No. 683,009. Patented Sept. 17, 1901.

J. J. BLACKMAN.

SURFACE FINISHING FOR FLOORS, CEILINGS, &c.

(Application filed July 29, 1901.)

(No Model.)

Fig. 1.

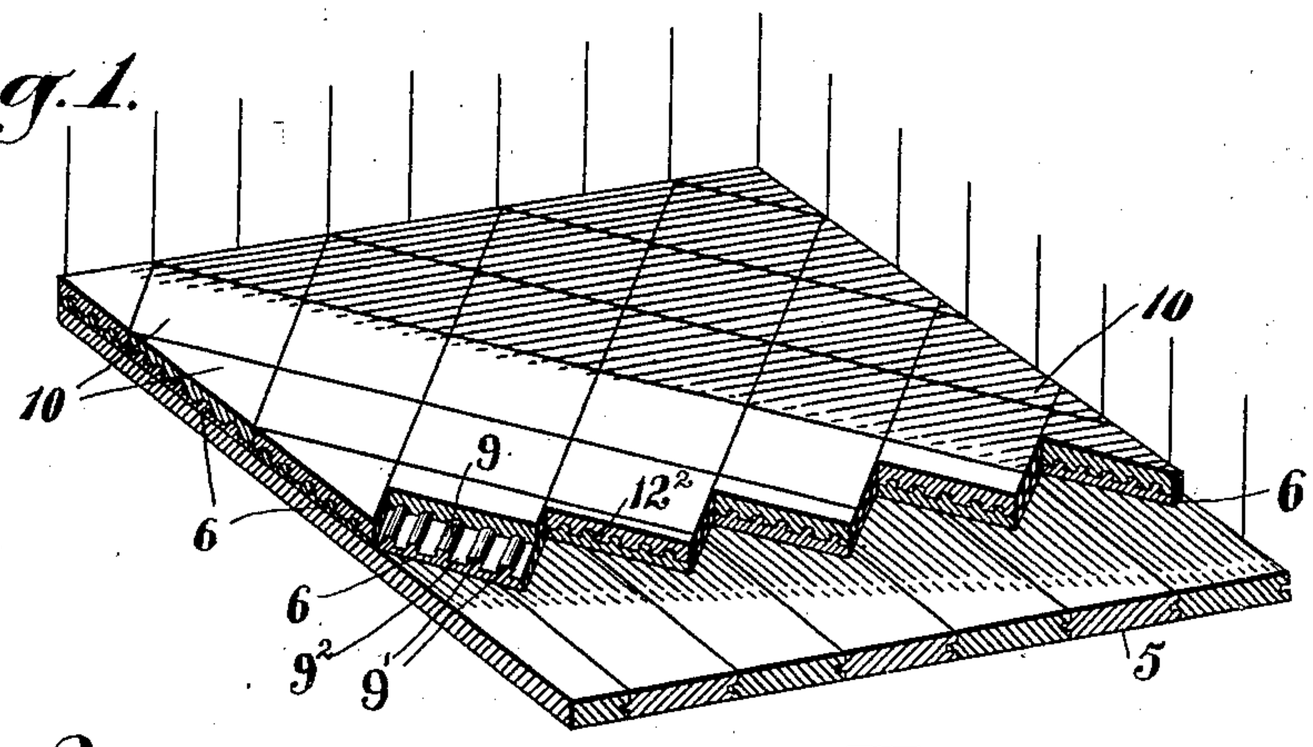


Fig. 2.

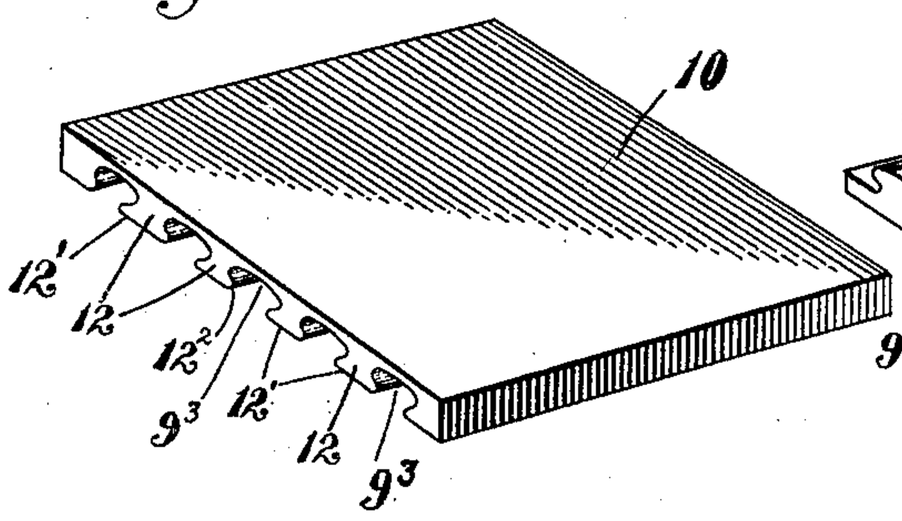


Fig. 3.

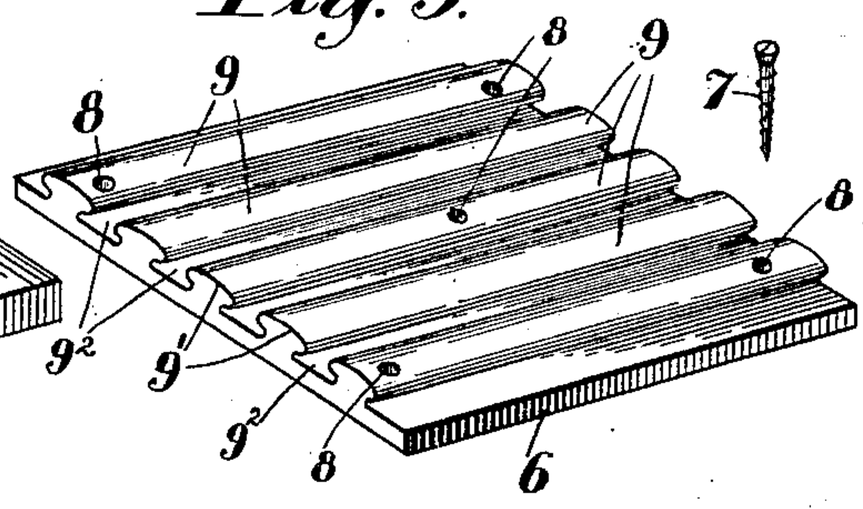


Fig. 4.

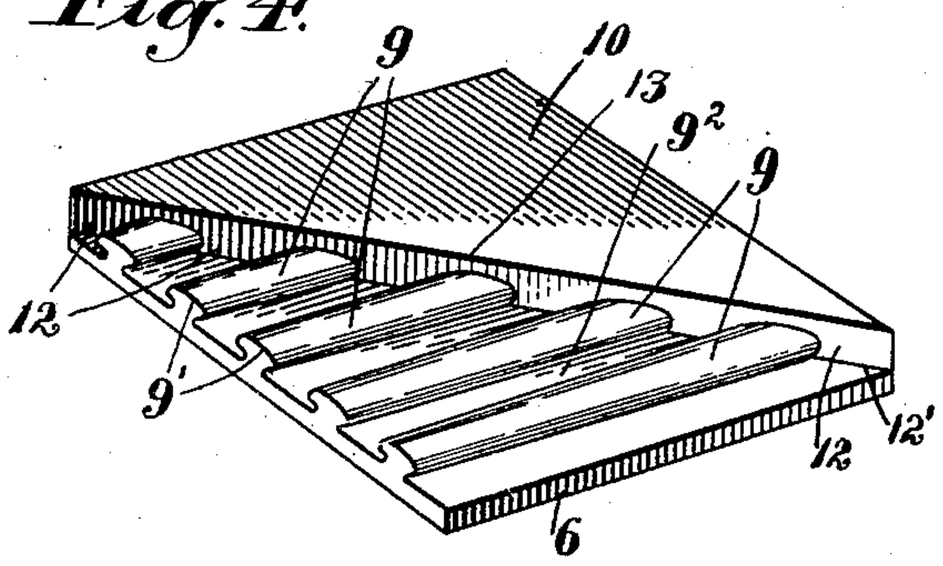


Fig. 5.

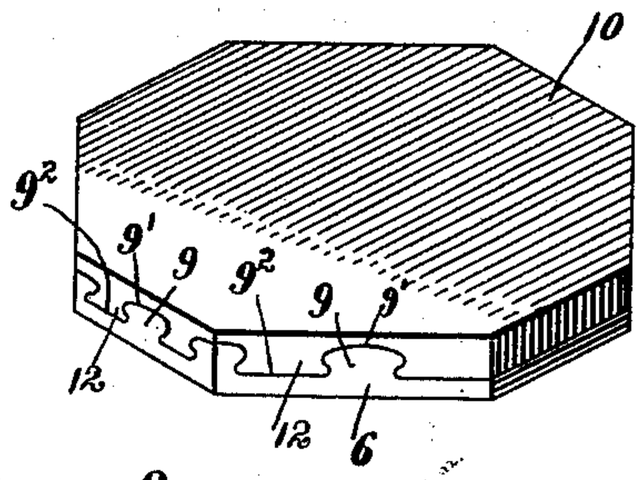
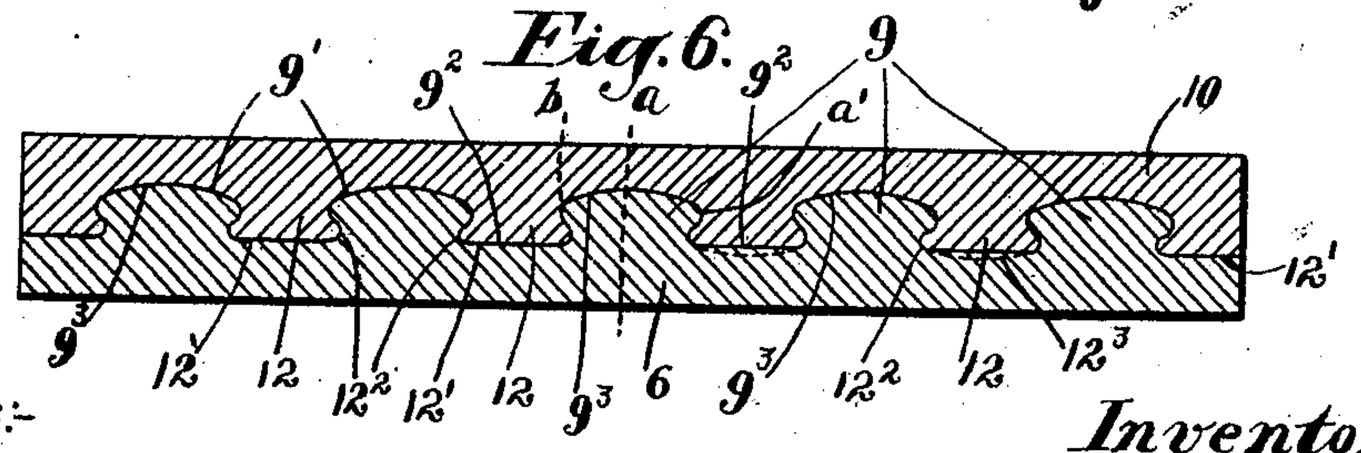


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN J. BLACKMAN, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO GEORGE P. BRADSTREET, OF THOMASTON, CONNECTICUT.

SURFACE-FINISHING FOR FLOORS, CEILINGS, &c.

SPECIFICATION forming part of Letters Patent No. 683,009, dated September 17, 1901.

Original application filed January 14, 1901, Serial No. 43,141. Divided and this application filed July 29, 1901. Serial No. 70,051. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. BLACKMAN, a citizen of the United States, residing in New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Surface-Finishing for Floors, Ceilings, &c., of which the following is a specification.

My invention relates to structural material, and especially to parquetry or surface finishes for floors, ceilings, articles of furniture, &c.

Primarily the object of the invention is the provision of a finish for floors, ceilings, tables, or objects in which tessellated material may be employed with advantage, which is preferably formed of a plate having a series of ribs or projections provided with sides formed as ogee curves and also having curved tops, the plate being secured to the floor, ceiling, or other structure and being interlocked with another plate having a series of grooves corresponding to and adapted to receive the projections, which plate serves as the exterior surface of the structure to which the invention is applied.

In the accompanying drawings, Figure 1 is a perspective view of my invention, showing it applied in series to a floor. Figs. 2 and 3 are respectively perspective views of the top and bottom plates of my invention detached. Fig. 4 is a perspective view of my invention, the top plate being severed on a diagonal line and being still retained firmly in position by the tongues of the lower plate. Fig. 5 is a perspective representation of a block of angular (shown as hexagonal) form containing my improvement. Fig. 6 is a transverse section of two of the plates, showing, on an enlarged scale, the form of the tongues and grooves thereof.

Similar numerals refer to similar parts throughout the several views.

Referring to the drawings, the numeral 5 designates a section of a floor, ceiling, or other structure, or it may be the top of a table or other article of furniture, and the numeral 6 a base-plate, of rectangular or any desired form, which is securely fastened to the floor or other device in any desired way, preferably by means of screws 7 passing through perforations 8 in ribs or tongues 9 of said base-plate. These ribs or tongues are made with curved tops 9′ and are of ogee shape on their sides and may be readily produced by machinery, and intervening each pair of tongues is a groove 9^2 for the reception of correspondingly-shaped ribs on a top plate hereinafter described.

Designated by the numeral 10 is the upper plate of my invention, which is provided with a series of ribs or tongues 12, having flat or convex under faces 12′ or 12^3 and being of ogee form at their sides, as at 12^2, to fit in the grooves 9^2 and interlock with the tongues 9 of the base-plate 6, as represented in Figs. 1, 4, and 6.

Preferably the base-plate 6 is provided with a series of ribs 9, five being shown, and the top plate 10 with a similar number of grooves, for by this construction the top plate may be severed on angular lines, as indicated at 13 in Fig. 4, or both plates may be thus severed to cause them to fit into corners or other places (see Fig. 1) without liability of detaching one plate from the other plate, as would be the case were but one or two ribs or projections employed.

In surface-finishing of all kinds made of wood great trouble has been experienced owing to the warping or buckling of the same due to the absorption of moisture or to the employment of improperly-seasoned material, and when this occurs the finishing presents an unsightly appearance and is ruined for practical purposes. Furthermore, in blocks having ribs with sharp dovetailed edges this warping or displacement of the material is liable to fracture said edges, and thereby impair the efficiency of the joint, and these sharp edges are frequently broken in handling or while interlocking the blocks one with the other. It is a desideratum to reinforce the joint as much as possible and also to provide an increased thickness of material in the ribs to resist the tendency to buckle or curl up and also to so shape the edges of the interlocking portions that they will be stronger and will fit more accurately when the one part is interlocked with the other part by sliding the ribs or projections of one plate into the correspondingly-shaped grooves of the other plate. Stated differently, the top 9′ of each projection 9 being on a curve and

the longitudinal edges being formed on ogee curves and the top plate being formed with grooves in sides of ogee shape an interlock is produced which will be of the greatest efficiency under strains and in which the material is so disposed as to afford the greatest resistance at the joints. It will be observed that each projection or tongue is of course of greater diameter through its center, as shown by the line *a*, and gradually varies in diameter until the curved edge *a'* is reached. It will also be observed that the groove 9^2 in the top plate or block 10, said groove conforming to the projection, is so arranged that the material of said top plate will be thicker at the points *b* where the joint is formed than at other portions of its diameter, thereby reinforcing the joint at the place where strength is most needed and preventing distortion, warpage, or breakage of the material under the great strains sometimes due to natural causes. Furthermore, by forming the edges of the tongues 9 in the shape of ogee curves these tongues may be readily made by machinery and can be much more easily inserted into the grooves in the top plate than if constructed in the shape of plain dovetails with sharp corners or edges, and all tendency to breakage of the projections of the tongues either when under strain due to warpage or other causes or while being inserted within the grooves of the complementary plate is thereby obviated. The tongues 12 intervening the grooves 9 of the top plate 10 may either be formed flat on their faces, as shown at 12' in Fig. 6, or may be formed on curved lines similar to the tongues 9, as shown by dotted lines 12^3 at the right in said figure, if desired. The arc of curvature of the curves 9 in the bottom plate 6 or of the tongues 12 in the top plate 10 may be varied as desired, provided that the results heretofore pointed out are accomplished thereby.

In the use of my invention a base-plate 6 is first firmly secured to the floor or other surface by screws 7, passing through certain of the ribs or projections 9. The convex ribs of the top plate 10, with their edges of ogee shape, are then inserted in the grooves of the base-plate, and the top plate is slid to position, flush at its sides and ends with the side and end walls of said base-plate.

My invention is not limited to any particular material of which the top and bottom plates are to be constructed, and both of the plates may be formed of fireproof material, such as metal or porcelain, or the lower plate may be made of metal or other fire-resisting material and the upper plate of wood, papier-mâché, or other plastic material. When both plates are constructed of wood, the lower plate should have its grain located in a direction transverse to that of the grain of the upper plate, so that the two plates when interlocked in proper position for use will operate one to retain the other against warping or buckling. This last-named arrangement is employed more generally in parquetry and in paneling the walls of rooms and is also adapted for use in making ornamental ceilings. In some cases the lower or retaining plate may be made of either cast or wrought metal and the ribs or projections formed integral therewith by either casting or shaping them up from the body of the plate.

The invention is not limited to any specific use, for it may with advantage be employed in parquetry and other relations.

No claim is herein made to a "wood-flooring section comprising a base adapted to be secured to a floor and a facing-plate independent of the base, but corresponding in dimensions to the dimensions thereof, the upper face of the base and the lower face of the facing-plate being formed to be interlocked with each other by sliding one upon the other," for this subject-matter is fully described and claimed in my application filed January 14, 1901, Serial No. 43,141, of which the present application is a division.

Having thus described my invention, what I claim is—

1. A surface-finish consisting of a base-plate having a series of separated tongues or ribs extending across the same and each provided with sides formed as ogee curves and with a curved top; and a top plate also having a series of grooves separated by tongues or ribs extending across said top plate, the walls of said grooves conforming to the projections of the base-plate and being held in sliding engagement with said base-plate by interlocking the tongues or ribs of both said plates, and both plates being of the same dimensions.

2. The combination, with a support, of a base-plate having a number of tongues or ribs formed with overhanging sides of ogee shape and with curved tops, said ribs extending across said base-plate; means for securing the base-plate to the support; and a top plate of the same dimensions as the base-plate and also having a number of grooves, the side walls of which are of ogee shape, and a series of tongues or ribs with overhanging edges, also of ogee shape, on its under side, the tongues or ribs of both plates being fitted in sliding and interlocking engagement with each other, and both plates being of the same dimensions.

3. A surface-finish consisting of a base-plate having a series of separated tongues or projections, each tongue having a convex top and overhanging sides of ogee shape; and a top plate having a series of separated grooves, each groove having a rounded rear wall and side walls of ogee shape, and both plates being of the same dimensions, substantially as described.

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