

UNITED STATES PATENT OFFICE.

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ARTIFICIALLY GRAINED OR FIGURED WOOD AND PROCESS OF PRODUCING THE SAME.

No. 901,097.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed October 12, 1907. Serial No. 397,212.

To all whom it may concern:

Be it known that I, WILLIAM A. HALL, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented or discovered certain new and useful Improvements in Artificially Grained or Figured Wood and Processes of Producing Same, of which the following is a specification.

10 This invention has for its object to provide artificially grained or figured wood made from a common or relatively cheap wood, such as birch or maple, but which will have the appearance of a beautifully grained, 15 more expensive wood, such as walnut, mahogany or rose-wood. To this end the common or relatively cheap wood is treated with a coloring solution which, even when thoroughly filtered so as to make it very penetrating, will contain more or less pigment coloring matter, or coloring matter which 20 will be precipitated in the form of a pigment, most of which will be deposited in the more porous portions of the wood, such as the annular rings and vessels or grain cells and other longitudinal pores in the wood, but the thinner parts of which will also penetrate the denser portions of the wood. From this 25 it will result that although the wood will be artificially colored more or less throughout, the greater portion of the coloring matter will be deposited in the porous grain vessels or cells and in the annular rings of the wood, thereby greatly developing the grain of the 30 wood and producing beautiful grained effects.

One approved method of carrying the invention into effect is as follows: The wood is first thoroughly dried or seasoned and then 40 subjected to a vacuum process in a closed receptacle for the purpose of exhausting the air therefrom and rendering the same absorbent. The wood is then treated with a coloring fluid containing more or less pigment, such coloring fluid being preferably an 45 alkaline solution of a suitable bark, such as hemlock, oak or spruce bark; or any suitable anhydrid of tannin may be employed. This coloring solution, when introduced into the 50 chamber containing the wood and from which latter the air has been exhausted, as above described, will penetrate the wood, and the more pigment-like portions of the solution will become deposited in the grain 55 cells while the thinner parts of the solution

will penetrate the wood, staining it to any desired color according to the character of the coloring solution employed. This depositing of the pigment in the more porous portions of the wood is believed to be due, to 60 some extent, to the fact that such porous portions contain more wood acid which induces precipitation of the pigment coloring matter of the solution. Also this depositing of the pigment in the grain vessels or cells or 65 other more porous portions of the wood is believed to be due, to some extent, to a dialyzing effect, that is to say to the dialytic action of the wood tissues on the materials in solution. 70

If the wood be in the form of thin veneers the solution will completely permeate the wood without being forced into the same by pressure, by permitting the wood to remain in the solution for a considerable time; but 75 in order to expedite the graining and coloring process, and in all cases where the wood is in the form of boards or planks exceeding half an inch in thickness, high pressure should be applied in the chamber containing 80 the wood and coloring matter, and be continued for several hours, in order to force the latter into and throughout the wood. By this process a large portion of the coloring matter is deposited in the porous grain cells 85 and in this manner an artificially grained or figured wood is produced having prominent grain effects, as is evidenced by samples which will be furnished for inspection in the consideration of this application; and in 90 this respect the improved product presents a very different appearance than can be obtained where the wood is stained by solutions, such, for example, as anilin solutions, which form no deposits of solid or pigment- 95 like particles; and for this reason the improved product can be readily identified as distinguishable from other artificially colored woods. Any other approved or practicable process than as above suggested 100 may be employed to produce the improved product.

Having thus described my invention I claim and desire to secure by Letters Patent: 105

1. An artificially grained or figured and stained wood containing pigment-like deposits of a coloring matter in the more porous portions of the wood and having the denser or more solid portions of the wood 110

stained throughout without the pigment deposits.

2. An artificially-grained or figured wood containing pigment-like deposits of a bark coloring matter in the more porous portions of the wood and having the denser or more solid portions of the wood stained throughout without the pigment deposits.

3. The herein-described process of producing an artificially grained or figured wood, consisting in depositing from a single coloring solution and through the effects or agency of substances naturally present in the wood, a pigment-like coloring matter in the more porous portions of the wood, to de-

velop or render more prominent the natural grain figures, and causing the more fluid portions of the coloring solution to permeate the entire body of the wood, so as to stain the denser or more solid portions; thereby artificially coloring the wood throughout but rendering the grain or more porous portions more deeply shaded.

In testimony whereof I affix my signature, in presence of two witnesses.

WILLIAM AUGUSTUS HALL.

Witnesses:

CALVIN PAGE,
EMILY STAVERS.