(No Model.)

K. KÜHN.

STREET PAVEMENT.

No. 311,994. Patented Feb. 10, 1885.

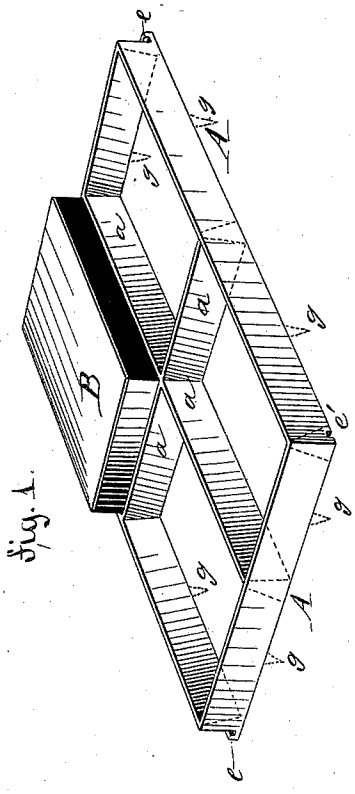


fig. 1.

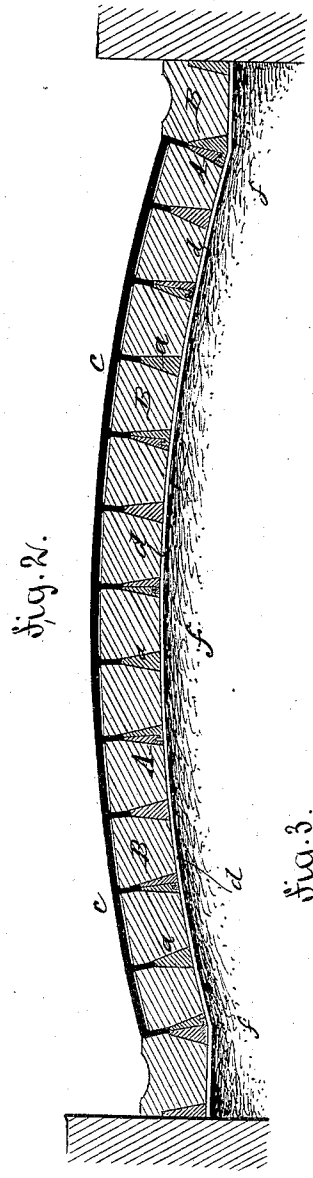


fig. 2.

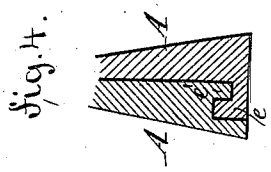


fig. 4.

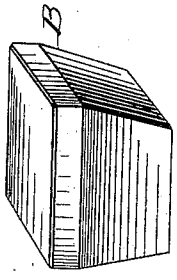


fig. 3.

WITNESSES:

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KARL KÜHN, OF ST. JOHANN-ON-THE-SAAR, PRUSSIA, GERMANY.

STREET-PAVEMENT.

SPECIFICATION forming part of Letters Patent No. 311,994, dated February 10, 1885.

Application filed September 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, KARL KÜHN, a subject of the King of Prussia, German Empire, residing at the city of St. Johann-on-the-Saar, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Street-Pavements, of which the following is a specification.

My invention has reference to an improved pavement for streets, roads, sidewalks, and floors; and the invention consists of metallic frames having longitudinal and transverse partitions, the panels between which are filled with natural or artificial stones or other suitable material. The exterior walls of said frames are straight at the outsides and tapering at their inner sides, while the sides of the partitions are tapering from the base upward. The adjoining side walls of the frames are connected by tongue-and-groove joints or other suitable locking means.

In the accompanying drawings, Figure 1 represents a perspective view of a metallic frame of which my pavement is made, said frame being partitioned and one part thereof filled with a stone. Fig. 2 is a vertical transverse section of my improved pavement. Fig. 3 is a perspective view of one of the filling-stones of the pavement, and Fig. 4 a detail section showing the connection of two adjoining frames.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the metallic frames, which are made of cast or wrought iron, and divided by longitudinal and transverse partitions *a* into two, four, six, and more panels or spaces. The frames A are connected at their adjoining sides by a tongue-and-groove joint, *e e'*, which may be arranged either at the transverse walls of the frame or at the longitudinal walls, or at both the transverse and longitudinal walls, as the case may be. The outer sides of the walls of the frames are made straight and the inner sides tapering upward from the base, while the partitions are made conically tapering at both sides from the broader base to the narrower upper edge. I prefer this shape, as thereby the construction of the frames and also the insertion of the filling-blocks, which correspond in shape with the taper of the partitions, are facilitated. The filling-blocks B are tapering at the lower parts, the upper parts which project above the frame being rectangular, as shown in Fig. 3. The depth of the tapering parts of the filling-blocks is equal to the depth of the frame A. The blocks, when inserted into the frames, rest with their under side on the foundation of the pavement and with their tapering sides against the tapering walls of the frames, whereby the blocks are firmly held in position, so that the pressure exerted thereon is equally distributed. As the blocks are inclosed on all sides, the sinking of the same below the frame is entirely prevented.

My improved pavement is constructed in the following manner: Upon a suitable foundation of gravel, broken stones, or slag, or other material, *f*, is placed a thin layer of cement, *d*, as shown in Fig. 2. The frames A A are then placed on said foundation, beginning at one curbstone, and jointed together by means of the tongue-and-groove joints *e e'* until the other curbstone is reached. The curbstones are also laid into metallic frames, as shown in Fig. 2. The frames may also be laid toward each other by beginning at both curbstones and inserting, finally, the center or keystone. The filling-blocks B, of natural or artificial stone, are then inserted in the panels of the frames and the interstices formed between the stones filled with gravel, cement, asphaltum, pitch, or other suitable material. A covering layer of cement, asphaltum, or similar material, *c*, may be laid over the surface of the filling-blocks, as shown in Fig. 2. The frames are made of arc shape, so as to correspond to the curvature of the street-surface. All the frames have the same shape and curvature, as they form all arcs of the circular surface-line of the street. When the frames are used for sidewalks, floors, &c., they are not arc-shaped, but made of straight shape. For paving curved streets, the individual frames are also curved in longitudinal direction corresponding to the curvature of the street.

Instead of the tongue-and-groove joint described, the different frames may be locked together by rivets or screws. The interlocking means may also be entirely omitted, in which case the outer walls of the frame are provided with downwardly-extending bottom projections or spurs *g*, (shown in dotted lines

in Fig. 1,) which are inserted in the layer *d* of cement to prevent the frames from shifting.

By providing a number of narrower frames of different sizes, any width of street can be readily laid with my improved pavement. The frames may also be laid in longitudinal instead of across the street, while for pavements which are not required to resist heavy pressure the different frames may be made of individual pieces and laid down by placing first a number of longitudinal pieces parallel to each other, and placing then the transverse in position between them.

The frames may be cast or rolled, and the filling-blocks be made of stone, cement, wood, papier-maché, or other suitable material.

My improved pavement has the advantage that it can be quickly laid down as soon as the foundation has been prepared.

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

The combination, in a pavement, of metallic frames provided with partitions dividing said frames into panels, the exterior of the vertical walls of said frames being straight, and the interior of said walls and both faces of the partitions being tapered or beveled from the base upward, and filling-blocks wedge-shaped at their lower ends set in said flaring panels, the opposite side walls of said frames being provided, respectively, with an angular upturned flange and an angular recess at the base, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KARL KÜHN.

Witnesses:
MAX NAHMMACHER,
L. F. WAGNER.