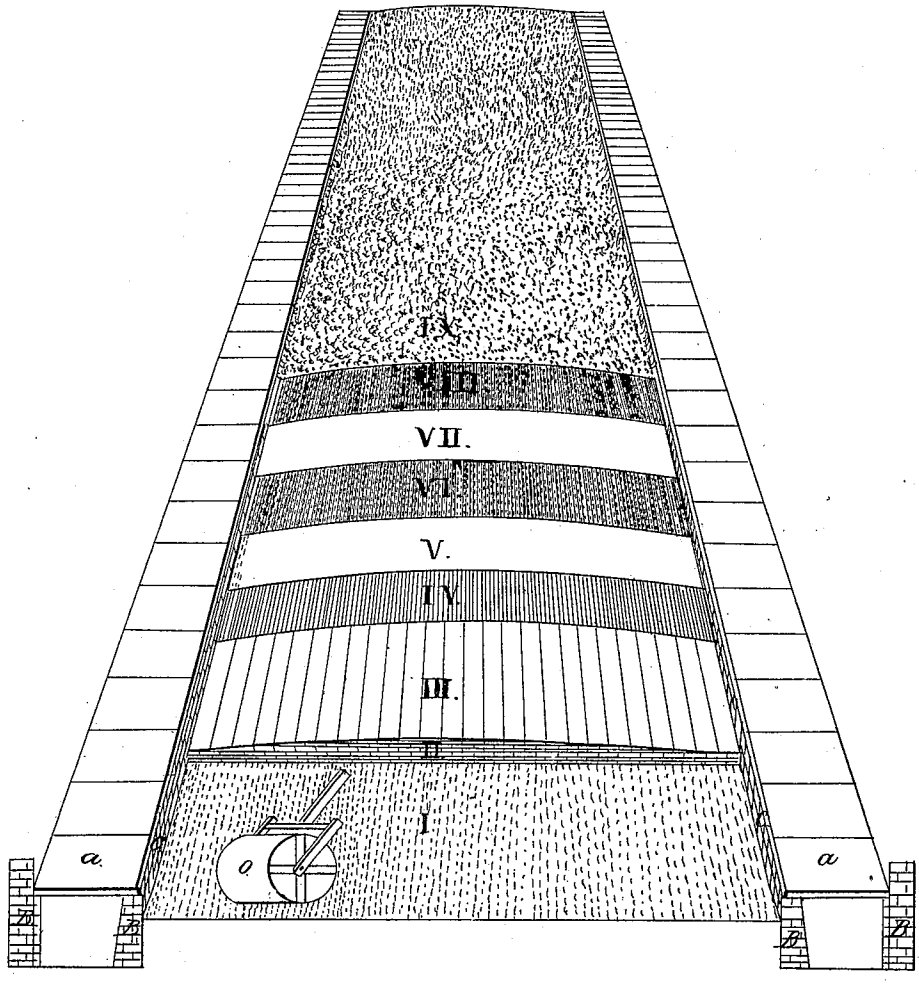
2 Sheets—Sheet 1.

A. DILGER.

STREET PAVEMENT.

No. 104,942. Patented July 5, 1870.

Fig. 1.



Witnesses:

Sam'l Knight

A. M. Smith

Inventor:

Andrew Dilger

2 Sheets—Sheet 2.

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STREET PAVEMENT.

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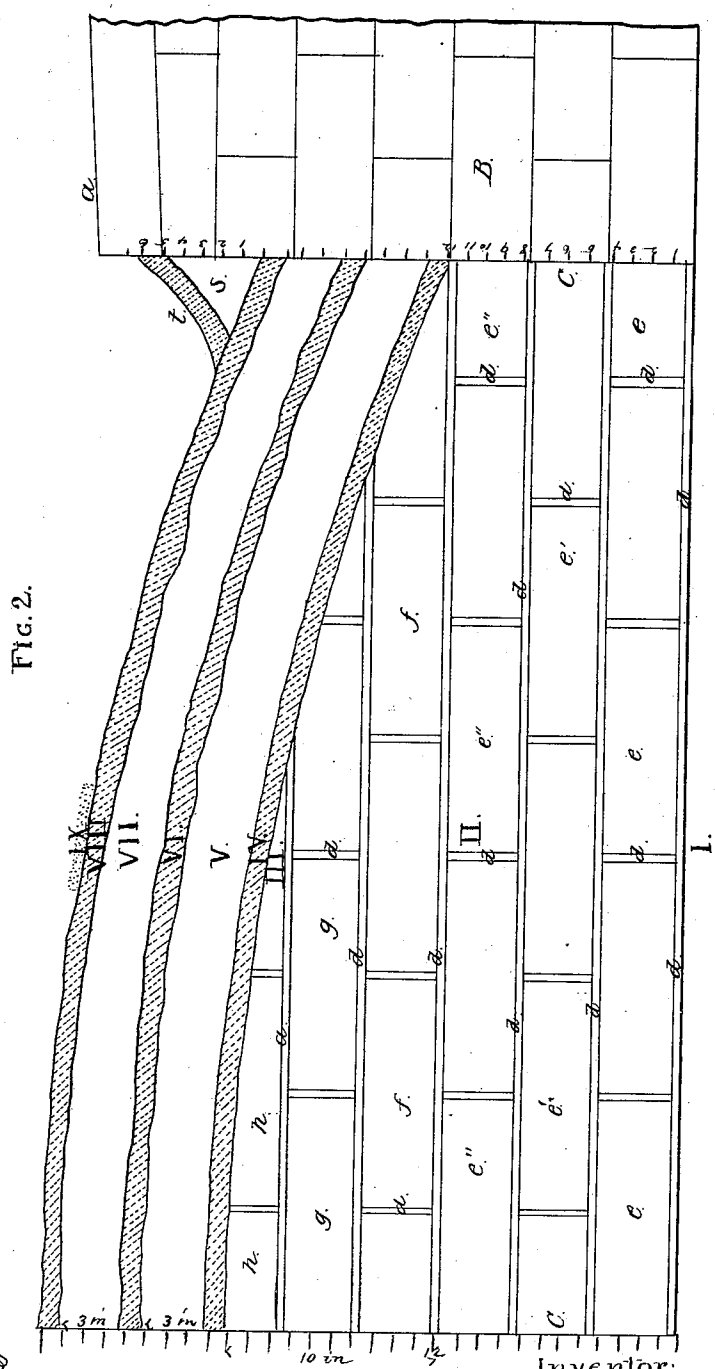

FIG. 2.

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Inventor:

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United States Patent Office.

ANDREW DILGER, OF ST. LOUIS, MISSOURI.

Letters Patent No. 104,942, *dated July* 5, 1870.

IMPROVEMENT IN STREET-PAVEMENT.

The Schedule referred to in these Letters Patent and making part of the same.

I, ANDREW DILGER, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Improvement in Pavements, of which the following is a specification.

Nature and Object of the Invention.

In this invention in pavements the foundation is preferably of stone, and made in the manner described in another application for patent made simultaneously with this.

In the present invention the pavement or upper portion of the same consists of alternate layers of pitch and mortar, or cement, into which is rolled gravel or broken stone.

Description with Reference to the Drawing.

Figure 1 is a perspective view of my improved pavement, a portion being shown in its various stages of construction.

Figure 2 is a vertical transverse section of a portion of the same upon a larger scale.

I will first describe the construction of the foundation which I have claimed in my other application before alluded to, and the superimposed layers which constitute the improvement involved in the present application.

a is the sidewalk, and

B, the foundation of the curb or outer edge of the same.

C is the face of the foundation B, which forms side abutments to the roadway.

The roadway is first dug out about two feet six inches in depth from the desired level of the outer edge of the sidewalk, the bottom of the excavation being made horizontal transversely. The excavation may then be made for the foundation wall B of the sidewalk, and the said wall built, if this has not been already done.

I next take a heavy roller, requiring the strength of three or four horses to draw it, and roll the subfoundation I thoroughly, so as to consolidate it, taking care to fill up any depressions that may occur in rolling. I then spread upon the rolled surface I an even layer, *d*, of mortar or cement, one-half inch thick.

Upon this mortar I place a layer of flat stones, *e e*, each of which is about twelve by twenty-four inches square, and from three to four inches thick. These stones are laid upon their broad sides, and the joints being filled with cement or mortar *d*, a layer of the same one-half inch thick is spread thereon, and upon this layer of mortar is placed another layer of stones, *e' e'*, similar in dimensions to those *e e*, and like them laid flat and with mortar, and each stone so placed as to break the joints in the layer beneath.

If the foundation I is not of solid and reliable character, above the second layer of stones *e' e'* I place another, *e'' e''*, similar and similarly laid to those *e e* and *e' e'*. These two or three layers of stones, as the case may be, extend from side to side of the roadway, and are marked II in the drawing.

Over the upper layer *e'' e''* is spread one-half inch of mortar *d*, and upon this are laid stones, *f*, similar to those before used, except those upon each side nearest to the sidewalk are beveled on their upper outer edges, as shown, so as to give a rise toward the center of the roadway. Each of the courses *g g h h*, above the course or layer *f f*, has stones similarly beveled at their edges, so as to give the transversely-arched form to the roadway. The beveled portions of the courses or layers would, in practice, be made up of smaller stones of irregular shape, or of gravel filled in, so as to give the proper contour. The center of a street or roadway fifty feet wide might be made ten inches higher than the gutters. The foundation above described is marked II III in the drawing.

After the foundation II III has been constructed, as specified, I spread upon its whole upper surface a coat, IV, of pitch, one inch thick, (the pitch having been rendered liquid, or semi-liquid, by heat.) When the pitch has become partly or wholly solidified, I spread thereon a coat, V, of mortar three inches thick, and upon this mortar I spread a coat of gravel or broken stones.

On the mortar becoming sufficiently solid to support a horse, I roll the gravel, so as to force it down into and mix it with the mortar. This layer V, after being made solid and even by means of the roller, and any filling in of mixed mortar and gravel found necessary is overspread with a coat, VI, of pitch, one inch thick, which, when sufficiently solidified, is overlaid with a coat, VII, of mortar, similar to V, and like it receiving a coat of broken stones or gravel, which is mixed with it by rolling.

Over the layer VII, when rolled solid and even, is spread another coat, VIII, of pitch, the said coat being overlaid with fine gravel IX, which is rolled into and mixed with the pitch.

The gutter is formed by filling in the angular space between the curb of the sidewalk *a* and the coat IX with mortar or cement and gravel *s*, and covering the outer inclined surface of the same with a coat of pitch, *t*, into which fine gravel is rolled or beaten.

Repairs on this pavement are very readily made by filling up any holes or ruts with mortar, into which gravel (or stones, which have been broken quite small,) should be beaten or rolled, and covering the said filling with a coat of pitch, into which fine gravel is subsequently rolled.

The portions IV V VI VII VIII IX of the pave-

ment might be laid on any suitable foundation, or, in favorable situations, might be laid down upon common earth, from which the surface soil had been removed.

I am aware that pavements have before been made with successive layers of pitch and gravel upon an ordinary cambered foundation. This, therefore, I do not claim. One superiority in my invention consists in combining with the upper part of the pavement a foundation of solid stone, flat at bottom and cambered at top, so that the sub-foundation of earth may be level, and the upper part may be supported uniformly in all parts, on a cambered surface, without any tendency to bear or press outward against the curbs.

I claim as my invention—

The composite pavement herein described, produced by combining the flat sub-foundation I, the stone foundation II III, flat at bottom and cambered at top, and the successive layers IV V VI VII, of pitch, and either gravel or broken stone, which may be set in mortar or cement, all substantially as specified.

In testimony of which invention I hereunto set my hand.

ANDREW DILGER.

Witnesses:

SAML. KNIGHT,

S. M. SMITH.