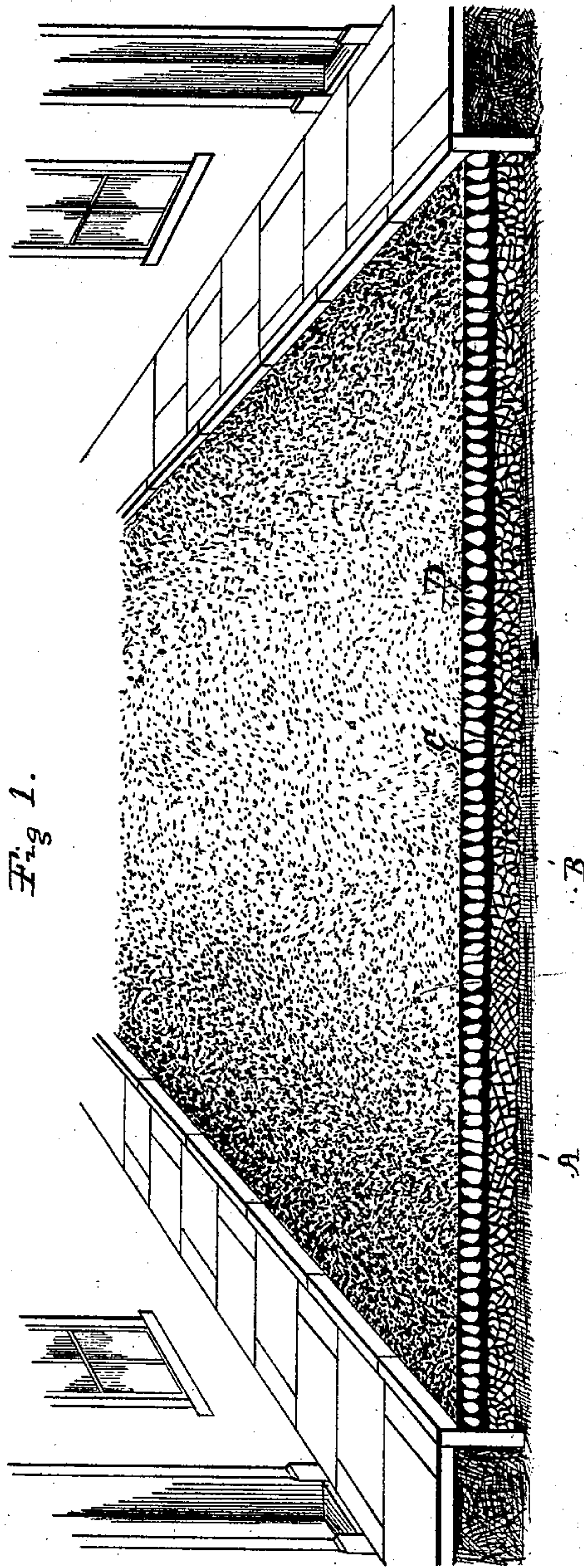
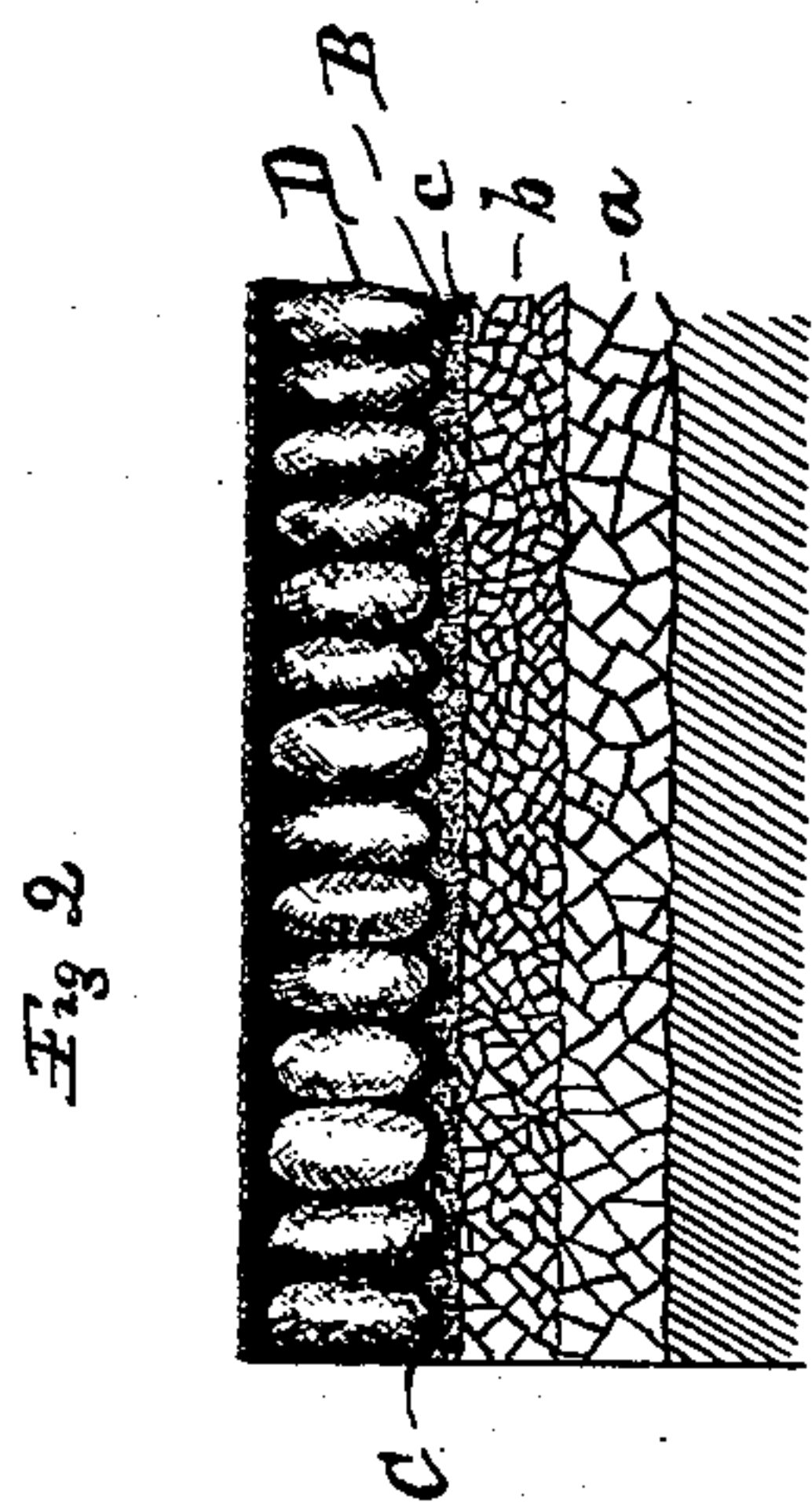


A. B. DEAN.  
Concrete-Pavement.

No. 206,426.

Patented July 30, 1878.



WITNESSES

Nat. E. Oliphant.  
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# UNITED STATES PATENT OFFICE.

ANDREW B. DEAN, OF LOUISVILLE, KENTUCKY.

## IMPROVEMENT IN CONCRETE PAVEMENTS.

Specification forming part of Letters Patent No. **206,426**, dated July 30, 1878; application filed January 23, 1878.

*To all whom it may concern:*

Be it known that I, ANDREW B. DEAN, of the city of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Boulder Pavements; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a perspective sectional view of my improved pavement. Fig. 2 is an enlarged sectional view of the same.

My invention relates to improvements in boulder pavements; and consists in the method or manner of constructing the pavement, in which the following parts are used, to wit: a broken-stone foundation, a layer of fine gravel, boulder bed, mastic binder, boulder-stones, and a mastic binder in the interstices of the stones, with a surface-coating, whereby a durable and smooth boulder pavement is produced.

The boulder pavement as at present constructed is very objectionable, because of the irregular depression which soon occurs in the surface, making it very rough, insecure, and expensive to keep up. The boulders or cobble-stones are generally laid on beds of gravel or some other material, without any other foundation in which the cobble-stones may be easily embedded. Such materials have not the compactness or solidity that a boulder street-foundation requires, is easily penetrated by water soaking through the interstices between the boulders, and therefore cannot sustain a uniform surface when it becomes damp, and this deficiency often occurs from ordinary usage when dry, and when unusual pressure is brought to bear on a particular place, it will sink into ugly depressions or ruts.

In building a street-foundation, like all other structures, it is all important to have good, sound, and durable material to do the work with. Having this, the work should be done with mechanical skill and good judgment. The foundation on which the surface-pavement must rest is a far more important feature to have right than is generally supposed, for

unless a good foundation is had the super-structure cannot be expected to stand.

My method of constructing the improved boulder pavement may be thus briefly described, taken in connection with the accompanying drawings.

After the road-bed is properly prepared, a layer of good sound stone, *a*, uniformly broken, should be spread about three inches deep, which should also be thoroughly rammed, to more firmly embed it in the earth of the road-bed. Then another layer of broken stone, *b*, should be uniformly spread to the depth of seven inches, more or less, which should be also thoroughly rammed, or rolled under heavy pressure. Then spread enough of fine gravel *c*, or other suitable material, over the surface to fill up the interstices. Let it then be rammed or rolled until the entire mass is compact. This will complete the foundation. (Marked *A* in the drawing.) Upon this foundation is placed the boulder-bed *B*, usually of sand, which should be only sufficient in depth to allow the lower ends of the boulders or cobble-stones, when thoroughly rammed, to rest so near the stone foundation that they cannot sink any deeper; or, in other works, do not have a boulder-bed deeper than is absolutely required to hold the boulders firmly in their places. This is to prevent any possibility of the boulders settling with irregularity, or the formation of depressions in the surface of the pavement.

After the boulder-bed is spread properly, a heated mastic binder, *C*, made of sulphureted hydrocarbon, known as "candle-gum," mixed with asphaltum, or any other substance that will adhere well to the boulders when cold, is sprinkled over it.

The letter *D* represents the boulders or cobble-stones, which should be sorted, so as to have them as uniform in size as possible, placed in position upon the mastic binder and rammed to the grade; but if the boulders or cobble-stones are of irregular size, instead of coating the boulder-bed with the mastic material, the boulders may be dipped into the mastic material, so as to have the lower half of the boulder well covered with it; then bed them to the proper grade and ram.



The binder-coating C is intended to afford a more secure bed for the bowlders by adhering to them, and binding them to the foundation, to effectually fill the lower interstices in the bowlders, and as an additional security against water soaking into the foundation.

After the bowlders are placed in position and securely rammed to a uniform surface, a flooding of the mastic binder, heated very hot, is applied, so as to fill the surface-interstices and cover the bowlders, as shown in the drawing; and while hot a thin layer of dry sharp sand or other suitable material is spread over it. This being done, a finishing coat of gravel is spread over the entire surface from one to two inches deep, and then rolled under pressure. This finishes the work.

I am aware that it is not broadly new to construct a pavement consisting substantially in a bed formed of dry gravel or broken stone, mixed with sand, compressed by rollers, cobble or other stones laid upon the rolled bed, and a concrete filling. Also in some cases a pavement has been covered with a mixture

of coal-tar and pitch and a layer of sharp gravel-sand, as shown and described in Letters Patent of H. Wibben, dated December 19, 1876, No. 185,609, and therefore no claim is broadly made to such inventions; but

What I claim is—

The method of constructing a bowlder pavement, which consists in making a foundation of a layer of broken stone, a layer of small broken stone, and a layer of fine gravel, all rammed or rolled to form a bowlder-bed, a mastic binder, arranging the bowlders and ramming the same in position, then covering the bowlders with a mastic binder and a thin layer of sand or a coating of fine gravel, in the manner as hereinbefore described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ANDREW B. DEAN.

Witnesses:

A. B. MILLER,

W. B. LOUGHRIDGE.