

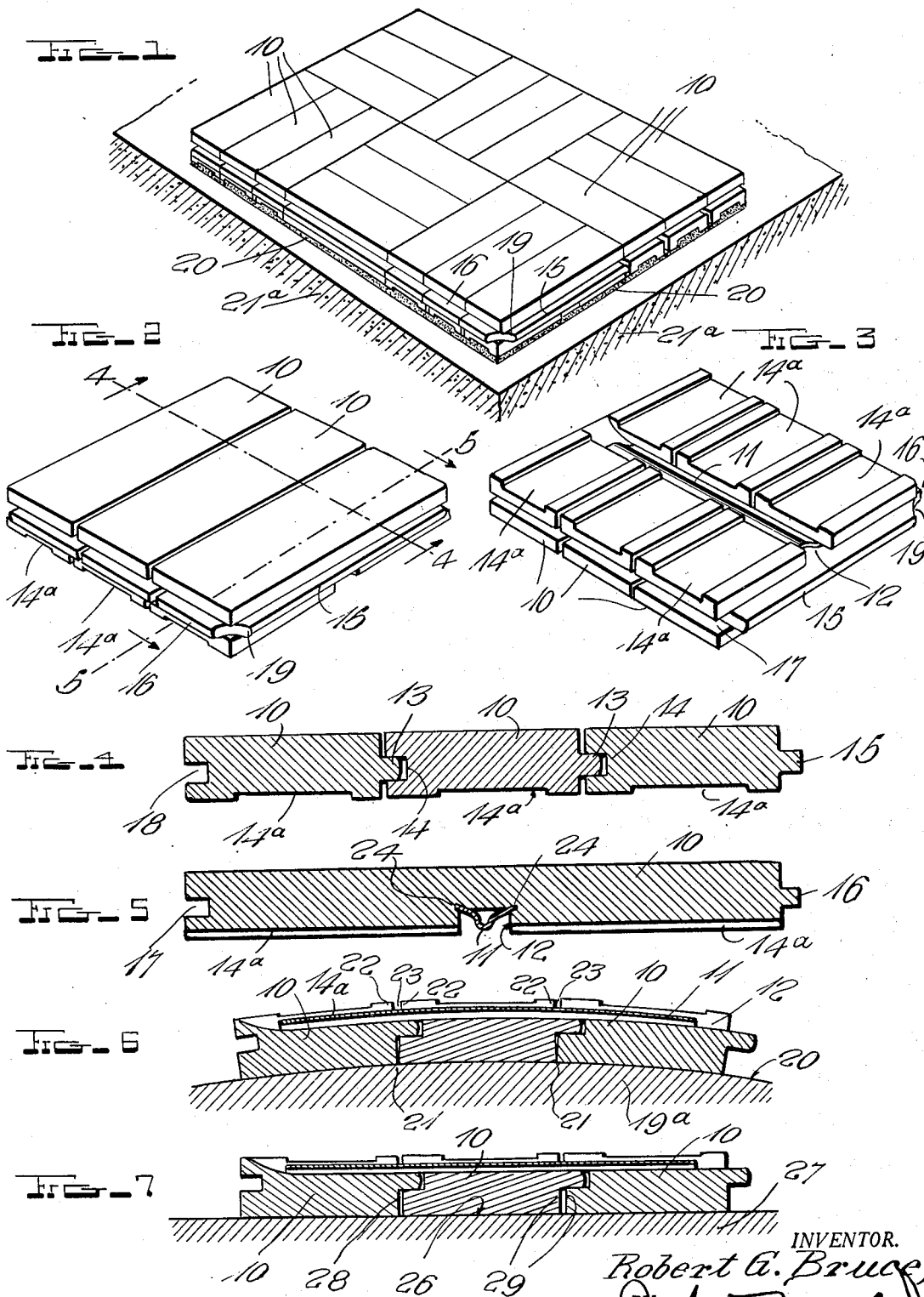
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WOOD BLOCK FLOORING

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2,113,076

WOOD BLOCK FLOORING

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My invention relates to wood block flooring and the like and one of the objects is to provide a construction of block, that is made up of a plurality of slats, that are so arranged as to take care of expansion of the wood slats in the block, so that when the block unit is laid in a floor or similar panel, there will be no buckling of the floor on account of expansion of the wood due to moisture absorption.

Another object is to provide a floor constructed of such blocks and laid in such a spaced relationship with each other so that when the floor expands on account of moisture absorption, there will be no buckling of the floor.

A further object is to improve the construction and method of producing the hair line crack, as disclosed in the application of Morris, S. N. 597,822, filed March 9, 1932. In the aforesaid application, the hair line crack is of haphazard width due to the method in which it is produced. My invention is an improvement thereon, in that it produces a hair line crack of a controlled and substantially uniform predetermined width and as a part of the manufacturing operation. A further improvement consists in the fact that my block is squared with the hair line crack therein. If the crack is formed after the block has been squared, then the block will be slightly out of square and a floor laid with such blocks will not have as finished an appearance as when laid with my blocks.

It is now the practice to lay wood blocks on a subfloor in a plastic cement or bituminous mastic which will remain virtually permanently plastic during the life of the floor. A floor so laid is what might be designated as a floating floor; that is, it is not tied to or rigid with the subfloor like a nailed floor. In fact, the blocks do not rest on the subfloor but on the layer of mastic which acts as a cushion and also serves to hold the floor blocks in place. To take care of expansion of the floor from moisture absorption, an expansion space is usually left around the walls of the room. Where the floor area is large, it takes considerable pressure to push the blocks over towards the wall into the expansion space. From this and other causes, due to expansion of the wood, the block may be lifted or forced up off of the subfloor. One of the objects of my invention is to obviate this condition.

Another object is to overcome the bowing in the face of the block as a whole that may occur when the wood swells with addition of moisture and the slats are held too tightly.

Most of the expansion in wood takes place

transversely of the grain of the wood. In order to take care of this condition, I provide between the slats a hair line crack which takes care of this expansion.

By a hair line crack, I mean a crack that is small enough so that it can be readily filled with the usual fillers, that are used in finishing floors, and so that the crack after being filled is not noticeable to the eye. In linear dimensions, it will normally vary from about 1/64th to 1/2 of an inch.

In laying the blocks in the floor, I do not set them up tightly against each other but leave a hair line crack of similar width between the blocks, which also provides another relief to take care of expansion of the wood. A floor initially made up of blocks, where there is a hair line crack between the slats and also between the blocks provides, what I term, an "expanded" floor. In other words, when the block floor is initially laid on the permanently plastic mastic, the spaced relationship of the slats and the blocks relative to each other is such as to eliminate buckling of the floor in the event of any normal expansion of the slats or the blocks relative to each other respectively, due to moisture absorption.

Referring to the drawing for a more complete disclosure of the invention,

Fig. 1 is a perspective view of a portion of a floor panel in position on a subfloor,

Fig. 2 is a perspective view of a type of block that may be used,

Fig. 3 is a perspective view of the underside of the block shown in Fig. 2,

Fig. 4 is a section on the line 4—4 of Fig. 2,

Fig. 5 is a section on the line 5—5 of Fig. 2, and

Figs. 6 and 7 are cross sections of a block in process of manufacture.

The block shown in the drawing is of the same type as that shown in the patent to C. W. Allen, 1,808,623, dated June 2, 1931. It consists of a plurality of slats 10 that are held in assembled relationship by the stiff metal tie or spline 11, made preferably of cold rolled steel, that lies in the transverse groove 12 on the underside of the block. Each slat has a tongue 13 along one longitudinal edge and a groove 14 along the other longitudinal edge. The tongues and grooves of the contiguous slats interengage to form the block. The slats may be the customary flooring slats in which case there will be a hollow back 14a on the underside of each slat.

When the slats are assembled to form a block,

there will be a tongue 15 along one side of the block, a tongue 16 along the adjacent side, a groove 17 along one side and another groove 18 along the other side. To permit assemblage of the blocks to form a panel, in the case of the particular shape of block shown, it will be necessary to cut away the corner as at 19, as is more fully set forth in the patent to Fetz, 1,778,069, dated October 14, 1930.

When the blocks are laid to form a floor panel, a layer of permanently plastic cement 20 such as a bituminous mastic, of about $\frac{3}{8}$ of an inch in thickness is spread on the subfloor 21a. The blocks are then placed on the mastic, the tongues and grooves of adjacent blocks interengaging, the blocks thus being free to move slightly relative to each other. The blocks are not laid up tight against each other in laying the floor but sufficiently loose so that there will be a hair line crack between them. Any normal swelling that takes place in the wood due to moisture absorption will be taken care of by the clearance between the slats and the blocks respectively.

In Figs. 6 and 7, I show one way of manufacturing the particular type of block shown in Figs. 1 to 5. The slats 10 are laid face down and close together on a platen 19a that has a convex face 20. When so laid the blocks will be in contact along the corners 21 but slightly spaced apart at the corners 22, so that there will thereby be provided a V-shaped space 23 between the slats. The metal spline 11 is then forced into biting contact 24 with the edge of the groove 12 in the bottom of the block. The block is now flattened out by pressing its face 26 down onto the flat platen 27. As the block is flattened out, the back crack will be closed somewhat and the face crack opened up, without any appreciable loosening of the biting contact of the spline in the wood, due to the fact that there is probably a slight bending or pivoting of the metal spline at the point of the crack between the slats. When so flattened out, the V-shaped spaces 23 will be converted into hair line cracks 28, of uniform predetermined width, the opposed sides 29 of the adjacent slats being in spaced parallel relationship.

When the blocks are being made on an automatic machine, the block may be flattened out as hereinbefore described. The block is preferably trimmed square and to the proper predetermined dimensions after the formation of the hair line crack in the assembled block. It will be apparent that the width of the crack between the slats can

be varied by changing the degree of convexity of the platen 19.

From the above description, it will be seen that I provide a block made up of a plurality of wood slats, that are securely held together and in fixed relationship, so far as any ordinary forces are concerned, but still not held so securely that the strips cannot move slightly independently of each other by expanding or contracting from moisture absorption.

The use of a block having these characteristics in a floor laid on a permanently plastic mastic, where the blocks are not set up tight against each other but have an expansion space between the slats and an expansion space between the blocks, provides a floor that will not warp or buckle in ordinary use.

The blocks having been trimmed square and to proper predetermined dimensions with the hair line crack in them and since each slat can expand or contract independent of the other slats, accordingly there will be no substantial change in the shape or size of the finished block due to moisture absorption under the average conditions. Where moisture conditions are extreme, it may be necessary to use also the customary expansion joints around the sides of the room and in other places depending on the floor area.

I claim:

1. The method of manufacturing a wood block made of a plurality of slats comprising assembling the slats on a curved platen to provide a V-shaped groove between them and then flattening out the block to thereby change the said groove into a hair line crack.

2. The method of manufacturing a wood block made of a plurality of slats comprising assembling the slats on a convex platen with the face of the slats in contact with the platen to provide a V-shaped groove between them, tying the slats together with a metal tie and then flattening out the block to thereby change the said groove into a hair line crack.

3. The method of manufacturing wood blocks made of a plurality of slats comprising assembling the slats on a convex platen to provide a V-shaped groove between them, forcing a stiff metallic tie into tight contact with the wood to hold the slats in assembled relationship, and then flattening out the block to thereby change the said groove into a hair line crack.

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