Dec. 1, 1942. A. KARREMAN 2,303,745

MANUFACTURE OF SINGLE MATTED FLOORING PANEL

Filed Feb. 21, 1939

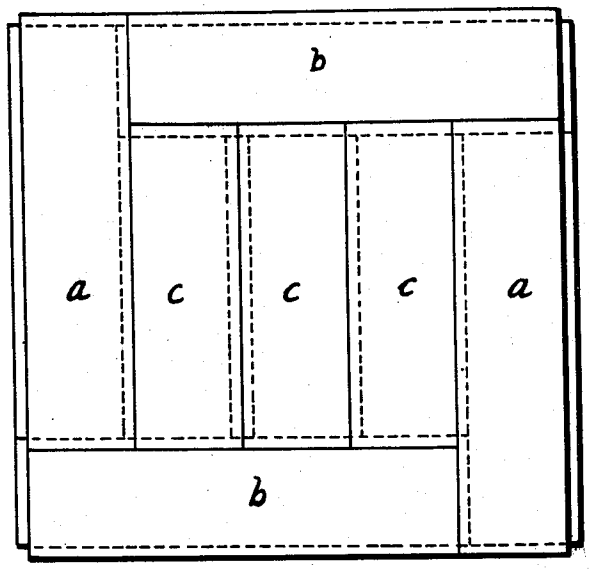

FIG. 1.

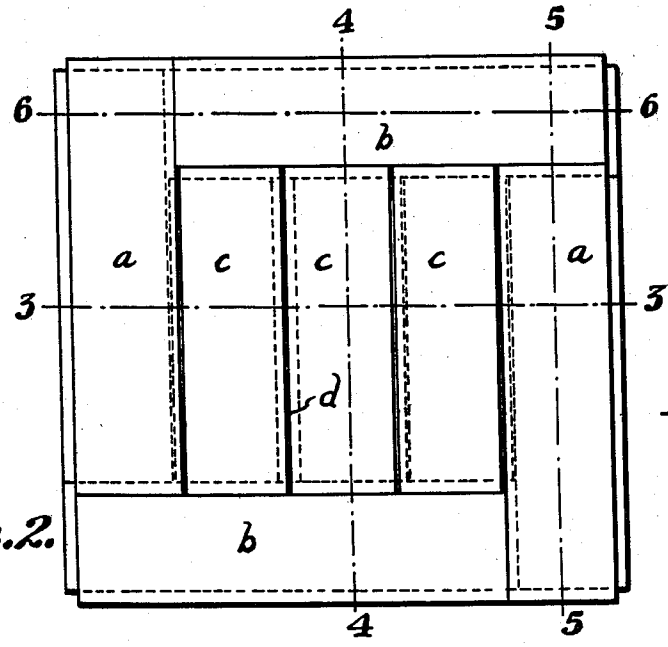

FIG. 2.

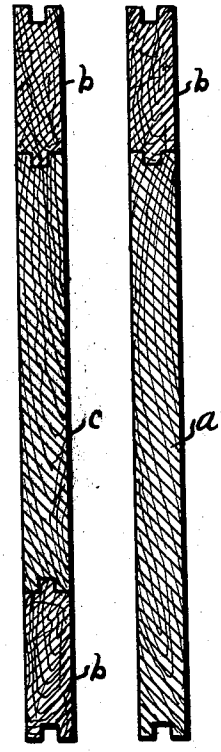

FIG. 4. FIG. 5.

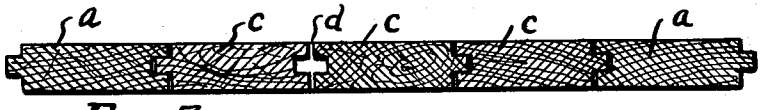

FIG. 3.

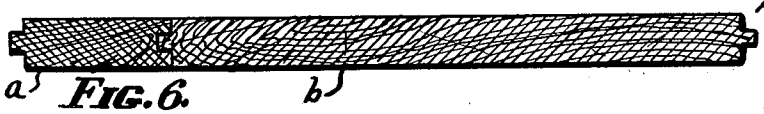

FIG. 6.

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MANUFACTURE OF SINGLE MATTED FLOORING PANEL

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5 Claims. (Cl. 144—309)

This invention relates to single matted flooring panels and to the manufacture thereof.

The art of block flooring has been extensively developed, as well as various methods of laying floor blocks in asphaltic material so as to provide a proper support for the blocks.

Despite the many developments in this art, the use of block flooring has been a constant source of annoyance to contractors and builders because of the tendency of the floor made from the blocks to swell up and warp. Various arrangements of the component pieces of the floor blocks have also been suggested in which various provisions have been made permitting expansion without warping.

As far as I am advised, no satisfactory single matted floor panel has been assembled in which the liability of the floor to warp and buckle has been completely overcome.

It is the object of my invention to provide a single matted panel and a method of manufacturing it, wherein at the time of laying the block, adequate space for expansion to prevent buckling and warping is provided.

It is further an object of my invention to provide a single matted assembly which does not require the use of spacing cleats or the like to insure spacing between the inset pieces or fills, to compensate for expansion due to moisture absorption.

The above noted objects and other objects which I will explain in the ensuing description, I provide by that method of treatment of the panels and the assembly of the component parts thereof, as will subsequently be described.

Referring to the drawing:

Figure 1 is a plan view of my preferred panel wherein the component parts are treated in accordance with my invention, the block being shown at the time of its assembly.

Figure 2 is a plan view of the panel at the time when it is ready for laying.

Figure 3 is a sectional view of the panel taken along the lines 3—3 of Figure 2.

Figure 4 is a sectional view of the panel taken along the lines 4—4 of Figure 2.

Figure 5 is a sectional view of the panel taken along the lines 5—5 of Figure 2.

Figure 6 is a sectional view of the panel taken along the lines 6—6 of Figure 2.

It should be understood at the outset that the panel which I have illustrated is shown for the purpose only of showing one embodiment of my invention. Other arrangements of outer frame members containing fills, in which the same constructive principle is employed, will readily occur to those skilled in this art. In the drawing an outer frame structure composed of the side pieces *a—a* and end pieces *b—b*, is fitted together by means of tongues in the sides of the pieces *b—b* fitting within grooves in the ends of the pieces *a—a*. Further, tongues in the ends of the pieces *b—b* fit within grooves in the sides of the pieces *a—a*. I have shown a four piece frame. It may be made from a greater or lesser number of pieces.

Enclosed within the frame are the fills *c—c—c*, in the embodiment illustrated there being three fills retained within the rectangular frame formed by the pieces *a—a* and *b—b*. The fills have grooves at both ends, which grooves are engaged by the tongues of the pieces *b—b*. The fills *c—c—c* as illustrated, have tongue and groove engagement each with the other, excepting that there is no tongue and groove engagement between one set of fills as illustrated at *d*, in Figure 3. Thus permitting the use of ordinary tongue and groove boards, since by placing a groove against a groove tongues are presented on opposing sides. I do not limit the construction of my panel to the use of three "fills" as a greater or lesser number may be used, as will be obvious.

My process which consists in the treatment of the fills prior to assembly in the single matted panel, may be accomplished by placing the fills after they are tongued and grooved, on a truck and exposing them in a room in which the humidity of the air is between 50% and 80%, at temperatures between 60° F. and 150° F. Of course, the use of a truck is not essential. Any type of conveyor or rack may be substituted for the truck, the use of which I have suggested.

I have cited specific temperatures and the percentage of moisture in the humid air to which the fills are exposed, as illustrative only, it being obvious that the temperature can be elevated above 150° F. and the percentage of moisture in the air may also be varied.

An exposure of the fills to moisture laden air for several days will ordinarily cause such swelling as would ordinarily occur after the blocks are laid in a floor, due to moisture absorption either from the air or from moisture derived from the slab or floor beneath. The fills, due to the moisture treatment, take on up to from 10% to 20% of moisture.

In piling the fills on a truck or rack, the fills may be piled solid as long as the ends are exposed, because if the ends swell up they will au-

tomatically space themselves in the parquetry block assembly.

The moisture laden air may be provided by the introduction of open steam to the atmosphere to which the fills are exposed.

In assembling the panel illustrated with the fills artificially swelled in accordance with the procedure which I have outlined, at least at the ends thereof, the parts are assembled in a rigid construction.

Ordinarily the pieces which form the frame are not moisturized in the same manner that the fills are moisturized, but they may be if desired.

After the panels are assembled, they may be carried in stock where they dry out in the ordinary way in which lumber dries, and at the time of laying the floor, ordinarily there will be elongated spaces from 1/64 to 1/8 of an inch, between the fills.

After laying the panels it is assured that the fills will never swell under normal conditions beyond the point to which they were artifically swelled at the time of assembly of the blocks.

As to the swelling of the outer frame members which hold the fills, this is ordinarily compensated for during the laying of the blocks.

In connection with my preferred process of assembling the parquetry blocks, it should be observed that my invention is distinct from the assembly of a block with metal splines to hold the fills in position. This is because if there were metal splines or cleats joining the fills rigidly in the block at the time of the assembly, subsequent drying out prior to laying might cause the fills to split due to contraction.

It should further be noted that my preferred process should not be confused with the working of green stock, and that I ordinarily contemplate the use of dried lumber for the fills which is then worked and then reswelled prior to assembly.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In the manufacture of wooden panels containing fills and a frame, the method of preparing the panels so as to avoid buckling and warping due to moisture absorption after the panels are laid, which consists in artificially swelling lumber fills with moisture prior to assembly and inserting the fills in side against side relation in the frame to form a panel while swelled whereby shrinkage due to drying out of the fills will produce spaces between the fills which compensate for the swelling due to reabsorption of moisture after the panels are laid.

2. In the manufacture of wooden panels containing fills and a frame, the method of preparing the panels so as to avoid buckling and warping due to moisture absorption after the panels are laid, which consists in artificially swelling lumber fills prior to assembly by creating a moisture absorption in the fills to bring their moisture content substantially up to from 10% to 20%, whereby the total amount of moisture in the wood after absorption amounts to substantially from 10% to 20% by weight of the wood, and inserting the fills in side against side relation in the frame to form a panel while swelled whereby shrinkage due to drying out of the fills will produce spaces between the fills which compensate for the swelling due to reabsorption of moisture after the panels are laid.

3. In the manufacture of wooden panels containing fills and a frame, the method of preparing the panels so as to avoid buckling and warping due to moisture absorption after the panels are laid, which consists in artificially swelling lumber fills prior to assembly by exposing said fills to humid air containing from 50% to 80% moisture until they have appreciably swelled, and inserting the fills in side against side relation in the frame to form a panel while swelled whereby shrinking due to drying out of the fills will produce spaces between the fills which compensate for the swelling due to reabsorption of moisture after the panels are laid.

4. In the manufacture of wooden panels containing fills and a frame, the method of preparing the panels so as to avoid buckling and warping due to moisture absorption after the panels are laid, which consists in artificially swelling the fills prior to assembly by exposing said fills to humid air containing from 50% to 80% moisture, and at temperatures from 60° F. to 150° F. until they have appreciably swelled, and inserting the fills in side against side relation in the frame to form a panel while swelled whereby shrinkage due to drying out of the fills will produce spaces between the fills which compensate for the swelling due to reabsorption of moisture after the panels are laid.

5. A single matted panel composed of a frame composed of four pieces of flooring, the opposed sides being of equal length retained at their ends in an adhesively secured assembly and fills adhesively secured at their ends only, retained between pieces on opposite sides of said frame, said fills being evenly spaced by that amount which equals the shrinkage of the fills upon drying from the swelled condition which they assume after having been swelled with moisture from a dry condition.

ANTHONY KARREMAN.