken stone or slag, B, to the depth of about six (6) inches, which is grouted and then rolled with a heavy roller, to form a firm and solid foundation.

If the soil is dry and solid the broken stone may be dispensed with and a thin layer of gravel employed instead, which must, however, be well rolled. Having thus formed a firm bed or foundation, the next step is to deposit thereon a layer, C, of pulverized slag and lime mixed with sand. This layer should be about two or three inches in depth. The stone blocks A are then laid in courses, so as to break joints, and the interstices are filled with grout, 1, to the depth of two or three inches from the bottom of the blocks. I next spread clean screenings over the stone surface until the interstices are filled or nearly so. This filling, 2, is then packed or pressed until it has a depth of one or two inches over the grouting. Its function is to keep the blocks steady in their place while being rammed,

which is the succeeding step. After ramming the interstices are filled to the top with grouting, 3, thus making a level surface, which completes the pavement proper. Upon its surface a coat of sand is then spread, and the pavement will be ready for use in from twelve to twenty-four hours.

The grout I employ is made of the following ingredients in or about the proportions stated: Lime, ground or slaked, (blue lias preferred,) twenty per centum; sand, clean and pure, thirty per centum; iron slag or furnace cinders, twenty-five per centum; Portland cement ten per centum; silica, or oxide of iron, ten per centum; cast-iron filings, sulphur, &c., five per centum.

The layer of slag and lime C, under the stone blocks A, is well saturated with water in the process of constructing the pavement, and becomes very hard. The grout is very adhesive, and becomes harder with time, and hence in the course of a year the pavement becomes practically a solid stony mass, of about sixteen inches in depth, which is impervious to water. The pavement is, moreover, sufficiently elastic to render it easy for vehicles, while the noise incident to their passage over it is considerably deadened.

The cheapness and durability of the pavement especially commend it.

I am aware that block-stone pavements have been used in which the interstices between the blocks were filled with asphaltum, concrete, or other mastic; but such filling disintegrates and becomes useless in a few years; whereas my pavement becomes more and more hard and solid with lapse of time, and improves with age.

What I claim is—

The improved pavement, formed of the broken stone and grout foundation B, the layer C, of slag and lime, the stone blocks A, and the interstitial filling of grout, all as shown and described.

JOHN MURPHY.

Witnesses:

J. D. SULLIVAN,
J. G. ODEL.