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BUILDING-ELEMENT, PARTICULARLY A PAVING-ELEMENT

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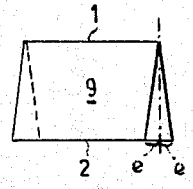


FIG.2

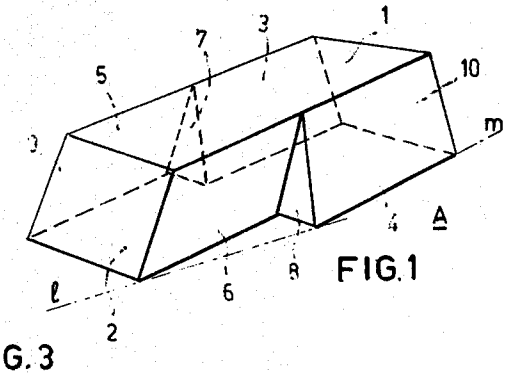


FIG.1

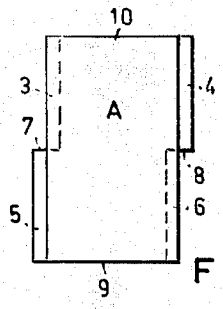


FIG.3

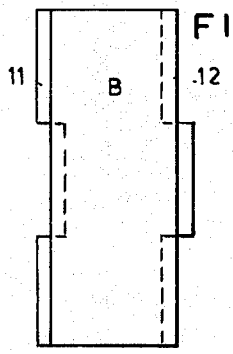
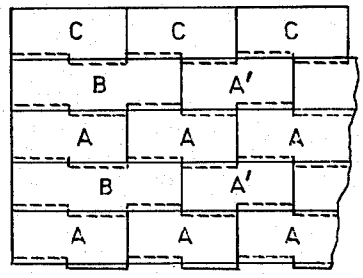


FIG.4

FIG.6



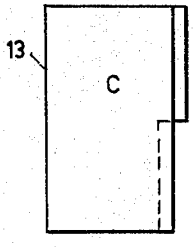
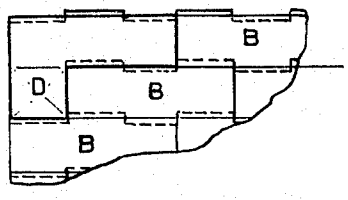


FIG.5

FIG.7



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BUILDING-ELEMENT, PARTICULARLY A PAVING-ELEMENT

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2 Claims. (Cl. 94—13)

This invention relates to a building-element, particularly a paving element. For paving roads often bricks are used which have the shape of an oblong block. When these blocks are normally arranged in a ½-bricks-order (normal bond) they have the disadvantage that due to driving and braking forces of the traffic the blocks become disordered and moreover rise or fall unequally. A pavement subjected to very heavy loads and a high frequency of traffic requires remarkable service-costs, and moreover this consequently results often in untolerable traffic-blocks.

To prevent possible movements of the brick's arrangement in longitudinal and traverse direction of the road one has already proposed to use particularly shaped bricks, provided with recesses and projections by which a certain connection is obtained between the bricks to be laid. However these known embodiments have the disadvantage that the moulding costs are relatively high due to the complicated mould and whereas these known bricks do not efficaciously romove the above-mentioned disadvantages, until yet they came less or not in use.

The invention however seeks to provide as a building element a paving element that can be simply made by a less complicated mould than heretofore and which gives a particular solution for the disadvantages heretofore encountered in paving roads by means of bricks. The paving element according to the invention is characterized in that it comprises at least two oblique block portions contiguously united at their common upright lateral faces and wherein at least the oblique position of the one block portion is opposite to the oblique position of the other adjacent block portion.

Another particular favourable embodiment of the paving element according to the invention is obtained when the oblique block portions have substantially identical dimensions. In obtaining at certain locations of the brick's arrangement, f.i. at the longitudinal road-sides, a good interlocking action against sideway movement of the paving elements traversely with respect to the traffic's direction another embodiment of a paving element is characterized in that three block portions are longitudinally arranged in series wherein two adjacent block portions alternate in their oblique position.

In locking of a brick's arrangement it may be advantageous when at least three blocks form together a corner-element wherein two blocks at both sides of the corner-block have an opposite identical oblique position with respect to each other.

In another embodiment the paving element may be adapted to join to normally shaped bricks, at the transititon to a very heavy loaded road-portion and in that case the paving element according to the invention is characterized in that it comprises at least one side—face, perpendicularly directed to the top-face of the element facing an oblique side-face.

The building element according to the invention will be further elucidated hereafter, by means of the largely diagrammatic drawing of some embodiments of paving-element.

FIGURE 1 is a schematic perspective view of an embodiment of a paving-element according to the invention;

FIGURE 2 is a left front-view of FIGURE 1;

FIGURE 3 is a top-view of FIGURE 1;

FIGURE 4 is a top-view of another embodiment of the paving-element;

FIGURE 5 is a paving-element according to the invention with a partly normal brick-profile;

FIGURE 6 is a top-view of a brick-pavement with paving-elements according to the invention and

FIGURE 7 is a part of road-pavement with a paving-element of angular shape.

The paving-element according to FIGURE 1 consists of a top-face **1** and a base-face **2**, lateral faces **3**, **4** and **5**, **6**, parallel end faces **9**, **10**, and interlocking faces **7** and **8** which are substantially lying in one plane on either side of the paving-element. In the given embodiment the faces **7**, **8**, **9** and **10** are perpendicular to the base-face **2** of the paving-element.

In fact the paving-element may be considered to be construed from two "parallelepipeda" or oblique block portions with their common upright lateral-faces lying against each other, and the lateral surfaces **3** and **4** and **5** and **6** on the opposite sides of the block portions extending from the edges of the upper surface to the edges of the bottom surface. The lateral surfaces **3** and **4** on one block portion extend at a first angle to a vertical between the upper and the bottom surfaces of the building element, and the lateral surfaces **5** and **6** of the other block portion adjacent to the one block portion extend between the upper and bottom surfaces at a second angle to the vertical which is different from said first angle. In the embodiment shown, as clearly visible in FIG. 2, the first and second angles are equal and opposite with respect to the vertical.

Whereas, in the shown embodiment both blocks are identical, it will be clear, that the vertical line indicated in FIGURE 2 by means of a dot and dash line is at the same time the bisector in the interlocking-face **8**, which is also an isosceles triangle. A number of these paving-elements A and A^1, wherein A^1 is a paving-element, which is a reflection of A—may be placed in a special brick relation, as indicated on the right part of FIGURE 6 and it will be clear that by the interlocking-faces **7**, **8** an especially favourable interlock of the bricks is obtained against sideway-movement, that means in the length-direction of the brick. This new paving-element according to the invention possesses a number of remarkable advantages compared to the known bricks.

It was already remarked that the movement in length-direction of the brick is prevented: moreover, the resistance which the paving-element offers to prevent canting is strongly increased because, according to FIGURE 1, canting of the paving-element might highly taken place about line **1** or *m*, and the measure in which resistance against canting is offered can be controlled by the measurement *e* (FIG. 2) by which the oblique face **6**, **4** is out of the perpendicular.

This can, for example, be illustrated by a brick of 8 centimeter height, 22 cm. length and of 10 cm. width of the top-face as a value $e=1$ cm. If "a" represents the angle between the base-face **2** and the oblique face **6**, then the oblique surface **6** is

$$\frac{1}{\sin a}$$

times larger than the surface of an imaginary half brick-lateral-face as indicated by the dot and dash line in FIG. 2.

This means that the load conveyed to the paving-element is transported to a larger surface which is most favourable. As a consequence thereof, there are for the

pavement smaller or in some cases no limiting-bands at all required. The most efficient action of the new building element however is, besides an interlocking action, that when the elements are placed in an alternating ½ brick's order (FIG. 6), all bricks form together a coherent surface and due to a load, perpendicularly directed to said surface the adjacent blocks are keyed in opposite directions so that there will be a contracting or uniting action between adjacent elements which, together with the interlocking action results in a self-bearing roadsurface.

In order to obtain an extremely good sidelong joining of the paving-elements A and A^1 in the brick-relation which is drawn in FIG. 6, in FIG. 4 a further embodiment of the paving-element is shown, with one and a half times the length of the paving-element according to FIG. 1.

The purpose thereof will be clear because this paving-element B contains an extra oblique block portion with lateral-faces **11** and **12**, which with an alternating brick-relation according to FIG. 6 provides better than bricks of half a stone length the interlocking action against a sidelong movement. The paving-element C in FIG. 5 is designed to join with pavements consisting of normal bricks and to this purpose it comprises a lateral-face **13**, that just as with a normal brick the case is, is perpendicular with respect to the topface of the paving-element C. It should also here be desirable to have a paving-element C which is the reflection of C.

Furthermore it will be clear, that with some alteration also corner-stones or L-shaped bricks can be made, which also have to adopt themselves to the shape of the end faces of the blocks for which they serve as a locking-up. An example of a corner-paving-element has been drawn in FIG. 7. It may be considered to be construed, for example of an element B, to which an extra block D has been added, vide FIG. 7. As a consequence of the fact that the illustrated embodiments of the paving-elements A up to and including C are defined mainly by pairs of parallel faces, it will be clear that the moulding of such paving-elements can vary easily be obtained.

Though in the drawing the block portions from which the paving element is made up are considered to be a unit it will under special circumstances also be possible to join the separate oblique block portions with suitable connecting means known per se to a paving-element.

Though the invention is elucidated to an embodiment of a road-surface also other applications will be possible.

In a larger measurement the building-element according to the invention is also suitable for the composition of faces, ceilings a.o., possibly with or without the use of joining members with which the building-elements are mutually coupled, f.e. by bringing tensioning members of high tensile steel through a hole in the interior of the building-element with which f.e. a pre-tensioning action might be given to a loading floor, being composing of such building elements.

I claim:

1. A building element, particularly for paving, consisting of a plurality of contiguous integral block portions each having a flat upper surface and a bottom surface, the flat upper surfaces of the block portions together forming a rectangular surface, the bottom portions being laterally offset from each other and joined along a line of substantial length, each block portion further having a pair of flat substantially parallel depending lateral surfaces with the respective lateral surfaces being on opposite sides of said rectangular surface, the lateral surfaces of each block portion extending from the edge of the upper surface to the edges of the bottom surface, the lateral surfaces on one block portion extending at a first angle to a vertical between the upper and bottom surfaces, and the lateral surfaces on the block portions adjacent to said one block portion extending between the upper and bottom surfaces at a second angle to the vertical which is different from said first angle, and flat depending end surface whch are perpendicular to the top and bottom surfaces.

2. A building element as claimed in claim **1** in which the length of the line along which the bottom portions are joined is greater than one-half the width of the upper surfaces.

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