(No Model.)

B. F. SPRY.

PAVEMENT.

No. 489,105. Patented Jan. 3, 1893.

Fig. 1.

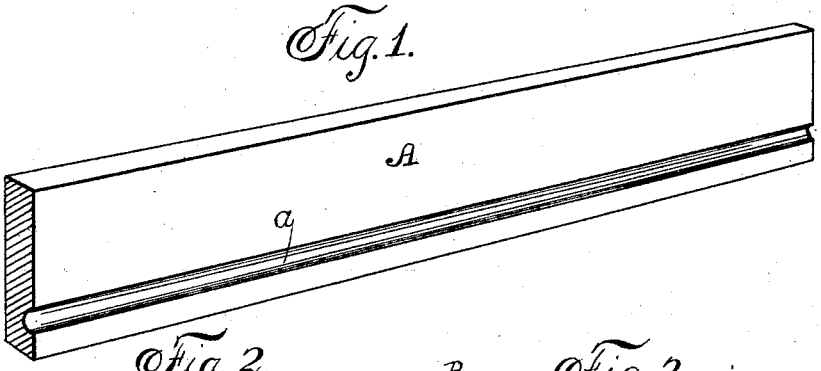


Fig. 2.

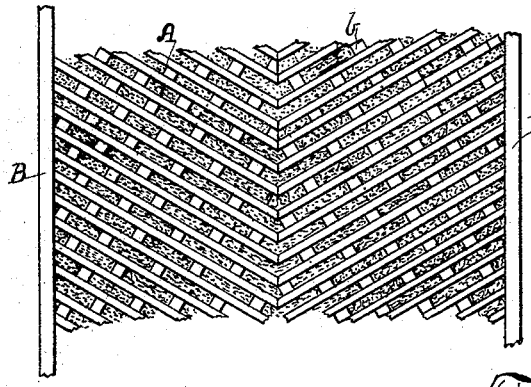


Fig. 3.

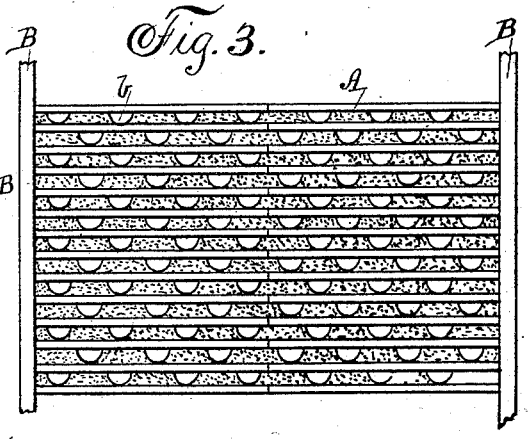


Fig. 4.

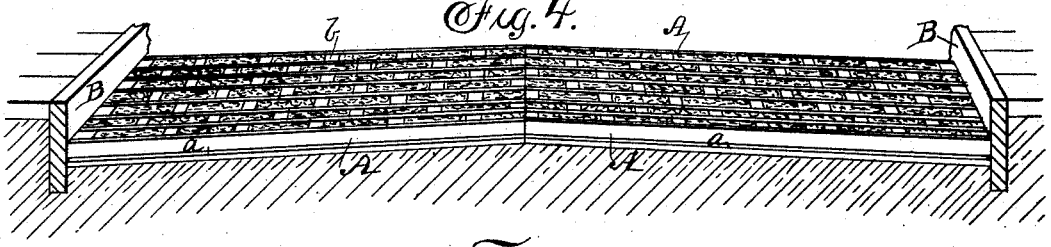
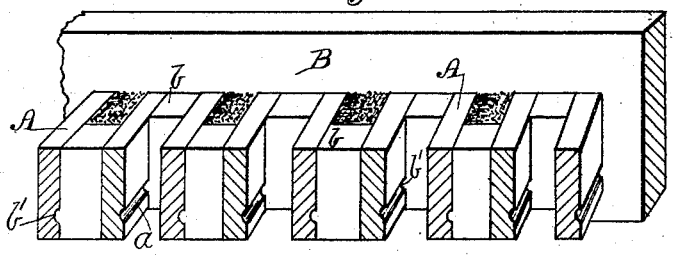


Fig. 5.



Witnesses:
M. P. Smith.
C. C. Bulkley.

Inventor: Benjamin F. Spry,
By Thomas G. Orwig, Attorney.

UNITED STATES PATENT OFFICE.

BENJAMIN F. SPRY, OF DES MOINES, IOWA.

PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 489,105, dated January 3, 1893.

Application filed January 28, 1891. Serial No. 379,467. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. SPRY, a citizen of the United States, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Pavement, of which the following is a specification.

My invention consists in the construction, arrangement and combination of a skeleton pavement and a composition filling as hereinafter set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1, is a perspective enlarged view of a portion of one of the transverse pieces. Fig. 2, is a plan view of a section of pavement showing the arrangement of the constituent parts on grades. Fig. 3, is a plan view of a section of my improved pavement showing a differing form of block. Fig. 4, is a perspective view of a section of pavement. Fig. 5, is an enlarged perspective view of a section of pavement showing the abutment of the transverse pieces against the curb and the relation of the grooves and ridges.

A, (Fig. 1) represents a portion of one of the transverse pieces A, A, having a groove *a*, in its side extending longitudinally of the said transverse pieces. The said pieces A, are arranged on edge so as to extend from each of the curbs B, B, to the center of the roadway at which point they abut against one another, being so adjusted as to provide a crown at the center of the pavement, which when the latter is completed slopes on each side of the crown toward each of the curbs.

b, *b*, are blocks interposed between the transverse pieces, preferably secured thereto, and arranged so as to provide alternate rows. Said block *b*, *b*, may be formed square as shown in Figs. 2, 3, and 4, or semi circular in form by cutting a circular block in two parts as shown in Fig. 3 and have formed thereon ridges *b'*, *b'*, shown in Fig. 5.

The transverse pieces A, A, are placed at suitable distances from and parallel with each other upon a suitable base or bed of grout, and the spaces between the blocks and said pieces are filled in with cement, asphalt, or other material which is suitable for pavement and will also serve to bind itself, the blocks, and the transverse pieces together into a firm, solid, homogeneous mass.

Referring now to the method employed in laying the pavement upon grades shown in Fig. 2, it will be seen that the transverse pieces A, are laid obliquely from each curb B, toward the center of the roadway so as to form angles, the apices of which point downwardly relatively to the decline of the grade.

In the employment of blocks surrounded by or embedded in asphalt, cement, or other material, it has been found that each block, or a set of blocks, is liable to sink vertically into the bed independently of the others, the binding material not being of sufficient tenacity to prevent this result, forming sinkages or sags in the pavements since the material of the bed is not uniformly consistent. It has also been found that the blocks are apt to work loose within their bed of binding material leaving crevices through which the water passes decaying the wood and forming a mass of material injurious to health, as well as destroying the pavement. Also whenever the road bed is washed from underneath a portion of the pavement, at that point the blocks fall, break loose from the binding material, and form an irregular and broken mass. So also it has been found that this form of pavement will ignite, and transmit fire.

It will be seen that in my form of pavement the transverse pieces extending from each curb to center line, and then abutting against one another forming a crown, provides a truss or means by which the pieces resist pressure, and also forms a slope in each direction from center to curb to shed the water. That the blocks interposed as shown alternately between different lengths of transverse pieces forming double rows, also serve to bind together the said pieces, and form a frame or mold the spaces within which are filled with binding and preserving material, the grooves in said pieces within which are the ridges of the blocks also preventing the parts from rising or falling in a vertical plane. By this arrangement a smooth, even surface is presented, bound together solidly and firmly, adapted to wear evenly, since the pressure is borne by the mass instead of by particular parts, preventing cracking, and thus overcoming the

evil effect of the water, the latter being shed to each of the curbs by the beveled surfaces, so also this form of pavement is less apt to ignite or transmit fire since but a small portion of wood is presented to the surface.

If the bed should be washed from underneath the pavement it will still remain intact because of the truss formed by the abutment of the transverse pieces and the close binding together of the parts.

I do not desire to be understood as limiting myself to the use of wood in the construction of my pavement, as burnt clay for instance may be employed, and may be found preferable, and it will also be seen that the transverse pieces may extend all the way across the roadway if desired.

In a beveled pavement on an ascending grade an animal will slide backward and toward the curb and from the center, but it will be observed by reference to Fig. 2 that an animal ascending a grade in a direction from the bottom to the top of said figure, in starting to slip will be checked since the pieces are arranged transversely relative to the direction in which the animal would slide. An animal traveling upon the descending grade in the opposite direction, viz., in a direction from the top to the bottom of said figure, would slip or slide in a direction forward and toward the curb, were it not that the said pieces are transverse of the direction in which the animal tends to slide.

I claim as my invention—

An improved pavement composed of solid pieces having grooves in their side faces and separately set on edge on a road bed to extend transversely to the road and parallel to each other, and solid blocks corresponding in length with the width of the said parallel pieces and having ribs on their side faces adapted to enter the grooves in the said parallel pieces, and a composite filling material in the interstices or vacant spaces between said blocks and said parallel pieces, substantially as shown and described

BENJAMIN F. SPRY.

Witnesses:
C. C. BULKLEY,
THOMAS G. ORWIG.