

No. 645,770.

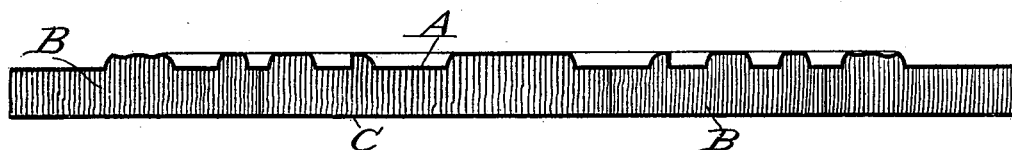
Patented Mar. 20, 1900.

P. WEDEKIND.

PROCESS OF MAKING PRESSED WOOD CARVINGS.

(Application filed Sept. 23, 1897.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

PAUL WEDEKIND, OF GÖRLITZ, GERMANY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WILLNER WOOD COMPANY, OF NEW JERSEY.

PROCESS OF MAKING PRESSED-WOOD CARVINGS.

SPECIFICATION forming part of Letters Patent No. 645,770, dated March 20, 1900.

Application filed September 23, 1897. Serial No. 652,792. (No specimens.)

To all whom it may concern:

Be it known that I, PAUL WEDEKIND, residing at Görlitz, in the Empire of Germany, have invented certain new and useful Improvements in Processes of Making Pressed-Wood Carvings, (for which Letters Patent have been obtained in England, No. 4,355, dated February 28, 1893; in France, No. 228,290, dated March 3, 1893; in Germany, No. 70,598, dated January 14, 1893, and in Austria-Hungary, No. 6,589/13,260, dated May 6, 1893,) of which the following is a specification.

Hitherto the production of ornamental wood moldings resembling carvings has not been feasible other than in very low relief except in planks or blocks of wood cut across the fibers (though only in comparatively-low relief) by gluing or cementing veneers together with the grain crossing each other at right angles. Attempts have also been made to produce this imitation carving by molding by forming a layer of veneer over a layer of plastic composition, such as wood-pulp, and pressing the two between dies and when high relief was required adding further layers of veneer on those portions only requiring high relief. This plan has, however, always failed, owing to the difference in expansion between the plastic material and the veneer causing the article to warp and become distorted. Wood cut along the grain is deficient in the quality which will allow it to accommodate itself or be molded by shaping-rollers or stamping-dies with perfect nicety. In order, therefore, to shape such wood in this way, it is necessary to submit it to a preparatory process. Otherwise the surface or the entire block is liable to split and crack, and even then, as hitherto, only comparatively-low relief has been obtainable, owing to the fibers giving way under the tensional strain caused by the great increase of surface in the pattern or relief over that of the original flat board. Now by my process I am enabled to overcome these evils and produce a comparatively-high relief on wood cut longitudinally or longitudinal veneer fixed over wood cut transversely.

In carrying out my invention I prefer to use for the body of the material wood cut

across the grain and place veneer cut longitudinally with the grain on each side. The pieces of wood can, however, be used cut along the grain and in several layers, if desired. In either case the wood is impregnated with glue or other cementitious matter of a tough nature and capable of permeating the wood; but I prefer glue to any other. If the block or plank be formed of more than one layer or part, the parts are now pressed together and dried. The surface which is to receive the ornamental pattern is then smoothed or polished, as required. If the block, however, thus formed were put into the press and pressed, the surface would crack and split. A short time before pressing or stamping with the required ornaments the plank or block is subjected for about twenty seconds to the action of a steam-jet on the side which is to receive the ornamentations, by which means the fibers on that side are rendered more pliable and better capable of assuming the required shape. It is then allowed to stand for a few minutes and is pressed. By means of this steaming the longitudinal fibers on the surface can expand and accommodate themselves to the die without cracking. The central portion being composed, preferably, of a tessellated structure of wood blocks cut at right angles to the grain, there is little or no tendency to warp in the finished article.

The stamping apparatus consists, preferably, of a table in which the die or dies are fixed and a second reciprocating table with a smooth face pressed down onto it by hydraulic pressure from above.

The hydraulic presses when forming ornaments about half an inch thick require a pressure of from one to three tons on the square inch, according to the pattern and the kind of wood to be pressed.

Referring to the drawing, A is a piece of veneer, B a plate or block of wood with the grain vertical, and C a second piece of veneer.

I claim as my invention—

1. The process for making ornaments resembling wood-carving, which consists in impregnating the planks or blocks of wood with a solution of a tough cementitious matter

such as glue, allowing them to dry, subjecting the surface to be stamped to the action of steam and immediately afterward pressing the same with great pressure between dies.

5 2. As a new article of manufacture, a pressed block of wood having its two outside surfaces formed with the fiber longitudinal and the internal portion with the fiber transversely to the surface, the whole being thoroughly saturated with the cementitious matter such as glue.

3. The process for making ornaments resembling wood-carving, which consists in impregnating the entire body of the planks or
15 blocks of wood with a boiling solution of a tough cementitious matter, such as glue, allowing them to dry, subjecting the surface to be stamped to the action of steam whereby the surface only is softened, and immediately
20 afterward pressing the same with great pressure between dies.

4. The improvement in the process of making ornaments resembling wood-carving, which consists in forming the blocks of two
25 layers of wood with the grain longitudinal, and a third layer of wood between cut across the grain, the whole being impregnated throughout with cementitious material and

cemented together before the pressure is applied, substantially as described.

5. The improvement in the process of making ornaments resembling wood-carving which consists in impregnating the wood with a tough elastic material solid at ordinary temperatures, cooling, and then steaming the surface to be ornamented for a brief period (whereby the surface is softened while the body remains hard), and then immediately pressing between dies, substantially as described.

6. The improvement in the process of making ornaments resembling wood-carving from wood which consists in impregnating blocks of wood with glue, allowing them to dry, cool, and harden, then softening the glue in the surface to be ornamented and pressing the same while the glue near the immediate surface is still soft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL WEDEKIND.

Witnesses:

HERMANN WOLLMANN,
AUGUST ZACHMANN.