

No. 786,319.

PATENTED APR. 4, 1905.

A. F. SHUMAN.
COMPOSITE PAVING BLOCK.

APPLICATION FILED AUG. 31, 1904.

Fig. 1.

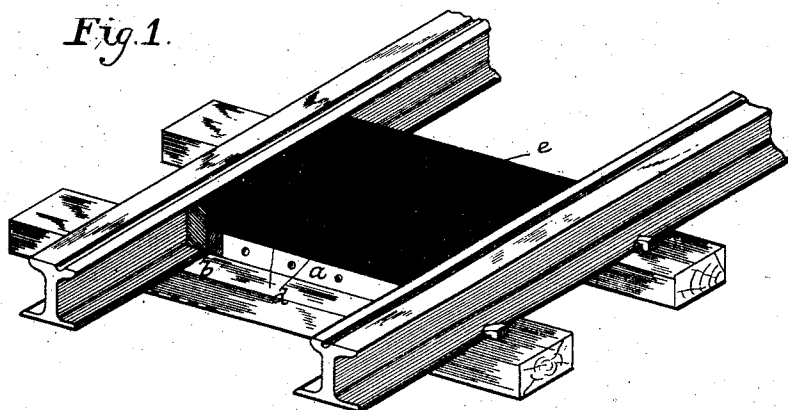


Fig. 2.

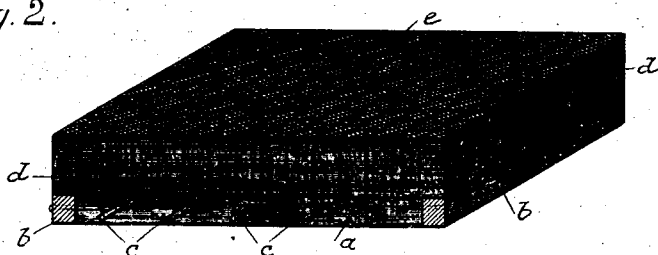


Fig. 3.

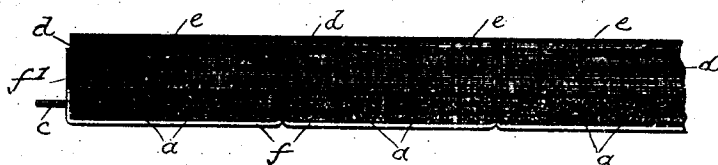


Fig. 5.

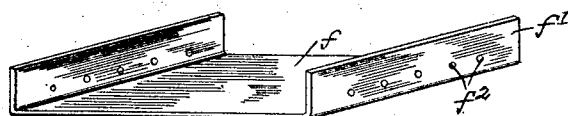


Fig 4

WITNESSES:

Chas. F. Bassett
W. A. Milord

INVENTOR

A. F. Shuman
BY
Frederick Benjamin
ATTORNEY

UNITED STATES PATENT OFFICE.

ALEXANDER F. SHUMAN, OF CHICAGO, ILLINOIS.

COMPOSITE PAVING-BLOCK.

SPECIFICATION forming part of Letters Patent No. 786,319, dated April 4, 1905.

Application filed August 31, 1904. Serial No. 222,793.

To all whom it may concern:

Be it known that I, ALEXANDER F. SHUMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Composite Paving-Blocks, of which the following is a specification.

This invention relates to improvements in the method of constructing pavements, and more especially to that class of pavements in which wood blocks form a material part of the construction.

The especial object of my improvements is to produce a pavement which will withstand the destructive action of sun and water and which will be as wear-resisting as the nature of the materials used will permit, which will be comparatively noiseless, which can be manufactured in blocks or sections at a central plant in a form substantially in the shape to be laid, which will permit of ready removal in sections for the purpose of repairing the pavement itself or for the carrying on of sub-way construction for sewers, &c., and which will be comparatively inexpensive to produce and place in position.

In carrying out the foregoing special objects and various others of general utility I have produced a composite paving block or section, which is illustrated in an approved form in the accompanying drawings, which form a part of this application, and in which—

Figure 1 is a perspective view showing a portion of railroad-track with a section of my improved paving-block applied thereto, a portion of the surface being broken away, so as to more clearly disclose the construction and arrangement of said block. Fig. 2 is a perspective view of a preferred form of my composite paving-block complete. Fig. 3 is a view of a portion of a pavement constructed in accordance with a modified plan of my idea. Fig. 4 is a perspective view of a holding-plate which forms an important part of said modified plan shown in Fig. 3; and Fig. 5 is a view of a section of pavement constructed according to my invention, but without a wearing-surface other than that afforded by the ends of the blocks.

Referring to the drawings in detail, *a* rep-

resents a series of timbers of any suitable thickness and cut in lengths depending upon the width desired for the composite block or section. These timbers for the purpose of this description may be said to be two inches thick, six inches wide, and four feet long. They are placed side by side and secured together again by strips of the same thickness, *b b*, which are spiked to the ends of the timbers, as shown in Fig. 2, or may be spiked below same, as shown in Fig. 5, the purpose of said strips being to hold the timbers together in juxtaposition and to form an integral structure which serves as a base for the surface blocks, as will be described. This base is dipped in melted asphalt or a similar waterproofing product so that it is covered on both sides and around its edges with a coating of such material. Along the sides of the outer boards of the base are formed a series of holes which are adapted to receive wood dowel-pins *c*, which project for one-half of their length from the edge of said boards. The projecting portions of said ends are adapted to enter similar holes which are formed in the adjacent section, as indicated by dotted lines in Fig. 3.

Upon the base constructed and treated as above described I place a plurality of blocks, as *d*, which are first immersed in melted asphaltum so that their sides and ends are covered with the material. The nature of this material is such that it causes the ends of the blocks which are placed next to the base to adhere to the latter and also causes the several blocks to adhere to each other, and thus form a substantially integral structure and at the same time precluding the possibility of air or moisture getting between the blocks or reaching the base from the outer surface of the blocks. When sufficient blocks have been laid on the base to cover the latter, I preferably apply to the upper or wearing surface of the blocks a coating of asphaltum or similar wear and moisture resisting material, though this extra coating may not always be required, inasmuch as the asphalt adhering to the upper surface of the blocks after the latter have been immersed in such material will be sufficient for many purposes as a wear

and moisture proof finish for these composite blocks.

Instead of tying together the timbers *a* with the wood strips or pieces *b* I may use the sheet-metal trough-shape pieces *f*, (shown in Fig. 4,) the flanges *f'* of which are bent up at right angles and embrace the edges of the outer timbers *a*, as well as the outer rows of blocks *d*, as shown in Fig. 3. When these clamping-plates are used, I form through the flanges dowel-holes *f''*, which register with corresponding holes driven in the outer timbers *a* and permit the driving of the dowel-pins *c* through said flanges and into said timbers.

When a plurality of composite blocks of this description are laid, the space between the adjacent blocks formed by the flanges not extending to the upper surface of the blocks *d* will be filled by pouring in sufficient of the liquid asphalt to make a close joint, as indicated in Fig. 3.

When a pavement has been laid with a plurality of sections constructed as described and it be desired to repair one of the sections or to lay or remove a pipe in the soil below said sections, it is only necessary to insert a suitable tool between the adjacent edges of two sections and cut off the dowel-pins *c*, when the section as a whole can be pried out of position and removed, and other sections can in a like manner be removed, if desired.

As shown in Fig. 1, in using my improved block in connection with the laying of railroad-tracks it should be so placed that the joints between the adjacent sections will come at the centers of the ties. The parts thus form a bridge between two adjacent ties, which serve as an adequate support for the blocks. By the combination of the timbers laid flatwise and the coated blocks laid endwise and the finishing layer of asphalt, as *e*, I am enabled to secure a structure that is comparatively sound-proof and at the same time is light, strong, and durable.

It will be understood that these composite blocks or sections will be manufactured in the form and manner described at a central plant and should be hauled to a point where they are to be laid, and the minimum amount of labor will be required in placing them in position. It will also be apparent that in the construction of sidewalks and the paving of streets, and especially paving between tracks, it will be advantageous to make these sections in various sizes, so that the assembled units will fill out the space necessary to be paved or covered, whether it be four feet or

forty feet. It will also be apparent that while I have mentioned asphalt as the composite or material with which I prefer to coat or cover the base and blocks used in my composite sections other moisture and air excluding compounds or substances may be readily used, and I therefore do not wish to be limited to the application of any particular substance.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As a new article of manufacture a paving block or section composed of a plurality of timbers secured together to form a flat base and coated with a suitable air and moisture excluding substance and a plurality of blocks superimposed on said timbers and covering same, each of said blocks having been previously coated with a suitable air and moisture excluding substance.

2. As a new article of manufacture a composite paving block or section composed of a base formed of a plurality of timbers placed side by side and secured together, said base coated with a suitable air and moisture excluding substance, a plurality of paving-blocks coated on all sides with a suitable air and moisture excluding substance and superimposed on said base and a layer of air and moisture excluding substance applied to the outer surface of said blocks for the purpose described.

3. In a paving-block, a series of composite blocks each of which composed of a plurality of timbers placed side by side and secured together and coated upon all sides and edges with a suitable air and moisture excluding substance, a plurality of blocks covered on all sides with a suitable air and moisture excluding and adhesive substance, said blocks placed side by side and superimposed on said timbers and means for interlocking two or more of said sections together substantially in the manner and for the purpose described.

4. A composite paving-block composed of a series of timbers placed side by side, means for holding said timbers in their relative position to form a base, a plurality of blocks superimposed on said base each of said blocks coated on all sides with a suitable air and moisture excluding and adhesive substance and means for interlocking two or more bases together for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER F. SHUMAN.

Witnesses:

F. BENJAMIN,

H. DE LOS HIGMAN.