

1,365,687.

Patented Jan. 18, 1921.  
2 SHEETS—SHEET 1.

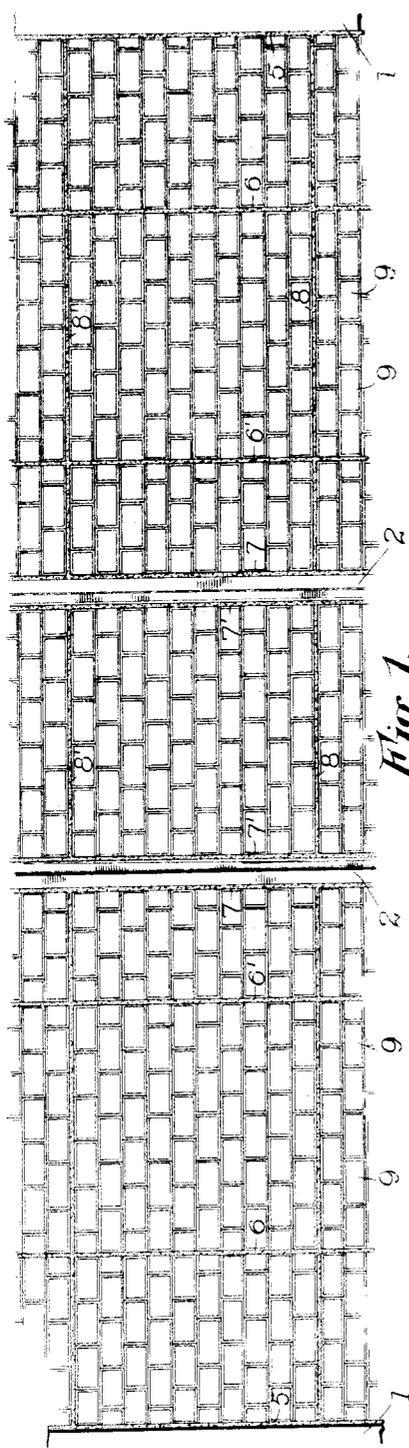


Fig. 1.

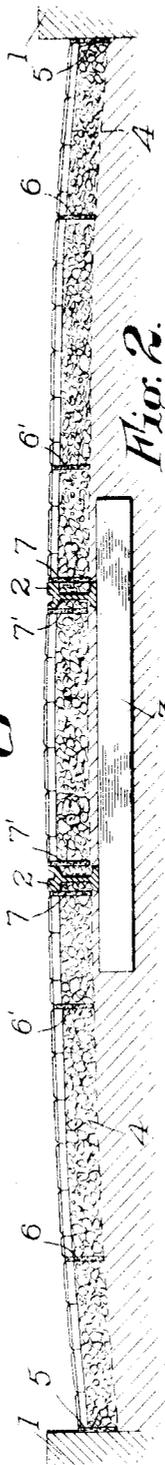


Fig. 2.

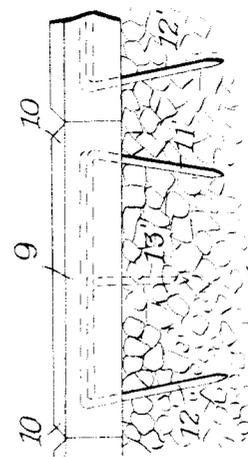


Fig. 3.

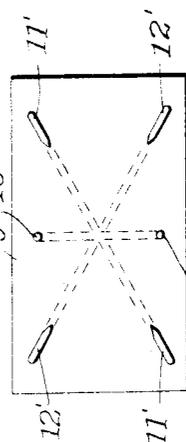


Fig. 4.

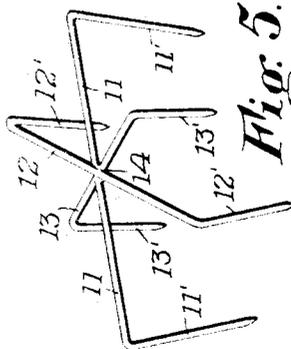


Fig. 5.

Inventor  
W. E. Hassam  
By Attorney  
Geo. W. Kennedy

W. E. HASSAM.

PAVEMENT.

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2 SHEETS—SHEET 2.

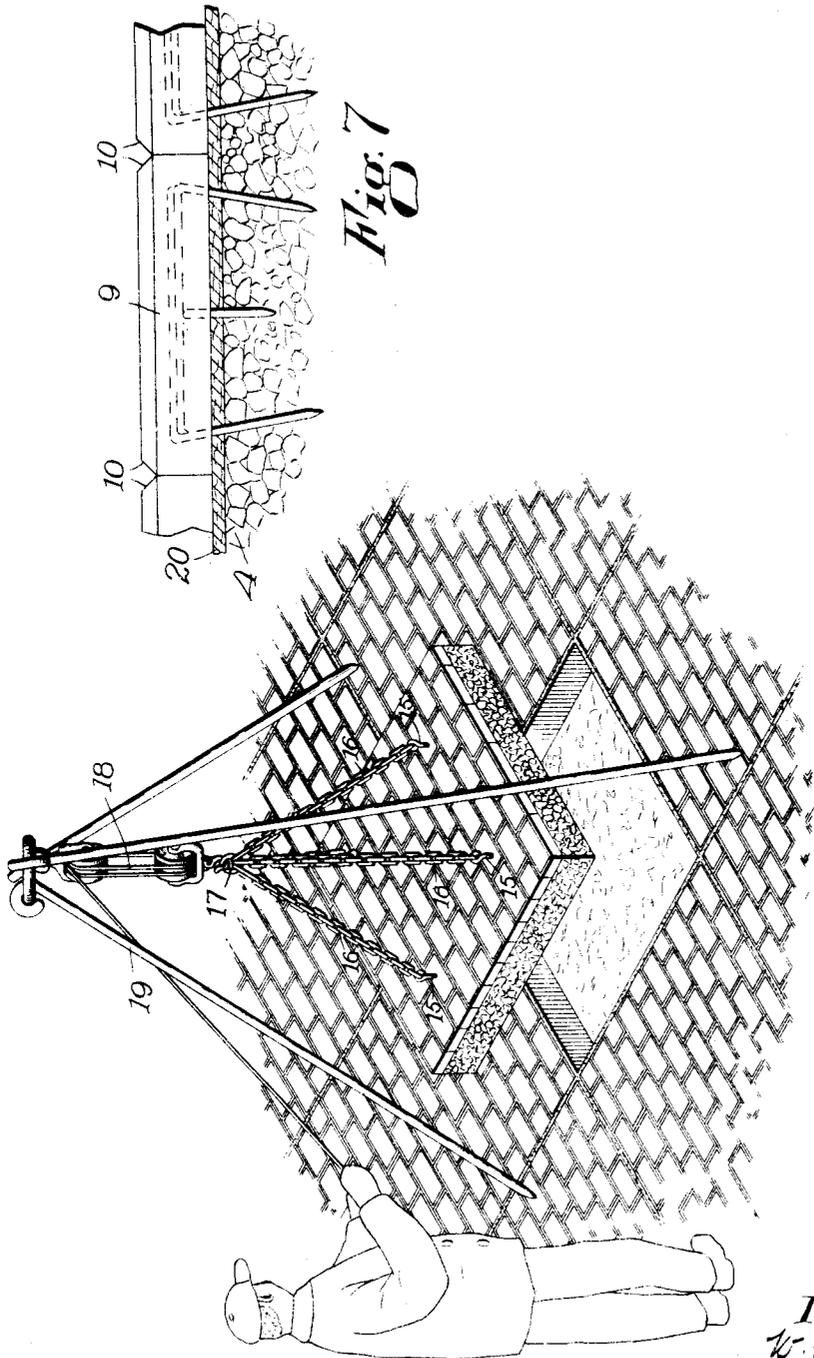


Fig. 7

Fig. 6

Inventor  
W. E. Hassam  
By Attorney  
Geo. H. Kennedy

# UNITED STATES PATENT OFFICE.

WALTER E. HASSAM, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO WILLIAM NILES STARK, OF WORCESTER, MASSACHUSETTS.

## PAVEMENT.

1,365,687.

Specification of Letters Patent. Patented Jan. 18, 1921.

Application filed February 17, 1919. Serial No. 277,593.

*To all whom it may concern:*

Be it known that I, WALTER E. HASSAM, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Pavements, of which the following is a specification, accompanied by drawings forming a part of the same.

The objects of my present invention are, to reduce the cost of a pavement having a concrete foundation; to provide an improved wearing surface for pavements of this character; and to provide monolithic sections separable from the rest of the pavement, which are capable of being removed and replaced when necessary for repairing the roadbed, relaying the track of an electric railway, or for making excavations for water and sewer pipes, and these objects are secured by the peculiar construction of the pavement as hereinafter described, the features of novelty being pointed out in the annexed claims.

Referring to the accompanying drawings, Figure 1 represents a plan view of a section of a paved roadway embodying my present improvement.

Figure 2 is a transverse sectional view of pavement represented in Fig. 1.

Figure 3 represents in side elevation the blocks forming the wearing surface of the pavement and illustrating their method of attachment to the concrete foundation.

Figure 4 represents the under side of one of the surface blocks, with the reinforcing wires embedded therein represented by broken lines.

Figure 5 is a detached perspective view of the reinforcing wires contained in each of the surface blocks.

Figure 6 represents a perspective view of a portion of my improved paving, with one of the detachable monolithic sections raised from its position on the roadbed.

Figure 7 is a similar view to that shown in Fig. 3, but having a modification in the construction of the base.

Similar reference characters refer to similar parts in the different figures.

Referring to the accompanying drawings, 1, 1, denotes curbing on the opposite sides of a roadway between which my improved pavement is placed, as shown in sectional view in Fig. 2. In the center of the roadway as shown in Figs. 1 and 2, I have represented the rails 2, 2, of an electric railway, said rails resting upon a series of cross ties 3, Fig. 2. In carrying my invention into effect after the roadbed has been suitably crowned, I place a layer 4, consisting of a composition in a wet state, of any materials suited for the purpose which are usually employed in forming the foundation of a paved roadway.

In the present instance I form the composition preferably of one part of hydraulic cement, two parts of sand, and four parts of broken stone, about nut size, although I am aware that the proportions may be changed as circumstances may require or the judgment of the engineer in charge may dictate. The composition 4 is spread in a plastic state over a suitably prepared roadbed and is preferably of uniform thickness. Before laying the composition 4 I place a strip of asbestos felt 5 against each curbstone, said strip 5 extending the entire length of the roadbed, and extending a short distance above the composition 4. At intervals across the roadbed I place similar strips 6, 6', and upon opposite sides of the rails 2, 2, I place similar strips 7, 7. The strips 6 and 7 extend lengthwise the roadbed and for the entire distance of the paved surface. The strips 6', 6', are preferably placed about twenty inches outside the rails 2, 2, for a purpose hereinafter stated. At intervals in the paved roadway I place similar strips extending transversely to the roadway between the curbing 1, 1. These transverse strips are represented in Fig. 1 at 8. The felt strips extending entirely through the composition 4 divide it into separate rectangular blocks which, when the composition 4 has become hardened form rectangular monolithic blocks. When the composition 4 has been smoothed to correspond with the required crown of the street and while it is yet in a plastic state, I provide a wearing surface consisting of molded

granolithic plates 9 which are preferably made of equal parts of good hydraulic cement, sand, and broken stone, the latter being broken to about pea size or finer. The  
 5 granolithic blocks 9, which I term wearing blocks, are prepared in suitable molds of the proper thickness to fill the space between the base composition 4 and the tops of the felt strips, and are preferably from  $1\frac{1}{2}$  to 2 inches  
 10 in thickness, and each block is provided on its upper side with a bevel 10, Fig. 3.

When the blocks 9 are in a plastic state they are reinforced by means of the crossed wires 11, 12, and 13, said wires being united  
 15 at their junction 14 either by electric or autogenous welding. The ends of the reinforcing wires are bent at slightly acute angles to form prongs 11', 12', and 13', which extend some distance beyond the side  
 20 of the blocks 9 to form dowel pins, as shown in Fig. 3.

When the reinforcing wearing blocks 9 have been thoroughly dried, they are applied to cover the upper surface of the basic composition 4, while the latter is in plastic state.  
 25 Each block 9 is placed by hand so their edges will abut until the under surface between the felt strips has been covered. In applying the wearing blocks 9 sufficient pressure is applied  
 30 to force the projecting prongs 11', 12' and 13' into the plastic composition, and secure a continuous joint between it and the under side of the wearing blocks.

The felt strips when inserted lengthwise  
 35 of and transversely to the paved roadbed constitute separating strips which permits any one of the rectangular blocks between these separating strips to be bodily removed and again replaced in position, thereby obviating the necessity of totally destroying  
 40 and relaying the pavement when street repairs are required. For example, sections of the railway track can be replaced by taking up the sections between the rails and the sections between the felt strips 6' and 7 on each  
 45 side of the track, thereby completely uncovering the ties 3, a sufficient distance beyond the ends of the ties to allow them to be replaced and earth tamped under them.

In order to enable any one of the rectangular squares to be removed holes are drilled in suitable positions to properly balance the block to be removed and expansion eyebolts  
 50 15 are inserted to which chains 16 are attached, terminating in a common ring 17. To the ring 17 I attach falls 18 which are supported by any suitable elevating structure such as a derrick, or tripod 19.

In Fig. 7 I have shown a modification  
 60 which consists in providing the upper surface of the composition 4 with any suitable water proof composition 20.

I have described one embodiment of my improved pavement, but I am aware that  
 65 changes may be made therein without de-

parting from the spirit of my invention, for example, the strips of asbestos felt may be omitted and a felt strip saturated with asphalt be substituted, or wooden partitions can be employed which may be removed and  
 70 the space filled with a moisture resisting material. The material of the strips is not important so long as they perform the function of separating the plastic material used in the pavement into blocks of limited area which  
 75 can be removed and replaced after the pavement has become set. Neither do I wish to confine myself to the use of a bearing surface comprising blocks of the character described, which are molded when in a plastic state  
 80 and afterward dried. In some cases it may be advisable to employ cast metal blocks of suitable size and thickness which may be given a corrugated or roughened outer surface.  
 85

In laying my improved pavement upon a roadbed having an electric railway, the space between the strips 7, 7, and beneath the crown of the rails may be filled, preferably with the same material as the foundation 4 to form a  
 90 support or backing for the strips 7, 7, before the strips are placed.

I claim,

1. A pavement, consisting of a plastic foundation, separating strips dividing said  
 95 foundation into sections, a multiplicity of wearing blocks supported on, and covering, each of said sections, with the area of said wearing blocks corresponding with the area of said sections, means for interlocking each  
 100 of said wearing blocks with said foundation, with said separating strips extended upwardly between the wearing blocks on adjacent sections, whereby each section of said foundation with the wearing blocks sup-  
 105 ported thereon may be removed.

2. A pavement, consisting of a plastic foundation, separating strips dividing said  
 110 foundation into sections, a multiplicity of molded wearing blocks of concrete or similar material supported on said foundation and provided with reinforcing wires projecting at acute angles to the under surface of said blocks and inserted in said foundation, with  
 115 said separating strips extended upwardly between the wearing blocks on adjacent sections.

3. A pavement, consisting of a foundation of concrete, separating strips dividing said  
 120 foundation into sections, a multiplicity of molded wearing blocks supported on, and covering, said foundation with the area of said wearing blocks corresponding with the area of each section of said foundation, each of said blocks having dowel pins inserted in  
 125 said foundation, with said separating strips extended upwardly between the blocks on adjacent sections, whereby each section of pavement may be raised out of its place by a lifting force applied to said wearing blocks.  
 130

4. A pavement, consisting of a foundation  
of concrete divided into sections by strips of  
asbestos, felt or similar material, whereby  
each section is rendered removable from its  
5 adjacent sections, a multiplicity of molded  
concrete blocks supported on, and covering,  
said foundation, with said separating strips  
extended upwardly between the molded  
blocks on adjacent sections, and means for  
uniting said blocks and said foundation, 10  
whereby said sections of the foundation and  
the blocks supported thereon may be raised  
by lifting means applied to said blocks.

WALTER E. HASSAM.

Witnesses:

NELLIE WHALEN,  
PENELOPE COMBERBACH.