Jan. 10, 1939. D. S. DE WITT 2,143,764

PARQUETRY FLOORING BLOCK

Filed March 30, 1936

Fig. 1.

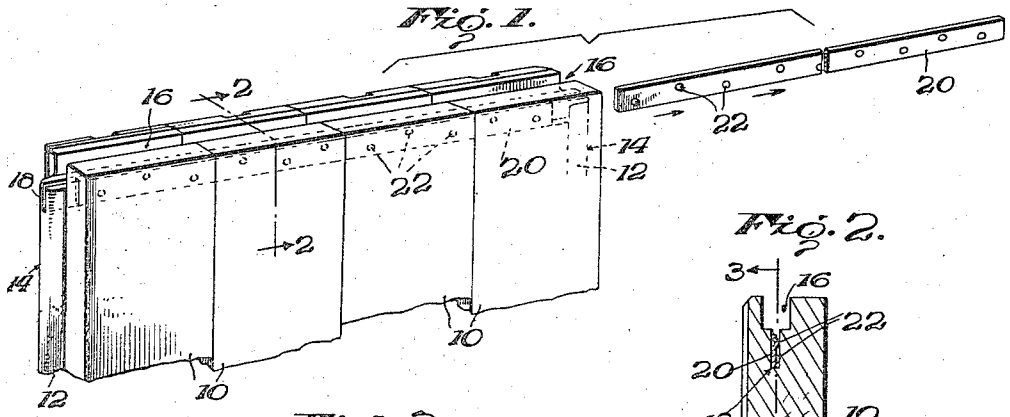


Fig. 2.

Fig. 3.

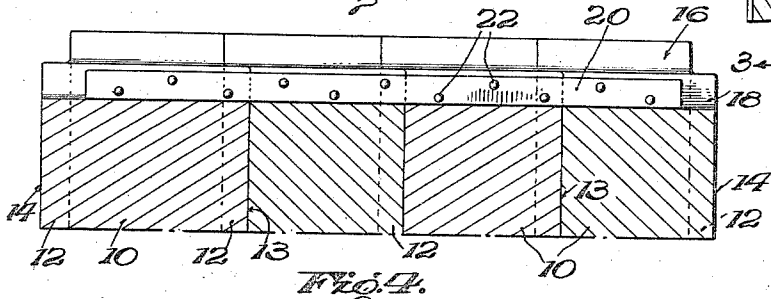


Fig. 4.

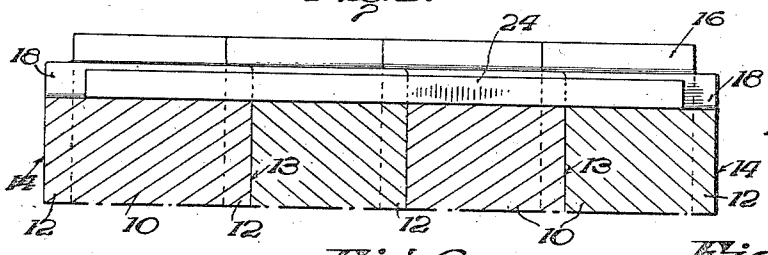


Fig. 5.

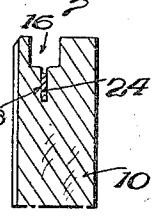


Fig. 6.

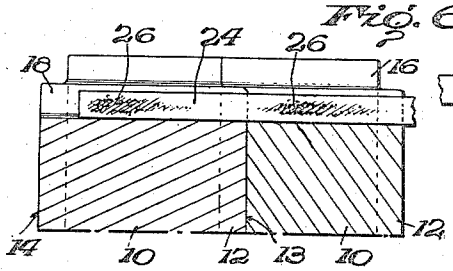
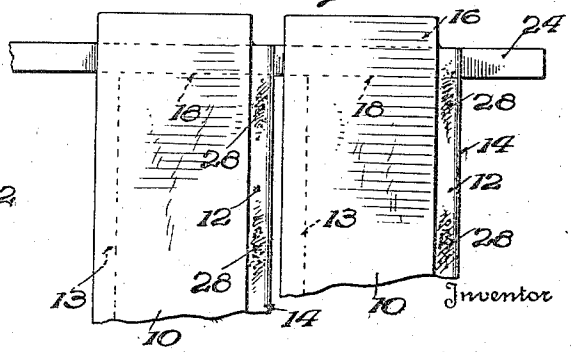


Fig. 7.



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2,143,764

PARQUETRY FLOORING BLOCK

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Application March 30, 1936, Serial No. 71,757

7 Claims. (Cl. 20—8)

This invention relates to parquetry flooring blocks and has particular reference to that type wherein the individual strips of which each block is composed are held together by splines inserted in alined kerfs extending across the edge of the composite block.

The primary object of the invention is to eliminate insofar as is possible the undesirable effect produced by moisture upon flooring, or paneling of any sort, composed of such blocks. Flooring blocks of the so-called parquetry type are assembled by the manufacturer in block form from wood strips and shipped in large lots. For flooring purposes the blocks are usually laid in abutting relation upon a subfloor layer of mastic, some means such as interengaging integral tongue and groove connections or separate tongues engaging in grooves of adjacent blocks being provided to hold the individual blocks in proper relation to one another.

Hitherto the ends of individual strips of which the blocks are formed have been provided with kerfs adapted to aline with one another when the strips are placed in longitudinal juxtaposition. Into the continuous kerf so formed splines have been driven for the purpose of holding the strips rigidly together to form a substantially integral composite block. Sometimes corrugated splines, as illustrated in Daniels Patent No. 1,660,480, are forced into the edges of the strips while the strips are being held rigidly under lateral compression.

It will be apparent that composite blocks so formed are of a substantially rigid integral nature and that expansion and contraction of the wood resulting from varying conditions of moisture and humidity will cause each block to warp as a whole because its component strips are not free to move bodily along the spline when expansion of any one or more of them causes pressure to be exerted on adjacent component strips, which may or may not themselves be subject to conditions of moisture, etc., which cause expansion. This results in unsightly crevices appearing between blocks, which crevices are destructive of the long life and utility of the flooring as a whole.

The hitherto specified prime desideratum of this invention is accomplished by so joining the individual strips of each block that they may be shipped to the point of use without risk or becoming disassociated if handled with reasonable care and at the same time permit independent bodily movement of each individual strip along its spline after the blocks have been positioned upon the mastic subfloor. Expansion and contraction is thus absorbed by a series of small increments of movement by the component strips rather than a multiplication thereof which appears in toto around the outside of each block.

A further object of the invention is to accomplish such joinder of the individual strips through the use of simple splines which are inexpensive to manufacture and easy to manipulate. Various other objects and meritorious features of the invention will become apparent from the following description taken in conjunction with the drawing wherein like numerals refer to like parts throughout the several figures, and wherein:

Figure 1 is a perspective of a composite parquetry block, partially broken away, showing an improved spline ready for insertion into the kerf provided therefor;

Figure 2 is a section along 2—2 of Figure 1;

Figure 3 is a section along 3—3 of Figure 2;

Figure 4 is a section similar to Figure 3 illustrating a modified spline;

Figure 5 is a section similar to Figure 2 but including the spline of Figure 4;

Figure 6 illustrates a further modified form of uniting the individual strips, and

Figure 7 illustrates a variation of the form shown in Figure 6.

Referring now to Figure 1, numeral 10 indicates one of the component strips of which the composite parquetry block is formed. In the form illustrated each strip is provided with a tongue 12 extending substantially throughout the length of one side and terminating short of the ends of the strip. Each tongue is preferably formed with a rounded shoulder as indicated at 14. The opposite side of each strip is provided with a squared groove 13 adapted to receive the tongue 12 whereby the assembled component strips are retained in a single plane. This tongue and groove arrangement is such that sliding movement of the strips with reference to one another is permitted and, by reason of the rounded shoulders on each tongue, each strip is capable of flexing somewhat out of the plane of its adjacent strip by swinging about the pivotal engagement thus formed.

Each strip is grooved at opposite ends as indicated at 16, such grooves being adapted to aline with one another when the individual strips are assembled as indicated in Figure 1, thus forming a continuous groove extending across the width of the block. A kerf 18 is countersunk in the bottom of each end groove 16, the alined kerfs

forming a single continuous kerf extending along the bottom of the groove provided at the end of each block.

The outside longitudinal edges of the two outer strips 10 may be provided alternately with tongues 12 or grooves 13 in such manner that the tongues or grooves of an adjacent block may interengage therewith to position the assembled flooring. Tongues may likewise be provided in lieu of grooves 16 in some blocks for insertion into the said grooves, thereby providing for interengagement of each composite block with its adjacent block through tongue and groove cooperation.

After the individual strips have been assembled to form a composite block, splines 20, preferably of metal, are inserted in the continuous kerf formed across the end of such block by the alined kerfs 18. It is to be understood that these kerfs may be provided in a projecting tongue as well as at the bottom of a groove 16. The thickness of spline 20 is somewhat less than the width of kerf 18 in the form of the invention illustrated in Figures 1–3. This spline is provided with a series of spaced laterally projecting nibs or protuberances 22. These nibs are preferably rounded and smooth to provide a limited frictional engagement between the spline and the walls of the kerf. This limited frictional engagement is clearly indicated in Figure 2 wherein the smooth face of the spline is shown seated against one wall of the kerf, the spaced nibs 22 engaging the opposite wall thereof at spaced points to provide sufficient frictional engagement to retain the spline in place and thereby tend to hold the assembled strips 10 in proper position with relation to one another.

Such a spline is preferably associated with each end of the assembled block and the limited frictional engagement is sufficient to retain the strips in assembled relationship during shipment while permitting independent bodily movement of each strip with relation to the spline whenever sufficient force is exerted to overcome the said limited frictional resistance. Due to this fact expansion and contraction of the wood resulting from varying conditions of moisture and humidity is absorbed by bodily creeping action of each strip independently along the spline, which creeping action results both from expansion of the cellular structure of certain strips and pressure exerted on certain strips by such expansion in adjacent strips. It will therefore be apparent that subsequent shrinkage of the wood of which such flooring or paneling is composed will result in a series of minute spaces between individual strips 10 rather than a multiplication of such shrinkage at the outside of each block, which latter is the cause of the unsightly crevices appearing around the borders of independent blocks where the strips of each block are tightly held together under compression to form a rigid unit.

While spline 20 has been herein shown as provided with spaced nibs extending laterally out of the plane of the spline along one face thereof only, it will be apparent that they may be arranged to project from opposite faces of the spline and that such an arrangement would serve the desired purpose equally well. It is immaterial how such protuberances are formed, although one satisfactory means is to strike them out from the plane of the metal by a punch of some sort.

Another modification has been illustrated in Figures 4 and 5 wherein a smooth faced spline 24 of a thickness corresponding substantially to that of kerf 18 is used. While the use of such a spline provides frictional engagement between each face thereof and the adjacent wall of the kerf, the resulting action is the same as with the nibbed spline 20. Each independent strip 10 is permitted to creep or move bodily along the spline during expansion or contraction of the wood, but the resistance offered to movement of the strips on the spline by frictional engagement of the latter with the walls of the kerf is sufficient to retain the strips in their assembled position during shipment and until such time as they have been laid in the mastic of the subfloor.

When parquetry blocks of the type herein under discussion are shipped in less than carload lots they are apt to be subjected to rougher handling than would otherwise be the case. Under such circumstances it has been found that the frictional resistance offered by either the smooth faced spline or the nibbed spline may not be quite sufficient to hold the individual strips in assembled position. Under such circumstances it is desirable to provide some additional means for retaining the individual strips either in fixed relation to the spline or to one another during shipment and until such time as they are to be laid.

Figures 6 and 7 are illustrative of two ways in which this additional uniting strength may be imparted to the assembled blocks without in any way interfering with the functional advantage of the spline arrangement hitherto described. The nibbed spline 20 may have a somewhat greater tendency to resist movement of the independent strips with reference thereto than has the smooth faced spline. This may possibly be accounted for by the fact that there might be a slight biting engagement between the nibs 22, even though the same are preferably smooth and rounded as hitherto explained, and the adjacent wall of kerf 18. For that reason the additional uniting means is more apt to be desirable in conjunction with a smooth faced spline than with a spline provided with nibs. In Figure 6 the smooth faced spline 24 has been spotted along one or both faces, as indicated at 26, with some sort of a glue or adhesive which is readily frangible when dry. These spots are preferably spaced in such manner that each independent strip 10 is temporarily united thereby to the spline.

Another modification of this phase of the invention is illustrated in Figure 7 wherein a tongue 12 is spotted with the same type of adhesive, as indicated at 28. When the strips are assembled and tongues 12 are brought into interengaging relation with the grooves 13 in the strips adjacent thereto, the two adjacent strips are united to one another by this readily frangible adhesive.

In either instance wherein the spots of readily frangible adhesive are used the force tending to hold the individual strips in assembled position during shipment is increased somewhat to take care of the rougher usage to which the blocks are subjected when shipped in less than carload lots.

Before the blocks are laid they may be flexed somewhat by the worker to break the adhesive joints, thereby eliminating the additional uniting force tending to hold the strips in fixed relation upon the spline and leaving the individual strips as free to move, due to shrinkage or expansion of any of the strips, independently of one another along the spline as in the case where such adhesive is not used.

As may be understood from the foregoing, the only reason for using any spline or adhesive, or

both, is to get the assembled individual strips into the hands of the floor layer in composite block form, thus enabling him to lay the floor without further adjustment or assembling of the strips. Once the block is laid in the floor the splines could, if practicable, be removed and returned to the factory so far as their value in imparting strength to the floor is concerned. In other words, the ideal spline or method of assembling, which is the object of this invention, is one which allows the strips to move independently and bodily in the floor and at the same time permits shipment and handling without distortion of the block and the consequent necessity of realining the pieces before laying. This broad idea is suggested in a patent to Birtles No. 1,922,468. However, the solution represented by the present invention eliminates the possibility of causing misalinement of the strips by constant pressure against the binding tapes during handling or shipment and the blocks may be subjected to far rougher handling without resultant damage than any arrangement hitherto available. The assembled block formed as taught herein may be moisture-proofed by subjecting the same to a solution after bundling, whereas blocks formed of independent strips held together by such flexible means as tapes must be treated before assembly.

Having described certain preferred forms of the invention, various other modifications may be apparent to those skilled in the art, and for that reason I wish to limit myself only within the scope of the appended claims.

What I claim is:

1. In a parquetry flooring block comprised of wood strips arranged in longitudinal juxtaposition and including alined means at the ends of each strip cooperable with an adjacent block to position the two with reference to one another, alined kerfs in the ends of each strip forming a continuous kerf along the end of the block, and a metal spline of less thickness than the width of said kerf positioned therein, said spline including spaced protuberances frictionally engaging a wall of the kerf.

2. In a parquetry flooring block comprised of wood strips arranged in longitudinal juxtaposition and including alined means at the ends of each strip cooperable with an adjacent block to position the two with reference to one another, alined kerfs in the ends of each strip forming a continuous kerf along the end of the block, and a spline in loose frictional engagement with the walls of said kerf, said spline being adhered to a wall of the kerf at spaced points therealong by a readily frangible adhesive.

3. In a parquetry flooring block comprised of wood strips arranged in longitudinal juxtaposition and including alined means at the ends of each strip cooperable with an adjacent block to position the two with reference to one another, alined kerfs in the ends of each strip forming a continuous kerf along the end of the block, a metal spline in loose frictional engagement with the walls of said kerf, and readily frangible adhesive uniting said spline to a wall of said kerf at spaced intervals.

4. A parquetry block comprising a plurality of wood strips arranged in longitudinal juxtaposition, readily frangible adhesive uniting a portion of the longitudinal edges of adjacent strips, alined kerfs in the end of each strip forming a continuous kerf extending along the end of the block, and a spline positioned therein in loose frictional engagement with the walls thereof.

5. A parquetry flooring block comprising a plurality of wood strips arranged in longitudinal juxtaposition and provided with longitudinal tongues and grooves in cooperating relation with one another, alined grooves in the ends of each of the strips, alined kerfs countersunk in the bottom of said end grooves, and a spline inserted in and extending along said alined kerfs, said spline being of such thickness with relation to the width of the kerfs that there is sufficient friction between the spline and kerf walls to tend to retain each strip in fixed relation to the spline while permitting relative movement between the two resulting from expansion and contraction of the wood.

6. A parquetry flooring block comprising a plurality of wood strips arranged in longitudinal juxtaposition and provided with longitudinal tongues and grooves in cooperating relation to one another, the cooperation being such as to preclude substantial movement of the tongue within the groove in a plane perpendicular to that of the block while permitting relative movement in other directions, alined grooves in the ends of each of the strips, alined kerfs countersunk in the bottom of said end grooves, and a spline inserted in and extending along said alined kerfs, said spline being of such thickness with relation to the width of the kerfs that there is sufficient friction between the spline and kerf walls to tend to retain each strip in fixed relation to the spline while permitting relative movement between the two resulting from expansion and contraction of the wood.

7. A parquetry flooring block comprising a plurality of wood strips arranged in longitudinal juxtaposition, a substantially flat groove extending transversely across each strip in a plane substantially parallel to that of the strip, said grooves being alined and forming a continuous groove extending transversely across the component strips of the block, and substantially flat means flexible in a direction normal to that of its plane and along its longitudinal axis frictionally positioned within said continuous groove tending to maintain said strips in juxtaposition but providing a sufficiently limited resistance to permit independent bodily movement of each with reference to said means.

DONALD S. DE WITT.