Jan. 12, 1932. B. C. ROCKWELL 1,840,974

INLAY FLOORING AND METHOD OF MANUFACTURING SAME

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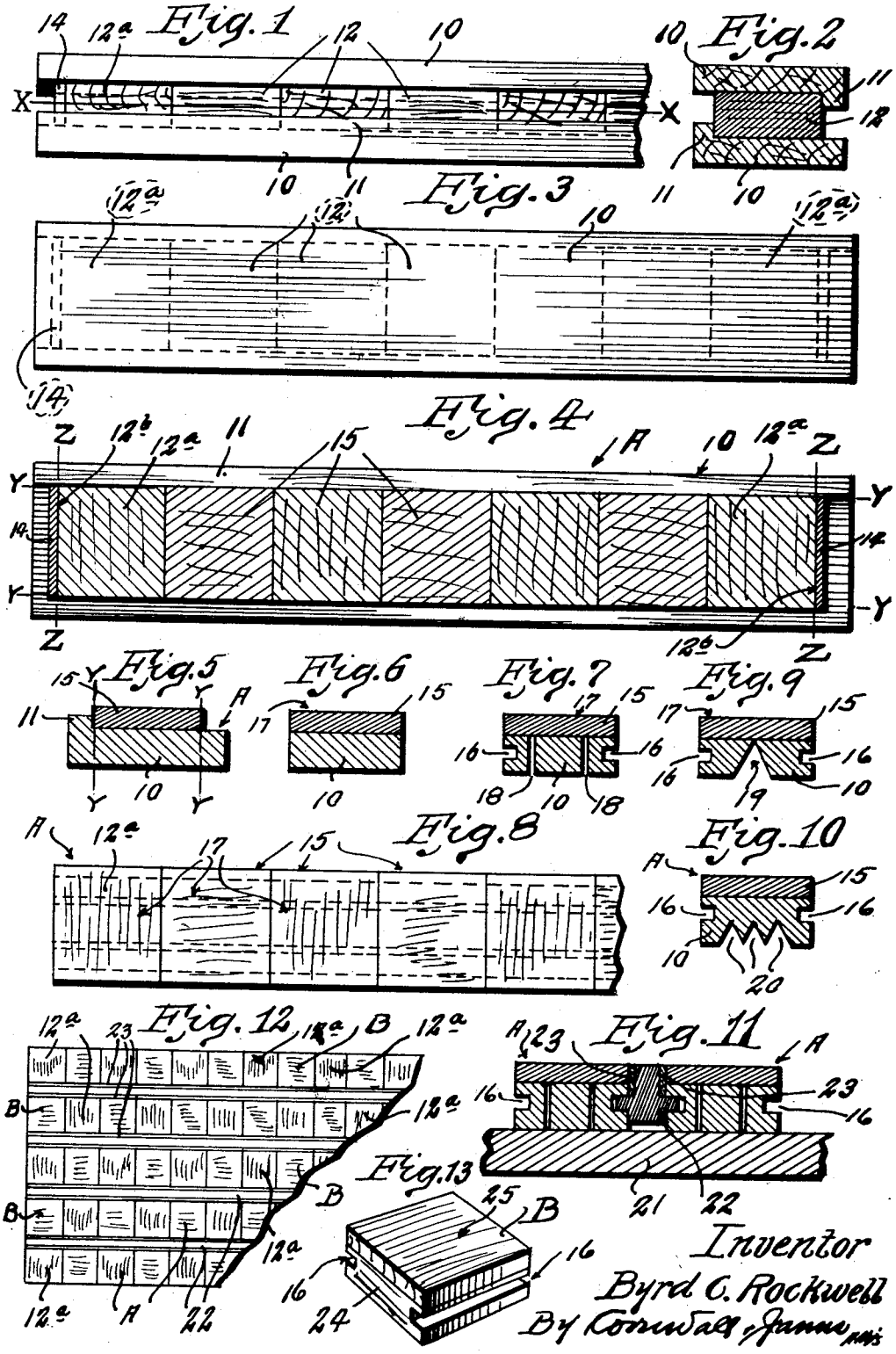

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UNITED STATES PATENT OFFICE

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INLAY FLOORING AND METHOD OF MANUFACTURING SAME

Application filed December 4, 1929. Serial No. 411,420.

This invention relates to new and useful improvements in inlay or pattern flooring and to a novel method of manufacturing the same.

The present invention is an improvement upon the invention disclosed in my United States Patent No. 1,446,810, and has for its objects the provision of a novel method whereby short lengths of stock of high grade lumber can be utilized in the manufacture of block flooring by sawing said high grade lumber centrally on a plane parallel with the faces thereof, thereby doubling the production and the supply of the high grade lumber and providing core bodies for the high grade material for reinforcement purposes. Preferably this core body consists of a long section of low grade material and the blocks are arranged thereon in a single row with the grains of the adjoining blocks running at right angles to each other to enhance the appearance and ornamental effect of the flooring material.

Further objects of the invention are to secure a plurality of flooring blocks of high grade lumber in a single row on a core section of suitable length and of inferior material, the blocks being preferably arranged in odd numbers so that the end blocks have their grain running at right angles to the grain of the core section, thereby preventing shrinkage of the ends of the flooring material.

Heretofore in laying block floor, considerable time has been spent in placing individual blocks in position and in the selection and matching of the proper blocks. With my novel method a whole section of blocks is laid at one time at the factory, thereby not only facilitating the installation of the floor but also reducing the misalignment of the blocks to minimum.

Furthermore, greater care can be exercised in the selection and matching of the blocks and in the ornamental arrangement thereof during the manufacture of the sections, than on the job when individual blocks are laid. Also the cost of manufacture is materially reduced as, in the present invention, blocks do not have to be cut to exact dimensions for assembling in the core stock as they can be re-trimmed after the assembled core stock and blocks have been re-dried to eliminate any excessive moisture.

A further object of the invention is to secure to a core stock of inferior lumber and of suitable length a plurality of blocks of high grade material arranged to produce an ornamental grain effect and having their end members arranged to have the grain disposed at right angles to the grain of the core section, whereby the ends of said core section are protected against shrinkage and end-cupping so that the completed section preserves its uniform width throughout its entire length and remains flat.

With these and other objects in view, my invention consists in certain novel features of construction and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevational view of a plurality of block material and a pair of core sections to which said block material is secured.

Figure 2 is a transverse cross section therethrough.

Figure 3 is a top plan view of Figure 1.

Figure 4 is a top plan view of one of the assembled sections after the assembly shown in Figure 1 has been sawn longitudinally.

Figure 5 is a transverse cross section of Figure 4.

Figure 6 is a similar view after the trimming operation.

Figure 7 is a similar view but showing the core section grooved longitudinally on its underside to prevent shrinkage.

Figure 8 is a top plan view of Figure 7.

Figures 9 and 10 show modified forms of grooving the underside of the core body.

Figure 11 is a cross section through a completed floor showing a series of flooring members in transverse cross section.

Figure 12 is a fragmental top plan view of a floor finished with my improved flooring blocks.

Figure 13 is a perspective detail view showing a single block section.

In the aforementioned Patent No. 1,446,810

a pair of core members of inferior lumber and of suitable lengths is channeled in their opposed faces longitudinally to receive therebetween a section of high grade lumber. This section is of substantially the same length as said core member and is of suitable thickness to permit the splitting or sawing thereof longitudinally and centrally to provide each core member with a veneer strip of high grade lumber. This arrangement calls for high grade lumber of suitable length and does not utilize short sections.

In the present invention, a method is disclosed for manufacturing flooring blocks whereby a whole row of blocks can be laid at one time on the job, thereby facilitating the work and reducing the cost thereof. Also short sections of high grade lumber can be used in the manufacture of block material.

Referring by numerals to the accompanying drawings, 10 indicates a pair of core members of low grade lumber and of suitable lengths. These core members are preferably provided at one of their edges with a longitudinally disposed shoulder or ledge 11 which projects upwardly at right angles to the face of the core member. A series of blocks 12 of high grade lumber are arranged between the opposed faces of said core members and are secured thereto by a suitable adhesive.

In arranging said blocks in position the grain of the adjoining blocks is disposed at right angles to each other so that no two adjacent blocks have grain running in the same direction. Care is also taken to use an odd number of blocks so that the end blocks 12^a always have their grain disposed transversely of the core members or at right angle to the grain thereof. This arrangement prevents shrinkage or swelling and end cupping of the core members and maintains the latter of uniform width throughout their entire lengths. The ledges or shoulders 11 are arranged on the opposite sides of the blocks and serve as guides in assembling said blocks and said core members together.

End pieces 14 of substantially the same area as the cross sectional area of blocks 12^a are secured to the end faces 12^b thereof and serve to protect said end blocks against splitting while working on the assembled structure.

The blocks 12 are of sufficient thickness so that each block can be sawed in a plane parallel to the faces thereof to provide two finished floor blocks.

After the adhesive has set and the parts are securely attached to each other, said blocks are cut as indicated by line X—X in Figure 1. This separates the assembly in two sections A (one of which is shown in Figure 4) each section comprising one core member and the severed halves 15 of blocks 12.

Each section A is now trimmed along its edges as indicated by lines Y—Y to remove the superfluous edge material of the core members and to trim the longitudinal sides of the blocks 15. At this time the sides of each core member are also provided with longitudinally disposed grooves 16 for receiving suitable locking strips or tongues hereinafter described. The faces 17 of blocks 15 are now operated upon to give them the desired finish.

During these various operations the end pieces 14 protect the opposed edges of the end blocks against splitting. After these operations have been completed the ends of the sections are trimmed as indicated at Z—Z to remove said end pieces and also to finish the ends of the core members flush with the corresponding faces of the end blocks.

Preferably the underside of each core member or section is grooved longitudinally as indicated in Figures 7 to 10. This grooving can be done either before the section A is trimmed or after the trimming operation. As disclosed in Figures 7 and 8, which show the preferred form, the underside is provided with a pair of spaced longitudinal grooves 18 which extend inwardly against the inner faces of blocks 15.

In the form shown in Figure 9 the underside of the core member is provided with a single groove 19 which is of inverted V-shape in cross section, the apex being located at or near the inner face of the blocks.

In the form shown in Figure 10, the underside of the core member is provided with a series of inverted V-shaped grooves 20 which are not as deep as the groove in the previous form and terminate a suitable distance away from the blocks.

In laying the floor, the finished sections A are placed on a sub-floor 21, with the edges spaced from each other to receive an inlay strip such as 22. This strip may be formed of wood and provided with side portions 23, preferably of rubber. This particular strip is more fully described and disclosed in my copending application Serial No. 361,769, filed May 9, 1929.

As the end blocks of each section are arranged with the grain at right angles to the grain of the core body, I provide a single block section B having a core body 24 and a block member 25. This section is adapted to be placed between the ends of the adjacent sections A with the grain of block 25 disposed at right angles to the grain of the end blocks of said sections, thereby carrying out the grain effect of the blocks of sections A.

The single block section may also be used where individual blocks are desired, as when they are used over concrete or tile floors and secured by suitable adhesive.

The construction of individual blocks is substantially the same as in the previous

forms. The blocks are built on long core bodies with the grain of all blocks running in one direction, namely, opposite to the grain of core members. The edges of the composite piece are worked the same as the core lengths of the previous form. The blocks are then cut off and the ends grooved or worked as required.

My novel method and improved flooring block construction permits the utilization of short lengths of high grade lumber in combination with core bodies of low grade lumber and the finished product has all the advantages of high grade lumber and is reinforced against shrinkage, swelling, and end cupping.

I claim:

1. The method of manufacturing block flooring material consisting in providing a pair of strips of low grade lumber, the face of each of which is provided on one edge with an outwardly projecting shoulder, securing to the opposed shouldered faces thereof by a suitable adhesive a plurality of blocks of high grade lumber, the shoulders of said core strips forming guides for aligning said blocks and the grain of the adjacent blocks running in opposite directions to each other, then sawing said blocks on a plane parallel to and equidistant from said core strips to form two composite strips, then trimming the edges and ends of said strips so that the outer face of said blocks are flush with the edges and ends of the core strip, and then finishing the faces of said blocks.

2. The method of manufacturing block flooring material consisting in forming a pair of core members of low grade lumber, each of which is provided on its face and along one edge with an outwardly projecting longitudinal shoulder, then securing by a suitable adhesive a plurality of blocks of high grade lumber to the opposed faces of said core members, the shoulders thereof forming guides for aligning said blocks and the grain of the adjacent blocks running in opposite directions, then sawing the blocks in a plane parallel to said core members, thereby separating said assembled structure into two composite strips, then trimming the edge and ends of each strip whereby the exposed sides of the blocks are flush with the corresponding sides of said core member, and then forming longitudinally disposed grooves in the edges of each strip.

3. The method of manufacturing block flooring material consisting in securing by a suitable adhesive to the opposed faces of a pair of core members of low grade lumber a plurality of blocks of high grade lumber, the grain of said core members running longitudinally, said blocks being arranged in a row longitudinally of said core members and there being an odd number of blocks used with the grain of the adjacent blocks disposed at right angles to each other and with the grain of the end blocks disposed at right angles to the grain of the core members, thereby preventing the shrinkage of swelling and end cupping thereof, then sawing said blocks in a plane parallel to said core members to provide two composite strips, and then trimming the edges and ends of said composite strips.

4. The method of manufacturing block flooring material consisting in securing by a suitable adhesive to the opposed faces of a pair of core members of low grade lumber a plurality of blocks of high grade lumber, the grain of said core members running longitudinally, said blocks being arranged in a row longitudinally of said core members and there being an odd number of blocks used with the grain of the adjacent blocks disposed at right angles to each other and with the grain of the end blocks disposed at right angles to the grain of the core members, thereby preventing the shrinkage of the ends thereof, applying a strip of wood to the exposed side of each end block whereby said end blocks are protected against splitting during the trimming of the edges of the composite strip, then sawing said blocks in a plane parallel to said core members to provide two composite strips, and then trimming the edges and ends of said composite strips.

5. The method of manufacturing block flooring material consisting in securing a plurality of blocks of high grade lumber in a longitudinal row to the opposed faces of a pair of core strips of low grade lumber, the grain of said core members running longitudinally, the grain of the adjacent blocks being disposed at right angles to each other and the grain of each end block being arranged at right angle to the grain of said core members, applying a strip of protective material to the exposed sides of said end blocks to protect the latter against end-splitting during the trimming operation, then trimming the longitudinal edges of the composite strip and forming a longitudinal groove in each edge thereof, and then trimming the ends of the strip and removing said protective material.

In testimony whereof I hereunto affix my signature this 6 day of November, 1929.

BYRD C. ROCKWELL.