

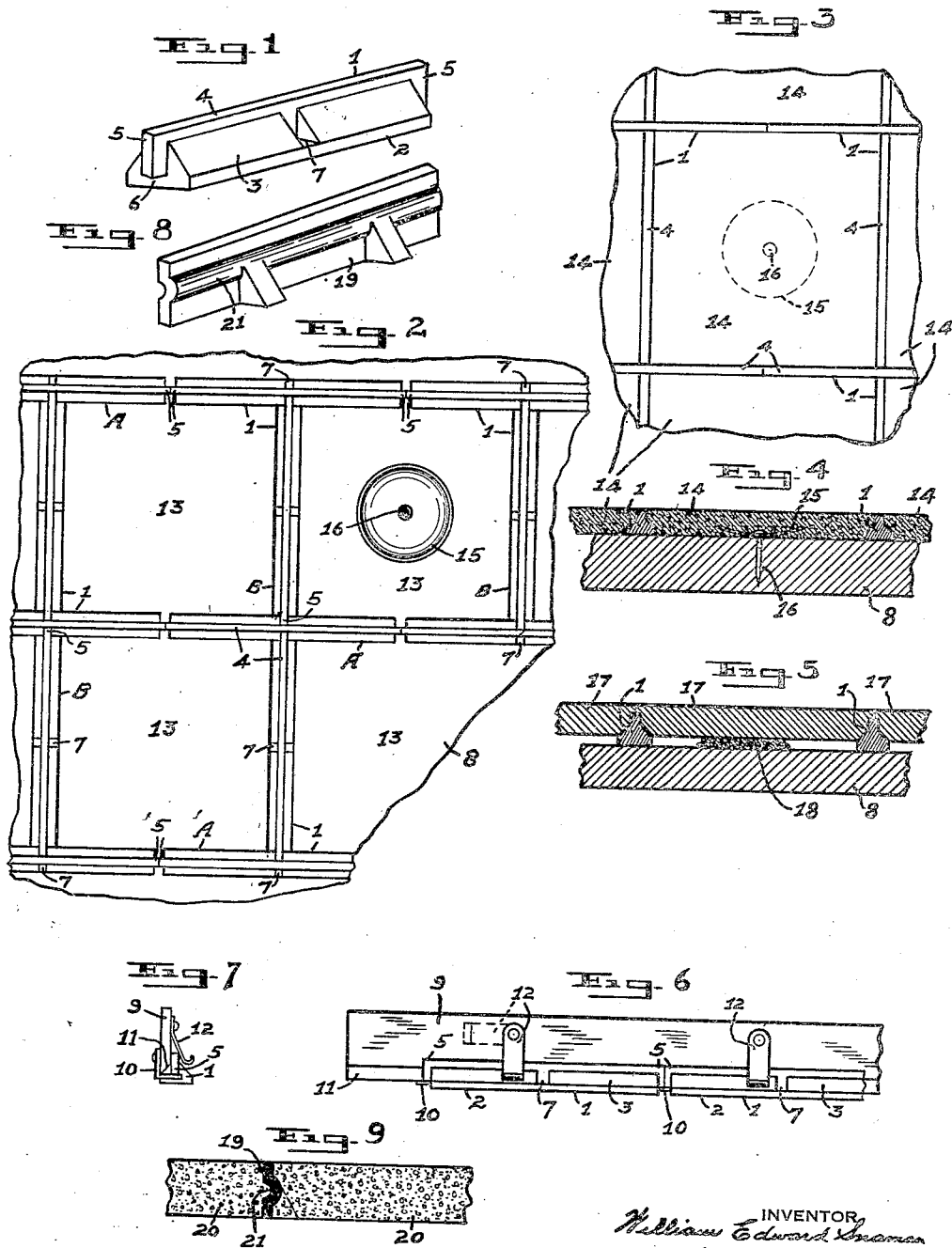
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FLOOR STRUCTURE

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FLOOR STRUCTURE

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My invention relates particularly to certain new and useful improvements in floor structures, but it will be obvious that the principle of the present invention may be successfully embodied in the construction of roads, walks, platforms, or any other analogous surfaces.

Important objects of the invention are to provide a floor structure of the character described which provides a most durable and substantial floor construction; which will facilitate and expedite floor construction operations; which permits of the use of either precast or shaped floor blocks, or of casting the floor blocks directly in position in the floor structure; which is simple in its construction and arrangement, and comparatively inexpensive to manufacture, install and maintain.

To the accomplishment of these and such other objects as may hereinafter appear, the invention consists of the novel construction and arrangement of parts herein specifically described and illustrated in the accompanying drawings, but it is to be understood that the construction shown in the drawings is merely illustrative of an embodiment of the invention, and that various changes in the form, proportions and details of construction may be resorted to that come within the scope of the claims hereunto appended.

In the drawings wherein like numerals of reference designate corresponding parts throughout the several views:—

Figure 1 is a perspective view of a spacing stringer section embodied in the present invention.

Figure 2 is a fragmentary top plan view illustrating the relative positions of the spacing stringer sections in a floor structure.

Figure 3 is a fragmentary top plan view of a floor constructed in accordance with the invention.

Figure 4 is a sectional view thereof on line 4—4, Figure 3.

Figure 5 is a similar view, but embodying a modified form of floor block.

Figure 6 is a side view of a plurality of longitudinally aligned spacing stringer sec-

tions, illustrating their association with a gauge bar.

Figure 7 is an end view thereof.

Figure 8 is a perspective view of a modified form of spacing section embodying the invention.

Figure 9 is a side elevational view of a road structure embodying the modified form of the invention.

Referring in detail to the drawings 1 denotes a spacing stringer section, which is cast or molded to shape from any suitable composition material to meet conditions found in practice, namely, concrete, artificial marble, or any other analogous composition product.

The spacing stringer section 1 is formed with a relatively wide base 2, and with sloping side walls 3, which converge toward and terminate adjacent to the flat top 4 thereof. The top 4 is comparatively narrow and rectangular in contour with sharply defined side and end edges. Each end of the spacing stringer sections 1 is formed with a short projection 5 having a width commensurate to the width of the top 4. The tops of the projections 5 are on the plane of the top 4 and constitute portions of the latter. The bottoms of the projections 5, however, are disposed above the bottom of the base 3 to provide clearances 6 for the purpose hereinafter described. The spacing stringer section 1 is further provided with a pair of recesses 7, which are horizontally aligned, relatively to each other, and disposed centrally in respective sloping side walls 3.

In constructing a floor in accordance with the invention, a plurality of spacing stringer sections 1 are positioned and arranged on a sub-floor 8 to establish the design desired. Figure 2 illustrates an arrangement providing perfect squares, but it is obvious that the lengths of the sections 1 may be widely varied, relatively to each other, to provide any kind or size of rectangular arrangement.

In practice, the longitudinally extending rows A, of spacing stringer sections 1, are first properly positioned on the sub-floor 8. Each of the longitudinally extending rows

A, consists of a plurality of stringer sections 1, which are longitudinally aligned and closely abutted end to end.

It is, of course, essential that the tops 4, of the sections 1 constituting the longitudinal rows A, are disposed exactly on the desired plane of the surface of the floor being constructed. Such proper positioning of these longitudinally disposed sections 1 is greatly facilitated by the use of a gauge bar 9, which is first fixed in any suitable manner, in its properly leveled position, along one side of the longitudinally disposed sections 1. The gauge bar 9 carries a plurality of properly positioned and fixed hangers 10 which are adapted to engage the bottom sides of the section projections 5 for temporarily supporting the said sections in their proper positions. The gauge bar 9 is provided with a beveled lower edge margin 11, corresponding to the sloping side walls 4, of the sections 1, whereby the gauge bar 9 is disposed flatly against the sides of the sections 1.

After the gauge bar 9 is properly leveled and fixed in position, the sections 1 may be quickly aligned in their positions, by engaging the hangers 10 with the section projections 5, in the manner stated, and as clearly shown in Figure 6. A plurality of resilient clamping arms 12, are pivotally connected to the gauge bar 9, and shiftable for engaging the sections 1 for temporarily retaining the latter in their proper position on the hangers 10 against the gauge bar 9.

After the row A of sections 1, are properly aligned and supported by the gauge bar 9, in the manner stated, liquidized material, namely, rosin, paraffine, or any other mastic quickly hardening product is poured or forced into all interstices between the section bases 2 and the sub-floor. As soon as the liquidized material hardens, the sections 1 will be fixedly set and stuck in their proper positions and the gauge bar 9 may be removed.

When the longitudinal section rows A have been positioned and fixed, in the manner described, other sections 1 are positioned to extend in a transversely aligned row B, between adjacent section rows A. The projections 5, of the transversely disposed sections 1, engage in respective recesses 7, of the sections 1 of the rows A, and need not be set by the use of the gauge bar 9.

It will here be noted, that when the spacing stringer sections 1 are positioned on the sub-floor 8 in the manner described, the arrangement provides a plurality of similar, rectangularly shaped, shallow cavities 13 virtually constituting casting molds for the floor blocks 14, when the latter, in their plastic consistence, are deposited and worked into the said shallow cavities 13 formed by

the arrangement of the spacing stringer sections 1.

When the floor blocks 14 are cast directly in the shallow cavities 13, a dished retaining disk 15 is preferably fixed in the center of each of the latter, by means of a nail 16 engaging in the sub-floor 8, or in any other suitable manner. In working the floor blocks 14 into the shallow cavities 13, the disk 15 is embedded therein and serves to secure the floor blocks 14 against potential movement or displacement.

The floor blocks 14 are cast from any suitable composition material, but preferably from the same kind of material from which the associated spacing stringers 1 have been constructed.

It is evident that instead of casting the floor block 14 directly into the shallow cavities 13, as stated, a pre-cast floor block may be used, which is shaped to fit exactly into the cavities 13. In a finished floor, the section tops 4 are disposed on the plane of the surface of the floor blocks and provide spacing elements therebetween.

Figure 5 illustrates the use of a cut or pre-cast floor tile or block 17, which is shaped to overlap the tops 4 of the spacing stringer sections 1 to provide a knife edge joint between adjacent blocks 17. A gob of plastic composition material 18 is preferably inserted between the sub-floor and the underside of the floor block 17 to help, when hardened, to sustain any load upon the latter.

The entire surface of the spacing stringer structure is provided with a coating of paraffine or analogous material to prevent cohesion of the floor blocks 14 when the latter are cast or worked into the shallow cavities. Further the completed floor structure, with any type of floor block, is suitably grouted to render all joints impervious to moisture.

My improved floor structure may be constructed in thicknesses to provide ample strength to meet conditions required, and is admirably adaptable for floors in residences, offices and stores in which case the floor structure need only be from one-half to one inch in thickness. The stringer sections 1 not only space the floor blocks but also support the same owing to their engagement by the sloping side walls 3.

Figure 9 illustrates an embodiment of the invention as applied in concrete side walks or road constructions. A plurality of spacing sections 19 are longitudinally aligned end to end to extend transversely across the road to entirely separate the latter into blocks 20. The spacing sections 19 are pre-cast from asphalt, pitch or other suitable composition material of equivalent elasticity permitting of the expansion and contraction of the concrete blocks 20 due to temperature changes.

Each of the spacing sections 19 is formed with an off-set 21 to permit of its engagement by a suitable gauge element to facilitate its proper positioning prior to depositing the concrete forming the blocks 20.

The spacing sections 19 provide a watertight straight, and uniform spacing element, which assures an expansion joint extending entirely through the concrete and which eliminates the entrance of any extraneous matter between adjacent blocks 20 that would render the joint worthless in caring for the expansion of the latter.

The present invention provides a most economical and durable floor construction, which may be widely and attractively varied to best meet conditions found in practice.

What I claim is:

1. In a block floor structure, spacing elements for the floor blocks, each of said spacing elements having a wide base and a comparatively narrow flat top, the side walls of each of said spacing elements being sloped and converging toward and terminating adjacent to the top thereof, each of said side walls being formed with a recess adapted for the engagement of adjacent spacing elements.

2. In a block floor structure, spacing elements for the floor blocks, each of said spacing elements having a wide base and a comparatively narrow flat top, each of said spacing elements being provided with a projection at respective ends thereof, the side walls of each of said spacing elements being sloped and converging toward and terminating adjacent the top thereof, said side walls being formed with recesses which are adapted for the reception of the projections of adjacent spacing elements.

3. In a block floor structure, spacing elements for the floor blocks, each of said spacing elements having a wide base and a comparatively narrow flat top, each of said spacing elements being provided with a projection at respective ends thereof, the side walls of each of said spacing elements being sloped and converging toward and terminating adjacent the top thereof, said side walls being formed with recesses which are adapted for the reception of the projections of adjacent spacing elements, said projections having their bottoms disposed above the plane of the bottom of the base of the spacing element.

In testimony whereof I affix my signature.
WILLIAM EDWARD SNAMAN.